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EDITED BY

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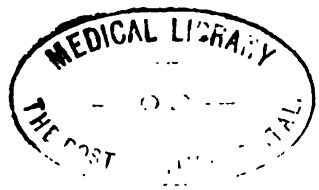

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Original Articles.

THE PREVENTION AND RELIEF OF POST-OPERATIVE INTESTINAL OBSTRUCTION.[1]

BY CLEMENT CLEVELAND, M.D.,
NEW YORK.

By the term "post-operative" in this paper is meant that form of acute obstruction which follows abdominal section and is indirectly due to it. But there is some other cause beside the mere opening into the abdominal cavity to account for it. I refer here not to the adynamic type, due to intestinal paralysis from peritonitis, nor to that due to opium.

At the end of the first twenty-four hours following abdominal section, one of the first questions that occur to the surgeon is, whether gas has passed from the bowels. If this has occurred it is a presumption of favorable progress. In nine cases out of ten, if this has occurred, there is very little likelihood of peritonitis supervening. If there is obstruction to the passage of gas due to the oncoming of peritonitis, there are likely to be other signs, such as increased temperature, pulse, and respiration. Cases of this kind vary in severity, from those easily relievable to those that run on for days, exhausting the patient and threatening life. At the beginning the patient complains merely of the pain caused by her inability to void the gas, but should the obstruction be unrelieved, distention with nausea and vomiting is sure to follow, the location of the obstruction determining the intensity of the symptoms. If it be high up in the small intestines, nausea and vomiting are greatest, while, if it be low down, below the ileo-cæcal valve, distention will be most marked. This form of obstruction is not usually difficult to differentiate from the adynamic form due to peritonitis. In the latter there are usually increased temperature, pulse, and respiration, with more and continuous pain from the beginning. With the former there may be slight rise of temperature and increase of pulse beat, but the respiration remains nearly normal. This point I have constantly observed and have learned to rely upon as a favorable diagnostic sign. I do not mean that it is an invariable sign, but that it is an encouraging and valuable one.

The etiology of this form of obstruction is, I think, clear. The peritoneum is a most sensitive and delicate membrane, and any handling, no matter how gentle, causes the excretion of plastic lymph. In any abdominal operations for the removal of tumors or other diseased structures, there must be more or less handling of intestines. There are likely to be distortions and flexions, which become more and more fixed as time goes on by the plastic lymph thrown out about them. This is attested by the conditions found on reopening the abdomen after operation. The intestines or omentum may be found adherent to the abdominal incision or to some serous surface. It is surprising how insignificant an adhesion will produce obstruction. I remember a case that occurred in the practice of a friend, in which the patient died from exhaustion due to obstruction. On post-mortem examination a small intestine was found very slightly attached to an ovarian stump, causing a flexion of the gut and complete obstruction.

I have observed in cases in which it was impossible, from one cause or another, to keep the intestines away from the field of operating and necessitating constant handling in order to proceed with the operation, that there was always the greatest difficulty in effecting the passage of gas and fecal material. This fact I have repeatedly observed, and have expected obstruction to follow when it was not possible to protect the intestine. Formerly such cases were many. To-day, thanks to modern methods and equipment, they are generally avoidable. The old saying, "An ounce of prevention is worth a pound of cure," was never more applicable than here.

There are a number of measures upon which the greatest reliance may be placed as factors in the prevention of undue intestinal handling: the instituting several days beforehand of the preparations for the operation, in the way of restricting diet, and preparing the bowels by thorough evacuations, that the intestinal tract may be free from gas and fecal contents at the moment of operation; the irrigation of the rectum just before the operation. These are initiatory steps of great importance.

There is one great invention that has had an incalculable influence in the progress of modern abdominal surgery, and has made the name of its author immortal. I refer to the Trendelenburg posture. By its employment the intestines are carried toward the diaphragm, out of the field of operation. I am, of course, speaking as a gynæcologist and take it for granted that I am understood to be referring to pelvic surgery.

Before proceeding to an examination of the pelvic contents, after opening the abdomen, it is wise to place the patient in the Trendelenburg posture and carefully to cover the intestines with the omentum, when it is extensive enough, and then thoroughly, with wet pads of gauze, and gently to force the intestines still farther into the upper abdominal cavity. Wet pads are preferable to prevent their adhering to the intestinal surfaces and dragging upon them on removal. The design of the Trendelenburg position was to facilitate the operation, but the protection it affords to serous surfaces is manifestly of equal importance.

It is necessary, as far as possible, to be particular to leave no raw surfaces; to cauterize or cover with peritoneum every stump or particle of raw tissue.

It is customary with most surgeons to-day, I think, to use decinormal salt solution with which to irrigate the abdominal cavity. Many leave the cavity half filled with it on closing the incision. It serves by its rapid absorption, as well if not better than an intravenous infusion of the same solution, to stimulate the patient and lessen shock. It may even lessen the amount of plastic lymph thrown out, and thus, and by its own presence, lessen the amount of adhesions.

Concerning the methods of relief in obstruction. In the treatment of this condition I have for a year or more been much interested in the insufflation of oxygen gas. Hydrogen, carbonic acid gas, air, and hydrostatic

[1] Read at a meeting of the Practitioners' Society, December 7, 1900.

pressure have been used in the treatment of intussusception and other intestinal obstructions, and possibly oxygen may have been used for the same purpose; but, if so, I have been unable to find any record of it. I am not seeking to claim originality, but rather to find an excuse for speaking of it before this society. I have had occasion during the past year to make use of it a number of times. Its efficacy has been so marked in my hands that I have been greatly impressed with its importance as an agent of relief in this form of obstruction. There seems to be a question whether liquids can be forced beyond the ileocæcal valve, but Senn has demonstrated that hydrogen can be forced from the anus to the mouth. To illustrate the use and effect of the gas, I will relate the essential points in the histories of several cases of abdominal section.

Case I.—Miss M——, aged thirty-five years. Operation, abdominal hysterectomy for uterine fibroids. The operation was difficult by reason of distended intestines. Great difficulty was experienced in keeping them away from the field of operation, necessitating much handling.

First day. Much nausea and vomiting, with constant pain in the abdomen from gas, were present. T., 101.6°; P., 136; R., 20.

Second day. There has been no escape of gas since the operation. Frequent nausea and vomiting occurred. The abdominal pain from gas increased. Distention existed, and the rectal tube was passed without result. Calomel gr. ss. was given several times at an interval of an hour, and was vomited each time. Evening, T., 101°; P., 128; R., 22.

Third day. There has been no escape of gas since the operation. The patient vomited many times during the day. In the latter part of day, calomel gr. v. was given and retained. Several hours later, an enema of soap suds, sweet oil, and turpentine was given and repeated after several hours, with no result except the return of the enema. Irrigation of the bowel through Kemp's tube had no result. Constant and violent peristalsis with very severe pain was present, and the abdominal distention increased. Oxygen was administered per rectum. The gas was introduced very slowly for five or six minutes until the patient complained of the pain and distention. On breaking connection with the oxygen cylinder great quantities of flatus were expelled through the rectal tube, with the distinct odor of sulphurated oxygen. The patient was instantly relieved of pain and distention, and the bowels were moved thoroughly two hours later without any other agent being employed. There was no further trouble with the case.

Case II.—Mrs. B——, aged forty years. Operation, abdominal hysterectomy for uterine fibroids.

First day. Much pain and gas were noted. Nausea and vomiting were frequent, and eructations occasionally occurred.

Second day. There has been no expulsion of gas since the operation. The abdominal pain from the gas was severe. Calomel gr. ss. was given at intervals of an hour until two grains had been taken. Nausea and vomiting were frequent. T., 100.8°; P., 82; R., 20.

Third day. There has been no expulsion of gas since the operation. Calomel gr. iii. was given, followed by a half-ounce of sulphate of magnesium, and a high enema four hours later, without result. The abdominal pain and distention increased. Evening, T., 101.2°; P., 90; R., 20.

Fourth day. The patient thought she had expelled a little flatus. Nausea was constantly present and the abdominal distention was much increased. There was much pain from gas, and the patient was extremely weak. An insufflation of oxygen gas was made and much flatus was expelled at once. The bowels moved freely about ten minutes later. Nausea and vomiting, pain and distention, all were markedly relieved at once, and no further difficulty was experienced with the case. The patient made a good recovery.

Case III.—Miss C——, aged thirty-eight years. Operation, laparotomy for abdominal cyst, which proved to be a cyst of the right kidney. The contents were evacuated and the cyst was stitched to the abdominal incision. In drawing the suture tight to tie, on the right side of the incision a coil of small intestine was drawn, a little more snugly than I liked, against the abdominal wall. I was concerned that it might interfere with the free movement of the intestinal contents. It could not be helped, however. There had been, moreover, a good deal of unavoidable handling of the intestines.

First day. At the end of the first day the patient suffered severely from gas.

Second day. There has been no passage of gas since the operation. The rectal tube was inserted without result, but the patient was somewhat relieved by belching. She continued to suffer from colic during the day. The rectal tube was passed a number of times without result. An enema likewise was given without result. The patient belched and vomited liquid. There were constant nausea and frequent vomiting. Calomel gr. ss. was given and repeated every half-hour until two grains had been taken. Four hours later Epsom salts ℥ ss. was given and immediately vomited. At the end of three hours another ℥ ss. dose of Epsom salts was given and retained. A soap-suds and sweet-oil enema was given. A little gas was expelled, but no other results were obtained.

Third day. The patient was weaker, her abdomen was distended, and she was belching gas constantly, which gave some relief. An enema of soap suds, sweet oil, and turpentine was given and expelled. The rectal tube was passed a number of times without result. She vomited greenish fluid a number of times. An insufflation of oxygen gas was made through the rectal tube carried into the sigmoid flexure. The gas was allowed to pass in very slowly until the patient complained of severe pain. A great deal of gas, flatus, and liquid stool was expelled as a result, and later there followed a large liquid defæcation with much flatus. Then there was a marked decrease in the distention and lessening of the nausea and vomiting. The patient was markedly relieved, though she continued to vomit at intervals during the rest of the day; she also expelled a small quantity of gas at intervals.

Fourth day. The patient vomited at intervals. Her abdomen was greatly distended. Oxygen was again passed into the intestine and a large quantity of gas was expelled; it continued to pass during the rest of the day, until the abdomen became quite flat. There was no further trouble with the passage of either gas or fecal matter. I was persuaded that the point of obstruction in this case was where the cyst was sewed to the abdominal wall. Before the oxygen was used the convolutions of the distended intestine were distinctly traceable through the very thin abdominal wall above this point.

Case IV.—Mrs. V——, aged thirty-eight years. Operation, myomectomy.

First day. The patient complained of severe pain in the abdomen, was nauseated at times, and had frequent eructations. At the end of the day, T., 100°; P., 74; R., 24.

Second day. There has been no passage of gas from the intestines. The abdominal pain increased, there were frequent eructations, but no nausea or vomiting occurred. T., 100.4°; P., 70; R., 20.

Third day. No passage of gas has occurred. The distention increased and severe abdominal pain was complained of. Oxygen was administered by the rec-

tum for five minutes, and a great deal of flatus was expelled promptly. The patient became more comfortable at once and convalesced without incident. I had determined to make use of the gas early when the symptoms began to indicate obstruction, and I made use of it in this case for that reason.

Case V.—Mrs. P——. Operation, abdominal section for ectopic gestation of two months or more. A long incision had to be made in this case, as adhesions of the omentum and intestines to the mass were firm and extensive. The sigmoid flexure was found much thickened directly over the mass, and it was with the greatest difficulty that the left tube, which was the seat of the trouble, could be dug out of its bed of adhesions back of the bladder and uterus and under the sigmoid flexure. It is somewhat difficult to understand how it got under the sigmoid flexure, but there it was. In the enucleation of the mass the serous and muscular coats of the sigmoid were torn in a triangular flap for an inch and a half. This was immediately repaired with fine catgut. The operation lasted an hour and a half. The patient became very weak during the latter part of it, and hypodermics of brandy and strychnine had to be given. Posterior drainage with gauze was used. The patient was put to bed with a pulse between 150 and 160. A pint of decinormal salt solution with an ounce of brandy was administered by the rectum. The patient rallied after this, but the pulse remained weak and rapid, 140 to the minute. She suffered from intense pain, and ♏ vi. of Magendie's solution were given. Vomiting and eructations occurred during the night, when strychnine gr. $\frac{1}{30}$ was given at intervals. An enema of salt solution and whiskey was administered and repeated after four hours. Constant vomiting of greenish fluid occurred. Hot water was given by the mouth at intervals.

Second day. Brandy and strychnine were injected hypodermically. T., 99.8°; P., 138; R., 28. The night was most uncomfortable. The pulse remained very weak and did not respond well to stimulants. There has been no passage of gas since the operation. T., 101.3°; P., 148; R., 26.

Third day. The patient was given hot water by the mouth frequently, and hypodermics of whiskey and strychnine at intervals of three hours. Salt solution and whiskey were administered by the bowel. Owing to the constant vomiting, she has retained no nourishment since the operation. No passage of gas or fecal matter has occurred. T., 103°; P., 146; R., 36, at 9:30 P.M. She feels very uncomfortable from the pain and distention. A small amount of flatus was expelled. Constant nausea and vomiting persisted. The patient is very weak, her pulse intermittent. Oxygen was administered by the rectum for ten minutes, and a large quantity of flatus was expelled. The nausea and vomiting were relieved, and she passed a more comfortable night. 6 A.M., T., 100°; P., 128; R., 28.

Fourth day. The patient responds very readily to stimulants. She vomited a little, after she had gone eleven hours without vomiting. She feels a little uncomfortable from gas. Oxygen was administered for ten minutes, and gas was expelled freely and frequently after this. No distention was observed. Oxygen was again administered for fifteen minutes, when flatus and fecal matter were expelled, followed by a thorough evacuation an hour later. T., 99.8°; P., 100; R., 24. There was no further trouble after this, and the patient was convalescing.

Conclusions.—I have been so impressed with the efficacy of the insufflation of oxygen in every instance in which I have used it, that I design to employ it always after abdominal section, as soon as any symptoms of obstruction begin to manifest themselves. By so doing I believe that many cases that might prove serious may be prevented from becoming so. They will at least certainly be relieved of much distress, and convalescence will be made much more endurable. As a prophylactic measure, I look upon it as of the highest importance.

Oxygen is easily obtainable, and is, in fact, always on hand in hospitals and sanatoriums. Its use is not attended with danger if ordinary care is observed. It should be introduced slowly, and, to make sure of this, should always be passed through water in a flask, which is made for the purpose and always accompanies the cylinder of oxygen. Used in this way it is perfectly safe. The patient will always indicate the moment it is desirable to stop. As soon as there is decided pain and feeling of increased distention the gas should be cut off. I have never seen the slightest evil effect from its use.

It not merely has the power to straighten out the intestines and open the lumen for the passage of gas and fecal contents, but serves as a stimulus to peristalsis. This was evinced in a number of cases in which not merely gas escaped, but large fecal movements followed immediately after its use. I am inclined to believe that with further experience it will be demonstrated that by its use active catharsis may be avoided.

Four of the cases detailed above were desperate, and in the last I am absolutely convinced that life was saved, that the insufflation made all the difference between life and death. In such a case as the one mentioned in the early part of this paper, in which on post-mortem a small intestine was found attached very slightly to an ovarian stump and so caused a fatal obstruction, I believe the insufflation of oxygen would have overcome the obstruction and saved the patient's life.

Inhalations of oxygen have been used in conjunction with iron in cases of anæmia, the claim being that in some way it helped the assimilation of the drug. Used by the bowel it must be absorbed to some degree and enter the general circulation, possibly not as oxygen, and serve in some way as a stimulant and tonic. But this is merely an after-thought. I made use of it solely for its mechanical effect.

A CASE OF ÆSTIVO-AUTUMNAL FEVER WITH UNUSUAL SYMPTOMS.[1]

By GEORGE L. PEABODY, M.D.,
NEW YORK.

F. H. P——, a carpenter by occupation, native of the United States, thirty-four years of age, married, was admitted to the New York Hospital on November 17, 1900.

His family history is negative. He has never been ill before, and has never had venereal disease. He is a moderate beer drinker. For the past two years he has lived in One Hundred and Fifty-fifth Street, on the East Side; for the nine years previously he had lived in One Hundred and Sixty-eighth Street on the West Side. During these eleven years he has only once been out of New York City; on that occasion, which was three years ago, he went to Pennsylvania and was absent four days. Last May he was suddenly seized with such severe headache that he was obliged to stop work, but he had no fever and has never had a chill. His headache came on suddenly, without apparent cause, about three o'clock in the afternoon, and continued to recur every day about the same hour, and usually lasted without intermission until eight or nine o'clock in the evening.

About the middle of June there was added to the

[1] Read at the meeting of the Practitioners' Society, December 7, 1900.

daily headache a severe attack of abdominal pain. This would start in the neighborhood of the umbilicus and radiate backward toward the left kidney, where it was especially severe. This pain has sometimes been relieved by walking, and is always immediately relieved by vomiting. He has no tendency to vomit; but the relief caused by vomiting is so great and so immediate that he has often deliberately irritated his fauces with his finger to provoke it.

These symptoms increased steadily in severity so that for the past seven weeks he has been confined to the house.

He has been treated in various ways without relief.

For the past week the pain has continued into the night, so that he has been unable to sleep. He has never had any bloody or coffee-ground vomitus, nor has he ever had any bloody or tarry stools. He thinks he has lost thirteen pounds since May. Of late his urine has been reddish in color and his frequency of micturition has increased. His appetite is good, his bowels are constipated. His chief complaint relates to the pain in his abdomen and head.

On admission at 3 P.M. his temperature was 103° F.; his respiration, 36; his pulse, 112. He was well nourished, in good general condition; his tongue was moist, pale, flabby, slightly coated.

Scars of wet cups were very numerous and of recent appearance all over his trunk.

His heart was normal; his pulse regular, of good force and tension. His lungs were normal. The liver was normal.

The splenic area of dulness was increased, and a firm, hard mass could be felt in the splenic region completely filling the left hypochondrium, but not extending beyond the ribs into the abdomen. This mass was tender to pressure and did not move at all with respiration.

His urine was normal in amount, and on the day after admission its record is this: 36 ounces, specific gravity 1.006, alkaline, light yellow, otherwise normal.

He had a large, loose stool in response to a dose of calomel. The electric pad was applied to the painful region with great relief, and sodium bromide gr. xx. was given. He slept but little the first night, although the heat of the electric pad gave him much relief. The abdominal pain was constant and interfered with sleep.

He was put upon milk diet. The following day his urine was normal, and it has continued so.

For the first three days his temperature fluctuated between 99° and 104° F.

On the second day his blood was examined for Widal's reaction with negative result, and for malarial organism with the result of finding a few crescents of æstivo-autumnal fever.

He was immediately then put upon quinine, gr. xv. a day and Fowler's solution, ℥ iii. after each meal, to be steadily increased.

The result of this treatment was the steady fall of his temperature, which reached the normal in twenty-four hours and has remained so now for more than two weeks. After twelve days the Fowler's solution had reached ℥ xi. to the dose. This caused flatulency. It was then discontinued.

Coincidently with the fall of temperature his pain steadily diminished, and in a few days entirely disappeared, so that he no longer needed the heat of the electric pad. In about a week he was out of bed, and for some days has been out of doors much of the time.

The cause of his pain is, of course, somewhat a matter of conjecture. As to the headache, that needs no elucidation: but why should his abdominal pains have been so very unusually severe?

The explanation which I offer is this: Probably his spleen is adherent to the diaphragm to such an extent as to interfere with its increasing in size to a normal extent under the influence of the malarial organism. We know how common these adhesions are between the spleen and adjacent viscera. It is often difficult to separate the spleen from the base of the left lung and from the kidney, even with every opportunity for careful dissection. If adhesions exist to the extent of preventing the spleen from enlarging in the usual directions of least resistance, may not its swelling have caused a traction upon the adhesions and upon surrounding viscera, and an alteration in pressure effect upon its own capsule, which may account for these unusual paroxysms of pain?

The position of the spleen, entirely filling the left hypochondrium and not extending beyond the free border of the ribs, is sufficiently unusual to suggest its being firmly adherent.

For two weeks the spleen could be felt as a hard, firm mass completely filling the hypochondrium. At present it has entirely lost this position. It has become movable with respiration and can be felt, as is usual in such cases, descending an inch or more below the free border of the ribs with a full inspiration. It is still very tender to pressure, but there is no such spontaneous pain as he formerly had. He sleeps well and is up and out of doors much of the time. The exact condition of this man's spleen is decidedly puzzling. It certainly was absolutely immovable for several weeks, being always distinctly palpable, and temporarily imposing upon several who examined the patient to the extent of causing them to consider it a tumor of the kidney. At present it offers nothing unusual to palpation in regard to its size, position, and mobility.

It is of interest that this form of malarial fever can develop in this immediate vicinity. It is but a short time since the belief was general among us that this did not occur.

INTESTINAL INDIGESTION.[1]

By A. P. STONER, M.D.,
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In the study of gastro-intestinal diseases one is struck with the paucity of literature upon digestive disorders of the small intestine. I find that some of the most eminent among modern writers on intestinal diseases, etc., fail to give consideration, even in a general way, to this important subject. Some authorities treat it under the head of diarrhœas, others include it under the head of intestinal catarrh, thus leaving the reader to believe that disturbances of digestion in the intestinal tract invariably lead to catarrh and diarrhœa. That this is not always the case will be one of the objects of this paper to prove.

In order that we may rationally discuss the pathological phenomena of intestinal indigestion, it is essential to have a clear understanding of the physiology of the normal process. Beginning, then, with salivary digestion, we will consider the action of ptyalin, the only ferment of importance found in the saliva. Ptyalin belongs to the class of unformed ferments, and acts only upon starchy foods. The starch molecule is a very complex one, and in the process of conversion into sugar it is known to undergo a number of changes, each of which represents a new body. Thus the first process of starch digestion consists in the liquefaction of the mass; the product being known as soluble starch or amylodextrin. As the action is continued, erythrodextrin is formed, and by the splitting of this molecule a body known as achroodextrin is created, which in turn is converted into maltose.

[1] Read before the Polk County Medical Society, December 4, 1900.

Saliva is an alkaline fluid, and starch digestion goes on best in an alkaline or neutral medium. Therefore, when the acid contents of the stomach are reached, the digestion of starches become more or less inhibited. Ptyalin activity does not entirely cease, however, until the maximum degree of acidity is reached,[1] usually about one hour after meals. This enzyme is not destroyed during the procedure. Indeed, it seems to have lost none of its hydrolytic functions by its gastric experience, for as soon as it comes into contact with the alkaline intestinal fluid it again becomes an active ferment possessed with all its original vigor.

Gastric Digestion.—The principal part played by the gastric juice in digestion is the conversion of proteids into soluble peptones. In the transformation of these bodies, several intermediate ones are formed, and are known as proteoses. The first step in the procedure converts the proteids into acid-albumin or syntonin. This body under the influence of pepsin undergoes hydrolytic cleavage, and forms the so-called primary proteoses, which consist of several proteid bodies, each of which in turn takes up water and forms a second group known as secondary or deutroproteoses, from which true peptones are elaborated. These changes are produced by the combined action of pepsin and hydrochloric acid. Pepsin possesses no activity outside an acid medium, and it will carry proteid digestion no further than the formation of proteoses and peptones. Recent investigators have shown that proteoses always exist in the mixture with pepsin, regardless of the amount of pepsin or hydrochloric acid.[2] We have now traced the process of digestion of starches and proteids through the stomach, and find that upon entering the intestine neither have been completely digested. The former have been only partly converted. Indeed, when the short period of mastication is considered, as well as the interruption of the digestive process in the stomach by the acid gastric juice, it should excite no wonder that the conversion of starch is incompleted in the stomach, and is finished only after the intestinal canal is reached. Here the starches are converted into dextrose by the amylopsin of the pancreatic juice, the ptyalin of the saliva, and invertase of the intestinal fluid. Many recent physiologists have undertaken to prove that the ptyalin ferment is of but little value, and that salivary digestion might be abandoned without disturbing the physiological process of digestion. They appear to lose sight of the fact that the enzymes of digestion, ptyalin included, always retain their activity even after they have completely fulfilled their digestive functions. Saliva is and should be continually swallowed, so that it may eventually pass into the intestinal tract. During the stimulus of a meal it is poured out in abundance, but does not engage actively in digestion until it comes into contact with the alkaline intestinal juices. Here, in company with the other amylolytic enzymes, it vigorously attacks the starch molecule and rapidly converts it into dextrose, etc. It may be remarked here that, so far as our present knowledge goes, ptyalin and amylolopsin are identical in their chemical composition and activity.

It remains now for us to consider the further action upon the proteids. The proteids upon entering the intestine are immediately precipitated by the bile, and those which have escaped digestion in the stomach are attacked by the trypsin of the pancreatic juice and reduced to proteoses and peptones; the difference between the action of trypsin and that of pepsin being, that under the influence of the former the proteids are reduced directly into secondary proteoses, all intermediate stages being omitted. This enzyme is also capable of carrying proteid digestion still further, and by the splitting up of proteoses and peptones there are formed a number of bodies, viz., leucin, tyrosin, nitrogenous bases, etc., the physiological significance of which is not understood. It is presumed, however, that this is a process of superdigestion, since it is believed that the normal condition for proteid absorption is in the forms of peptones and proteoses. They seem to be formed only when brought into prolonged contact with the latter bodies as in delayed absorption. Fats pass directly into the intestine, where they are emulsified by the bile and split into fatty acids and glycerin by the steapsin, in which condition they are absorbed by the lacteals.

The subject of absorption is still actively engaging the attention of physiologists. The laws of diffusion and osmosis, by which the older scientists undertook to explain absorption in the living animal, have been found to be very unsatisfactory. Heidenhain[1] has shown that solutions of nearly the same osmotic pressure as that of the blood were readily taken up and absorbed; even the animal's own blood serum was found to be readily absorbed. It was formerly thought that absorption of liquids took place between the cells. Recent observations have shown, however, that the cells themselves take an active part in the process, and a number of instances have been observed in which drops of fat were seen to be snugly ensconced within the cell protoplasm during the process of absorption. In the light of our present knowledge we may safely assume that absorption is due to an inherent property of the living cell, by which it not only takes up the products and passes them into the circulation, but, in the matter of proteids at least, it may be said that they are completely transformed within the cell substance while undergoing absorption. The proof of this assumption is found in the fact that neither proteoses nor peptones are present in the blood during digestion. Recent observations have shown that little or no food products are absorbed by the stomach. This organ is thus reduced to the rôle of digesting proteids, mixing food, and regulating the output to the intestine. Under normal conditions only small quantities at a time are admitted to the intestine.

From this brief study of the physiology of digestion and absorption we may deduce the following conclusions: (1) That all digestive processes are completed after having undergone primary treatment in the stomach. (2) That the absorptive process takes place chiefly within the small intestine. (3) That the facility of absorption is dependent upon the vitality of the cells which occupy the intestinal mucous membrane. According to Macfadyen, Nencki, and Sieber,[2] eighty-five per cent. of the proteids are absorbed by the small intestine under normal conditions, thus showing that the colon normally enters more or less into the absorptive process. That this is true is proven by the fact that the rectum is capable of absorbing raw proteids, such as egg albumen, milk, etc. This serves to explain why undigested food is not found more often in the fæces in cases of undoubted duodenal indigestion. The large intestine takes up the work of the small intestine, just as the latter does for a time in gastric disorders. It is now well known that the human subject will live an indefinite period after complete resection of the stomach, in which condition all digestive processes take place within the intestine. It may be stated, however, that if more than one metre of the small intestine is removed, serious symptoms will result,[3] and should the duodenum be

[1] C. A. Ewald: "Extra-buccal Feeding," read before the Thirteenth International Medical Congress, Paris, 1900. MEDICAL RECORD, August 18, 1900.

[2] "American Text-Book of Physiology."

[1] Pflüger's Archiv für die gesammte Phys., 1894, Bd. 56.

[2] "American Text-Book of Phys.," second edition, p. 314.

[3] Denis: "System of Surgery," vol. iv., p. 337.

included in the portion removed, symptoms of inanition occur early, thus showing the importance of the intestine as a digesting and absorbing organ, especially the proximal end—the duodenum. Indeed, it appears that the duodenum is the most important organ of the whole digestive apparatus. This we would naturally be led to believe, since all the important digestive fluids are thrown into its upper portion. It should be noted that the intestinal secretion contains neither a proteolytic nor fat-splitting enzyme. But its sugar-splitting enzyme referred to is capable of converting the so-called di-sacharides—cane sugar, milk sugar, etc., into the more absorbable mono-sacharides—dextrose, levulose, and galactose. Its reaction is strongly alkaline owing to the presence of carbonate of sodium. It was formerly taught that the intestinal fluid was always of an alkaline reaction. This supposition was based upon the analysis of the intestinal and pancreatic secretions, and not upon the intestinal fluid as a whole.[1] Recent investigations show that under normal conditions the fluid in the duodenum is but faintly alkaline, and that the lower portion of the ileum is always acid. The acidity here is doubtless due to the action of bacteria. Were it not for the acid gastric juice being admitted into the duodenum, the reaction here would at all times be strongly alkaline. Intestinal and pancreatic secretion goes on continually, but the duodenum scarcely rids itself of its contents before another meal is taken, and the acid chyme is again poured into it, thus tending to neutralize it.

Gastric Hyperchlorhydria.—It is impossible for us to examine chemically a test meal from the small intestine as we would that of the gastric cavity, but we are hardly reduced to conjecture as to what really occurs in case the hyperacid contents of the stomach are admitted into the duodenum. The proteoses and peptones along with the pepsin are thrown down as a precipitate and are not further acted upon by the pancreatic juice; for this secretion acts only in an alkaline or neutral medium. The proteids are absorbable in these forms, and it is well that they should be, for when we come to consider the behavior of starches and fats under the condition of hyperacidity, we find that neither can fare so well as proteid products. Besides, it is to be remembered that in such a state of gastric disorder some of the proteids are admitted to the duodenum without having undergone change even into primary proteoses. Such products are with the greatest difficulty disposed of under a continued hyperacid condition. We have seen that starches and sugars pass through the stomach in a manner more or less unscathed. They cannot be further reduced in the acid medium now found in the duodenum, and the little absorption that takes place must be done in a gross state without complete reduction of their molecules. Fats cannot be emulsified in an acid medium, neither can they be split into fatty acids and glycerin, and must, therefore, be taken up by the cells and absorbed as liquid fat globules. It is needless to say that the last-mentioned substances are absorbed with much difficulty. Starch granules are passed through the entire canal without being absorbed. Some of the di-sacharides may finally be taken up, but not without much difficulty. Much of the fats will likewise pass out with the excreta. Indeed, even under normal conditions, particles of fat are found in the fæces, which have escaped absorption. It need scarcely be mentioned that the strain thus brought to bear upon the cell elements in their effort to take care of the unprepared products will, sooner or later, have a most deleterious effect upon them.

Over-Eating—Gluttony.—Normal duodenal digestion requires (*a*) normal secretion from the intestine, pancreas, and liver; (*b*) proper movement of the food mass; (*c*) normal or medium quantity of properly prepared food. When food is bolted in large quantities the stomach becomes overworked; the bulk is too great to be thoroughly mixed and digested; the chyme is passed into the duodenum only partly prepared; as a result of all these facts double work is thrown upon the latter organ. The duodenum might be able to withstand a temporarily increased activity if this were all that took place. If overeating is continued, however, the stomach finally gives way, and atony and dilatation ensue. Fermentation takes place, and hydrochloric-acid formation diminishes or entirely ceases. The nerve plexuses are eventually caught up in the dilemma, the result of which is sluggish circulation, secretion, and inhibited peristaltic action of the intestinal tract. Finally, there is failure to respond to the abnormal stimulus, and constipation along the whole digestive tract ensues. Should the gourmander eat a large variety of food, including fruits, etc., the artificial stimulus contained therein might be sufficient to keep up motion for a longer period until finally diarrhœa would follow. This is one of the first signs of an inflammatory process within the canal. Raw and improperly cooked foods likewise place an extra burden upon the duodenum. The cellulose covering of uncooked starch granules is not penetrated by any ferment. Defective secretion of the bile and pancreatic juice frequently causes duodenal dyspepsia. One of the offices of the bile is to promote peristalsis. Excessive secretion may, therefore, bring on increased peristalsis and consequent diarrhœa.

Intestinal dyspepsia is so often complicated with other diseased conditions that authorities have found it difficult to frame a set of symptoms which may be always referred to simple intestinal indigestion. Among the most prominent local symptoms may be mentioned a feeling of distress and an abnormal fulness referred to the hypogastric or gastric region, but without tenderness except upon deep pressure. There is a constant desire to eructate gas. The patient expresses the opinion that he would feel better if he could "belch," which, however, he is unable to do. One is led to infer that the cardiac orifice of the stomach is tightly closed, but if a tube be introduced it will be found that the stomach contains no gas whatever. The gas is all contained within the small intestine. There may be persistent flatulence, especially during the early stage; it is greatest, however, two or three hours after meals, at which time fermentation is most active. Constipation is the rule, but peristalsis and resultant diarrhœa may be excited by excessive bile secretion, organic acids, or marsh gas. Certain authorities have laid much stress upon the value of urinalysis in estimating the degree of intestinal indigestion. Urine containing an excess of urates and indican, with a trace of bile and uric acid, if accompanied with other symptoms of indigestion, may serve to clear up the diagnosis. All these, however, are more or less normal ingredients of the urine, some of which are the products of putrefaction within the large intestine. According to Van Valzah,[1] the diet test is the surest proof and is based upon the intolerance of starches, fats, sweets, and wines. Starches and fats escape undigested in the fæces; sugar sets up fermentation flatulence. There is at no time excruciating pain, but it finally becomes more or less continual. If the disease prevails for some time, mental depression is apt to appear. The patient becomes depressed, is more or less drowsy, especially during the digestive period, there is a tendency to melancholia, and the patient finally becomes incapacitated for mental or physical efforts. There may be palpitation of the heart, and the appetite becomes capricious. These

[1] Gilispie: "Natural History of Digestion," 1898.

[1] New York Medical Journal, vol. lvi., p. 88.

symptoms are many times referred to as cases of nervous dyspepsia. Just what connection simple intestinal disturbances may have with the pathology of the nervous system is a problem still awaiting solution. Since my attention was first called to the relation existing between neurasthenia and intestinal indigestion in the very excellent monograph by W. W. Van Valzah,[1] I have analyzed the gastric contents of a large number of my neurasthenic patients, and as a result have found them practically normal in the majority of cases. Especially is this true in the incipient stages. Nevertheless the patients continue to suffer from symptoms of gastric irritation. Gastric symptoms are present in nearly all cases of neurasthenia. To use the words of Dercum:[2] "Stomach diseases are the most common of the symptoms presented among the most distressing to the patient, and among the most difficult for the physician to treat." Many cases of so-called stomach diseases under such conditions, however, are purely those of intestinal indigestion. So constantly do we find gastro-intestinal disorders accompanying the neurasthenic state that it has led numerous investigators to seek for a cause in these phenomena. Since Hodge's investigations[3] have shown that nervous exhaustion is due to fatigue of nerve cells, the ardor of investigators along other lines has somewhat abated. The mere fact that the nerve cells are fatigued beyond the normal point does not satisfactorily explain all the symptoms of the neurasthenic condition. In neurasthenia, according to Dercum,[4] "various substances, the result of the metamorphosis in the nerve cell, are circulating in the blood." There is little doubt that there are toxic substances circulating in the blood of these cases, but why should they be a product of the metamorphosis of the nerve cell any more than an abnormal metabolism of other cells, or of toxic matter having their origin outside the body cells?

It has been shown that certain food products are with much difficulty absorbed in intestinal indigestion. It has also been stated that the individual enteric cells are responsible for the proper elaboration of certain food products. So long as the cells properly perform their function of taking up and preparing these products for tissue metabolism, the symptoms of dyspepsia are held in abeyance. But the moment that deranged functioning of the cells appears, gastro-intestinal trouble begins, and poisonous products are generated in the intestinal canal. The cells, in their effort to absorb and elaborate the gross products of gastric digestion, finally become incapacitated, and permit these substances, along with other toxic matter formed in the canal, to transude into the circulation as though the intestine were an inert animal membrane. The peptones themselves[5] under such circumstances would become toxic matter, and would circulate as such in the blood stream. The question may arise, Why are these poisons not separated from the nutritious elements and eliminated by the liver? The liver under normal conditions is doubtless worked to its full capacity in elaborating poisons, storing away and preparing new products for tissue regeneration, and when the intestine begins to give up its store of unprepared and toxic products, the circulation is soon loaded with the toxic elements of the system's own elaboration. Thus we have a condition of auto-intoxication which may, under favorable conditions at least, aid in producing nerve-cell exhaustion. That this assertion is more than probably true is proven by the experiments of Mosso.[1] This observer discovered that the blood of a fatigued animal when injected into an animal at rest produced characteristic symptoms of fatigue. These products of fatigue found in normal blood are not necessarily the result of metabolic changes of the nerve cells, although they may enter into its composition. They appear to me more likely to be the product of general tissue metamorphosis, since they react directly upon the nerve cell, which would hardly be the case if they were only a product of the nerve cell. However, until chemical analysis reveals the true nature of the blood in normal fatigue as well as in its allied state—neurasthenia—all hypotheses must stand subject to correction. Duodenal indigestion may exist without any connection with neurasthenia, and *vice versa*, for toxins sufficient to precipitate a pathological condition in the fatigued nerve cell may be elaborated elsewhere than in the intestinal canal. Upon this hypothesis, however, we may explain many symptoms found in both conditions, such as vertigo and insomnia, which many times may be overcome by cleaning out the digestive tract; palpitation and other heart symptoms, purely reflex or due to auto-intoxication.

In the very excellent monograph entitled "The Livers of Dyspeptics," by Dr. Emile Borix,[2] the author holds the alimentary canal responsible for numerous pathological conditions of the liver, including cirrhosis. If this hypothesis is true, one might safely venture a step further and very reasonably include the kidney. The increased activity of both organs necessary to meet the prolonged elaboration of toxic material is such that the way may be paved to chronic disease of either or both organs.

Pathology.—Numerous authorities have attempted to define the pathology of simple intestinal indigestion. However, in most cases, they seem to have described a condition very similar to, if not identical with, intestinal inflammation or catarrh. Cases of simple intestinal indigestion so seldom come to autopsy that the pathological anatomy is largely conjectural. According to Johnston,[3] the mucous membrane is swollen and hyperæmic, frequently being more severe in one part of the bowel than in another, being usually more intense around the solitary follicles and Peyer's patches, and on the tips of the valvulæ conniventes. In mild cases these follicles and patches appear as small white bodies standing out in bold relief against the injected zone surrounding them. In chronic cases, catarrh sooner or later is apt to intervene, masking the original picture, so that, when the cases are examined post mortem, evidence only of the catarrhal trouble is found.

The treatment of intestinal indigestion resolves itself into the consideration of the principles of dietetics. As in many other conditions, each case is largely a problem in itself, and must be treated individually. Most cases are caused by abnormal fermentation; therefore starches, sugars, and fats should be interdicted, and proteids in the form of lean meats given. However, excessive amounts of proteids may be the very cause of the disorder, in which case all albuminous substances should be expunged from the diet list, and some form of carbohydrates substituted. Predigested foods and artificially prepared enzymes have been used with varying degrees of success. My own experience has not been such as to lead me to place much dependence upon them. Drugs cannot cure intestinal indigestion, but they may be of inestimable value in overcoming the hyperacid condition and inhibiting the action of bacterial fermentation.

[1] New York Medical Journal, July 23d, 1892.
[2] "Text-Book of Nervous Diseases," p. 67.
[3] C. F. Hodge: Journal of Morph., 1892, vol. vii., p. 95.
[4] "Nervous Diseases and their Treatment," p. 76.
[5] W. H. Howel: "American Text-Book of Physiology," second edition, p. 613.

[1] A. Mosso: "Die Ermüdung," Leipsic, 1892.
[2] G. P. Putnam's Sons, 1897.
[3] Loomis and Thompson: "Practical Medicine," vol. iii., p. 208.

On the whole, our better judgment must guide us in laying out the best line of treatment to be followed in each individual case.

ON THE EFFECT OF TOPICAL APPLICATIONS OF EXCESSIVE STRENGTH AND IMPROPER DIET AND HYGIENE IN PROLONGING AND CAUSING SKIN DISEASES IN INFANTS AND YOUNG CHILDREN.[1]

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The subjects indicated by the title have for many years been of great interest, not to say aggravation, to me, and I hope their brief consideration now will be of interest at least to the reader. I have purposely inverted the usual order, commencing with the remedial end, so to speak, instead of the causative.

My almost daily experience, certainly so during the busier months of the year, in both private and clinical practice, is to have babies and young children brought to me, who have already been for varying lengths of time subjected to treatment so manifestly harsh and improper that it sometimes has seemed without excuse.

The majority of these patients, I may say, are suffering from skin troubles of an eczematous character, for it may be here observed that the percentage of eczemas in childhood is greatly in excess of that of adults, I should say as fifty per cent. to thirty per cent. in adults, the usual statistical average, and in explanation of this one has to consider the much greater exposure of grown people to accidental dermic lesions, degenerative trouble, etc. Other reasons will be made evident, as I believe, later on.

In these infantile cases, then, I find too frequently, from the history, that a frank, mild enough eczematous inflammation, in the beginning needing nothing more for its relief than a protective dressing, or soothing salve, or lotion, has, from the irritating character and strength of the remedies applied and given, developed into a highly dermatitic condition; or, even worse, has assumed a chronic form from persistence in the various irritant applications, and thus has become much more difficult to relieve or cure.

The stronger topical applications are ordinarily the chiefest sinners in bringing about this state of things, though they have been possibly officinal and classical in every sense; but they would seem to have been employed without reference to gradation in strength, or consideration in relation to age, type, diathesis, constitution, or complexion; and also when, possibly, the first agents used have failed to benefit, still stronger applications "good for eczema" have been employed. By the bye, this expression, "good for eczema," one hears so often I would like to attack just here, and would like to be understood as insisting that there is *per se* nothing "good" for an eczema, any more than a color, any one or more colors are good for a picture. Again, almost anything may be good for a particular form, or a particular state of an eczematous lesion. The judgment that sees and knows that, for instance, an unguent strong enough and stimulant enough for a light blonde, and possibly strumous child, will hardly faze or affect those of the brunette type with thicker skins, if not hardier temperaments and constitutions.

The pharmacopœia, rightly enough, gives about the average strength of preparation for the average individual—the young adult may be taken as the type; but I am free to state my conviction that there is not one of such compounds which could and should not be graduated down with benefit and great advantage, as to strength, to suit most cases in children. I even think the benzoated oxide-of-zinc ointment, unmodified, is too strong for general and free use in children, good as it is when appropriately toned down with cold cream or some other lenitive.

The mercurial salves and preparations are especially sinned with; almost all, I think, are far too strong for ordinary use in the class to which I refer. One certainly finds words of precaution attached to some of the formulas of these in the pharmacopœia, as "this is a decided stimulant," etc.; but I think hardly enough stress is laid on the subject.

Combinations of some of the extra-official drugs, in salve or lotion form, as for instance the following: chrysarobin, iodoform, thiol, ichthyol, salicylic acid, resorcin, the tars of various kinds, etc., in any great percentage are almost always unadvisable, and sometimes very injurious in their effects, unless the indications are pretty plain and the skin is pretty tough; they, when used, should be tried at first in very great dilution, etc. I have been surprised sometimes to see in well-known and really excellent dermatological works certain formulas for preparations of this last class recommended, which I would not dare to apply to any white American child; I was about to add, adult. These recommendations and formulas occur more often in foreign treatises on the subject than in our own, I think, but even they are not exempt. One fact I have not seen noted elsewhere, but which is, according to my experience, certainly true, and that is, that even unguentum petrolatum or vaseline (and this of the purest) is, in a fairly numerous percentage of children, irritating and not well borne; so that, even when it has been used for protection and mild inunction only, a distinctive dermatitis has been caused. There seems to be a certain idiosyncrasy in this matter in about ten per cent. of people, for the effect is not confined to children. When, however, a stimulant action on the skin is called for, as in psoriasis of young children and others, it makes an excellent base, better perhaps than any other, on account of its non-rancidifying qualities, so that it is extremely useful in applications that are to remain for some length of time. I would remark here, parenthetically, that a psoriatic skin is always a tough and resistant skin, and usually the covering of a tough, healthy body, so that liberties which would be resented in a delicate integument are not noticed in this condition.

I cannot, of course, in the short time I purpose to occupy, go on and criticise the whole pharmacopœial list "seriatim"; it would anyhow exercise your patience too much, for no corresponding good, but I would simply, as the gist of my experience of considerably over a quarter of a century, recommend to all, first the milder measures, and the necessity of considering the individual case as to diathesis, etc., as above given, the exact state of the lesion itself, duration, etc.—these all having a direct bearing on the treatment of any particular case. A relatively newly apparent, acutely inflammatory, possibly weeping lesion always demands decidedly less stimulant treatment than a scaly, infiltrated, indurated, or almost œdermatous condition.

For a few moments now I would like to consider some of the most apparent and common errors of diet and hygiene. In order to do this more clearly and perhaps avoid repetition, it would be well to divide the children into three classes—class I., those at the breast or bottle, up to the eighteenth month; II., those from that age up to pretty nearly three years, when primary dentition is about accomplished; III., those of that age and, say, up to about the sixth year.

[1] Read at the meeting of the Kings County Medical Association, November 13, 1900.

While considering the case of infants of the first class, I am tempted to transcribe, and will, with your permission, read a few paragraphs from an excellent letter to the MEDICAL RECORD of October 20, 1900, by Dr. John B. Huber, of New York, which coincides exactly with my experience as to overfeeding and improper clothing of infants, especially in summer:

"The causes of disease especially manifested at these examinations were irregularity in feeding, and overclothing. As regards the feeding the following are specific instances: One child, who (so the mother said) was suffering from 'stomach trouble,' held in its fist most of a cracker. Its mouth was full of half-masticated food. It was given food 'whenever it wanted something to eat,' so that its digestive apparatus was almost never at rest. The baby was thin, weazened, and had a clammy sweat on its face. It looked senile. It was bottle-fed; and the bottle was given it 'whenever it cried.' One child during the inspection gorged himself upon a huge cruller; the mother explained, 'I keep him quiet that way.' Several children lunched without intermission all the while they were seen.

"As regards the clothing: On one very hot day the suffering from over-much clothing was especially conspicuous. They (the babies) were almost never without heavy 'belly-bands.' Prickly heat was very rife among them. Almost all of them cried piteously, no doubt because they were over-clothed. They were reeking with perspiration. Six thicknesses of clothing, more than half of which were woollen, were the average."

But now, for instance, we will take an ordinary healthy babe, fed from the breast in the most normal way and by a healthy mother. The infant bears every sign of being well nourished (too well nourished). That particular baby may or shall have, when brought to you, an eczema of intense character, on either and more probably on both cheeks, and often extending behind the ears, etc.; no known cause. Its bathing and care are seemingly all that could be asked for. Now in this class of cases I find most frequently that they are over-nursed; at any sign of irritation or disquiet on their part, they are given the nipple, and additional food is thus given to a probably already surcharged "prima via," instead of what they most need, especially in summer, and cannot ask for—a drink of sterilized water, slightly alkalinized, and, if you like, slightly sweetened. This is so common during the summer months that I have long been thinking about writing a little paper on this subject alone, feeling so strongly about it as I do. The poor little things, perspiring freely, too much clothed as they usually are at that season, possibly foul clothing too, necessarily become fretful, then in goes the food, instead of what is wanted—some water (*a fortiori* it can be seen how much more this applies to bottle-fed children)—thereby irritating the gastro-intestinal tract and increasing the already irritated condition of that analogue of the skin, the mucous membrane, and thus, as I believe, by reflex action irritating the skin itself. This is the history, and this the etiological factor, I am convinced, of many eczematous efflorescences, and most certainly I am convinced, too, that it is plainly a factor in their continuance and in the persistence of the same.

To turn from the baby to the mother, whose milk may be the cause of this irritation of the mucous membranes, I may ask, How often does the average medical man question her as to her possible diathetic conditions, or habits; is she rheumatic, constipated, dyspeptic? All of which, though she may be of robust appearance, have as conditions much bearing on the lacteal secretion and consequent nutrition of the infant, and all of which conditions certainly (and some others I will not mention) can be corrected by treatment, and should be. I think the use of stimulants and malt liquors, though so frequently recommended, is injurious, as a matter of fact, to almost all nursing women; it certainly is when a lithic-acid diathesis can be made out.

A curious thing I find, and one that is said to be recommended by some physicians, is dread and avoidance of a daily bath to the parts affected of the children, and sometimes to the whole body of the child so suffering; this seems to me idiotic—to allow the nasty rancidifying, butyric-acid decomposition of a grease that has been applied for days or longer, and that is only removed by the attrition of the clothing, seems absurd. A gentle washing should be given once daily; I do not want, of course, the skin macerated therewith; it is better, too, to make the water blandly alkaline with borax or soda and bran bag, so as to take away from the water its endo- and exosmotic properties; and after that to renew the sweet and clean application of whatever kind is necessary. As to underfed and strumous and possibly luetic babies, the indications are so plain that I will not presume to take up your time with advice, and so will go on to the consideration of what I call Class II.—those from the latter mentioned age to two and one-half to three years old. They generally have a wider range of distribution of the lesion, on the flexures it may be; anywhere, in fact. The question of diet here again comes up, and to the question to the parent, What do you give them to eat? the reply will often be, Almost everything. The result from the same cause—the gastro-intestinal irritation causing the eczematous reflex which the child had escaped during the nursing period, in which the child has been normal sometimes, and this possibly not so much from care as from carelessness of the mother during that time. I do not deny that the dentition process seems at times to have much to do with the production of eczematous manifestations in infants, but consider here that the chain of cause and effect is pretty much the same—irritation of the buccal and gingival mucous membranes, irritation and change of secretion of the salivary and other glands, causing indigestion and the reflex troubles of the skin, as aforesaid.

Restriction of the diet of these children is, of course, the first thing in order, stopping the dosing with tea, coffee, and what not; mild treatment with alteratives and corrective salines (the mouth secretions are almost invariably quite acid in these cases). As to the treatment of skin itself, it is almost always in need of bland and soothing, and slightly alleviative (mercurial) application in these cases.

Class III.—children from two and one-half to six years. Here again I might recapitulate the directions given already in respect to the class immediately preceding, and to reinforce them; for here the grosser forms of malnutrition come in, and again, in my belief, are followed by the same results, from the same causes. Unripe or decaying fruit, excess of sugar or sugared foods, abominations in the shape of candies, etc., may be named and deprecated as causes. One always should have a suspicion of ascarides in this group of cases.

Most of my remarks heretofore have applied to the children and parents of the poorer and presumably less intelligent classes, but in this group the more favored children of those of larger means are not exempt. Frequently, among this last-mentioned class, a great excess of food, or so to speak "forced diet," is very much in vogue, the aim being apparently to make a big, fat child by constant nutrition. These children are so stuffed that they hardly know what it is to have a healthy appetite, yet led by custom, and the fact of well-prepared food being laid before them at stated times, they eat inordinately, at least it may be called

so, in relation to the wants of their systems. They are liable to become fat, florid, and dyspeptic anæmics, irritation of their "primæ viæ" results from repletion, and again follows the reflex. They are often hard cases to treat, the economy seems to be torpid and sluggish, a little moderate starvation is good in these cases; they will often stand more stimulant applications to the skin than some of the other cases, or groups of cases, and alteratives, such as a little hydrargyrum cum creta, are very useful. In examining the urine of this overfed class of children, the pampered ones of rich and overanxious parents, I have often found a very noticeable amount of sugar. They had not, of course, true diabetic glycosuria, but simply interference with perfect metabolic action from repletion and its corollaries, and I believe this glycosuric condition has often predisposed to, or caused the eczematous tendency or manifestation. In other cases of the same sort the urine would be found loaded with pale amorphous urates, in still others the phosphates would be altogether out of normal proportion, so that in various ways the system would be found, according to the particular diathesis of the child, to be so interfered with by overnutrition that it and its consequences would be in any case a predisposing if not originating cause of an eczema and as unquestionably a perpetuating and prolonging factor.

Much might also be said regarding the clothing of this class of children if it did not unduly prolong these remarks. It is not, of course, reeking and foul, as is often the case in those of poorer circumstances; but in summer it is frequently too warm and overloaded with stiff starched frills and furbelows that render the child fretful and uncomfortable, and that interfere with any application made. From a common-sense point of view, how much better in every way would be the comfortable warm belly-band or loose and soft woollen undergarment, with something lighter and unstarched as an outergarment. I and you have doubtless often seen children tortured with their stiff pointed lace caps and collars, pricking into them with every movement, and as it were goading them to desperation; and yet these same children shall be accompanied, tended, and cared for by women in the nurse's (either trained or untrained) dress, which I take as the acme of costume for a woman in appearance as well as comfort.

These remarks would seem to me already too long further to consider specific remedies, or to go into hygiene further, except in the most general way, but I may be allowed to express my opinion in general as a summing up. First, I believe that while each and all of the infant foods so extensively advertised and used may be of use in particular cases, I still think that cow's milk appropriately diluted, sterilized, peptonized, and rendered mildly alkaline, as found necessary, is always about as good as anything that can be employed as food for them.

I must say, too, that in internal treatment of not only skin diseases, but in all those in whom perverted metabolism and its results occur from abnormalities of secretion in the primæ viæ, my great preference, instead of castor oil, rhubard and soda, and other laxatives and mild astringents, is the hydrargyrum cum creta in fractional or other doses; when necessary a little pulvis ipecacuanhæ compositus being added. Whether diarrhœa or the opposite condition is present, this remedy almost always comes in. How to explain the beneficence of its action is not so plain. Of course, it would be evident in luetic infants, and those specifically marasmic (I find this latter condition very common, and I regret to say often unrecognized), but the remedy in any case acts as mild stimulant of, and aid to proper secretion in, the glands and guts, and is as certainly to a large extent disinfectant and antiseptic, so that a catarrh of the mucous membrane, and incidentally a catarrh of the skin, which eczema is, is thereby benefited.

THE CLINICAL VALUE OF THE HEART REFLEX.

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Two years ago[1] I first directed attention to a phenomenon before undescribed, which I called the heart reflex. At that time I ascribed to it little clinical value, regarding it solely in the light of an interesting observation. Since then I have devoted considerable attention to this reflex with the object of ascertaining its practical application. The results exceeded my expectations. The heart reflex can be observed only with the Roentgen rays, the fluorescent screen approximating the anterior chest wall. The reflex is especially pronounced in children, and is best seen in adults with thoraces scantily furnished with musculature and panniculus. If we irritate the skin in the precordial region by vigorous rubbing with a blunt

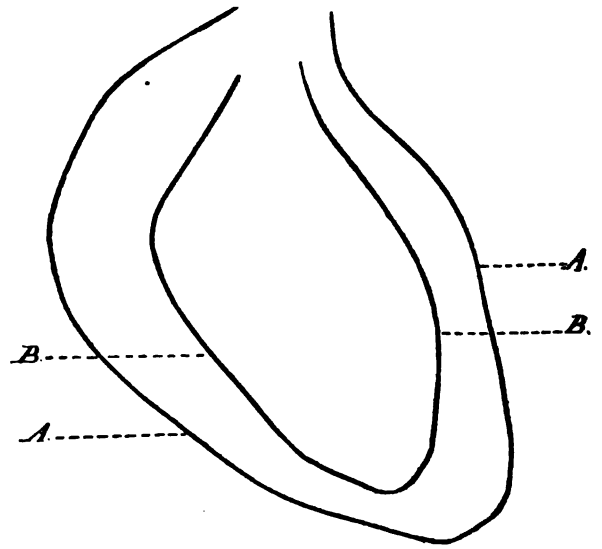

FIG. 1.—Heart Reflex in a Boy Aged Eight Years. Duration of reflex, two and a-half minutes.

instrument, a contraction of the myocardium is observed. The myocardial contraction is, as a rule, more manifest in the left than in the right ventricle. The contraction thus induced is not sudden and of momentary duration as I described in my original paper; on the contrary, its duration in children, on whom most of my observations were made, is not less, as a rule, than two minutes, and furthermore the myocardial recession continues even after the source of cutaneous irritation is removed. The degree of myocardial recession (heart reflex) varies greatly. In some persons it is scarcely perceptible, while in other individuals the heart may recede fully an inch on either side upon the first application of the cutaneous irritant. The above illustration will show the degree of myocardial recession (line *B*) after cutaneous irritation; *A* representing the normal outline of the heart drawn on the fluoroscope.

This illustration is an exaggerated one, for, in the many examinations made by me, I have never been able to induce so marked a reflex. It is strange that in not a few instances the myocardial recession, although rarely absent when observed with a good *x*-ray apparatus, is but slightly marked. For this vagary I am unable to account, occurring as it does in individuals with apparently healthy heart muscle.

[1] MEDICAL RECORD, March 26, 1898.

In Fig. 2 we note a rough reproduction from the fluoroscopic picture demonstrating slight myocardial recession confined solely to the left vetricle; *A* representing the cardiac outline before and *B* after cutaneous irritation; *C* is the upper hepatic line.

In my original paper I advocated the rhigolene or ether spray as the best cutaneous irritant; since then, however, I have tested different modes of cutaneous irritation for clinical purposes, and I am now constrained to conclude that friction of the skin by means

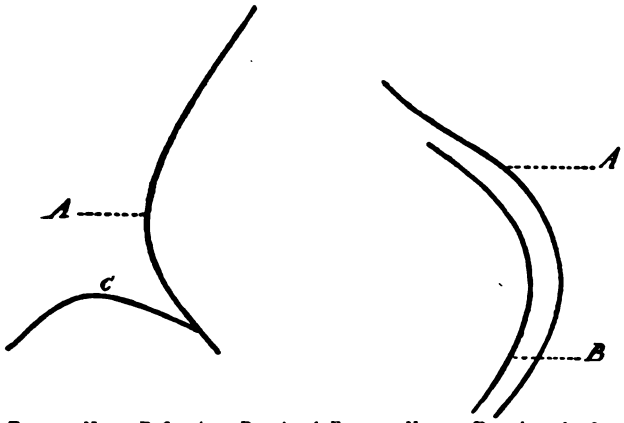

FIG. 2.—Heart Reflex in a Boy Aged Fourteen Years. Duration of reflex, fifty-five seconds.

of a rubber (the ordinary pencil eraser is suitable) is the best cutaneous irritant for provoking this reflex.

The nearer we approximate the precordial region and the more vigorous the cutaneous friction, other things being equal, the more pronounced is the heart reflex. The latter reflex may be slightly discharged, even though the cutaneous irritant be applied to remote parts of the body. In individuals with dilated hearts the reflex is very evident and of much longer duration than in healthy hearts. Before referring to the practical value of the heart reflex let me direct attention to another phenomenon which I have called the lung reflex.[1] This phenomenon can be observed without the aid of the Roentgen rays. If the skin of the thorax is irritated artificial lung dilatation ensues. The degree of the dilatation varies with the severity and extent of cutaneous irritation. Vigorous rubbing of the skin of the precordial region is sufficient to obliterate the area of superficial cardiac dulness. The same statement applies to the spleen and in part to the liver. If irritation of the skin is made anywhere on the chest corresponding to the lower lung border, percussion will show, say in the axillary line, a descent of the lower lung border fully 6 cm., a degree of dislocation even exceeding that obtained by forced inspiration. Aside from its percussional recognition, the appearance of the lung reflex by means of the *x*-rays is distinctive. Coincident with the discharge of the reflex, the lung area implicated shows increased brightness lasting from a few seconds to two minutes, the lung after that time resuming its normal skiascopic appearance.

In a previous paper[2] I espoused the theory that the real factor involved in balneo- and mechano-therapeutics (Schott) was dependent not on the baths and exercises as such, but owing to the cutaneous irritation provoked by these manœuvres. In accordance with this theory, I have, since this contribution, employed vigorous cutaneous friction by means of hand-rubbers obtainable at any drug store, after immersion of the patient in a warm bath for fifteen minutes; the warm bath augmenting the sensitiveness of the skin. By this simple and expeditious method, in chronic heart disease, I can adduce results emulating the conventional Schott method. Relief of dyspnœa follows, there is reduction in cardiac volume, besides a marked reduction in pulse rate with increase in volume and force.

The following conclusions may be formulated in reference to my method of treatment and that of Schott.

1. Lung dilatation follows the exercise and bath treatment, the lung acting as an excretory channel for the overburdened heart.

2. The cause of the lung dilatation is dependent on cutaneous irritation induced by the exercises and baths.

3. A decrease in the volume of the heart also ensues and is likewise provoked by cutaneous irritation.

In explanation of the heart and lung reflexes, we all recognize the influence of the skin in physiological and pathological conditions. According to v. Preuschen, stimulation of the respiratory centre is greater through the cutaneous nerves than through the vagus branches to the respiratory organs. In animals which have been made apnœic, the application of cutaneous stimulation (cold water) induced stronger respiratory movements, and he concludes that mechanical cutaneous stimulation by flagellation, cold water, or the electric brush, is of the greatest value in stimulating the centre of respiration.

The centre for the inhibitory nerves of the heart is stimulated reflexly by centripetal nerves. In support of this physiological axiom we need only recall the "Klopf-Versuch" of Goltz, which demonstrates that striking the abdomen in animals will inhibit the heart's action.

I regard the heart reflex test as pathognomonic and far exceeding all other methods yet recommended in differentiating a dilatation of the heart from pericardial effusion. This is conceded to be one of the most difficult problems for the clinician. If, in a given case of increased cardiac dulness which has been carefully outlined, we vigorously rub the skin of the precordial region by means of a rubber, and note after two minutes (the time necessary for the abolition of the lung reflex) a reduction in cardiac dulness, we are justified in concluding that we are dealing with cardiac dilatation and not with a pericardial effusion. Let me illustrate my meaning by reference to Fig. 3. This is a rough reproduction of a reaction obtained in a young man with massive dilatation of both ventricles. *A* represents the percussional area of the heart before cutaneous friction. The dark area represents the area of cardiac dulness after cutaneous irritation, and is caused not wholly by a reduction in cardiac volume,

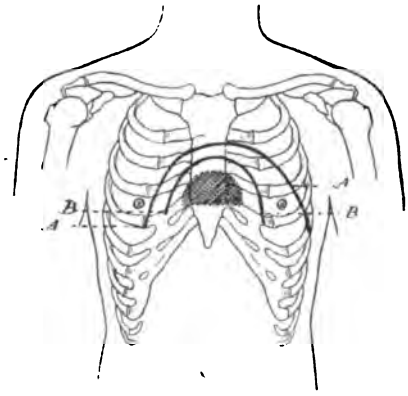

FIG. 3.—Illustration of Heart Reflex in Cardiac Dilatation. *A*, Percussional area of dilated heart. Dark area, percussional area after cutaneous friction; *B*, percussional area, showing heart reflex persisting after abolition of the lung reflex.

but also by the lung reflex which induces the lung to encroach on the area of cardiac dulness. After waiting two minutes, a time exceeding that necessary for the lung to recede, the percussional area *B* is obtained, which actually represents the decrease in the

[1] New York Medical Journal, January 13, 1900.
[2] The Medical News January 7, 1899.

cardiac area (heart reflex). If pericardial effusion were present there would be some evidence of the lung but not of the heart reflex.

We have yet to learn the value of the heart reflex as an index to the condition of the myocardium.

S. W. Corner Van Ness Avenue and California Street.

A CASE OF PERFORATING GASTRIC ULCER.

By A. B. ATHERTON, M.D.,
Fredericton, N. B.

In the Medical Record of January 5, 1895, I reported a case of perforating gastric ulcer successfully operated on, and I now have the pleasure of recording my second operation for the same disease, which was attended with a like result.

As is well known, it is essential in this complication of gastric ulcer that a diagnosis should be made very early, and prompt surgical treatment be instituted, in order that the patient may have a fair chance for recovery, and for this reason the surgeon who does some general practice and has the good fortune to be called at once to such a case has the advantage over the more purely consulting surgeon, who is more apt to be called in somewhat too late to give the best result from operation. In both my cases I operated within twenty-four hours from the commencement of the acute symptoms, the exact time being in the first fifteen and in the one now reported only ten hours.

At 1 A.M. on March 26, 1899, I was hastily summoned to see M. D.——, aged sixty-two years, on account of a severe pain in the belly, which had suddenly come on about an hour before. On inquiry I learned that he had had dyspepsia for fifteen years. He had to be very careful about the food he ate, because of pain and sometimes vomiting. He had never vomited blood. His mother died from "cramps" at fifty, after an illness of twenty-four hours. There was nothing to indicate any hereditary tendency to gastric disease unless this was.

He had been travelling by rail and water for a few days, and his stomach had not felt well. He had not eaten anything for twenty-four hours except a little porridge the previous morning.

I found him sitting on the side of his bed, leaning over forward to relieve the agonizing pain in his abdomen. He could not lie down. He had not vomited. His abdomen was very tender and rigid, especially at its upper part. The left rectus seemed rather harder than the right. The belly was somewhat tympanitic, but there was no manifest distention, and liver dulness was present. P., 70; T., normal.

I at once gave a half-grain of morphine subcutaneously. A short time afterward he vomited over a quart of dirty, dark fluid with some oatmeal in it. No blood was noticed. The morphine required to be repeated in half an hour, and a third dose was given at 3:30 A.M. After this he became fairly easy, but preferred still a sitting posture.

I visited him again at 6:30 A.M. He had taken in the mean time by the mouth a fourth half-grain dose of the morphine, and had slept half an hour. He was found now lying down in bed. The belly seemed much the same as at my first visit. Pulse and temperature likewise were as before.

At 8 A.M. he was removed in a hack to the General Hospital, and was operated on at 10 A.M., the usual preparation being made to insure antisepsis.

The anæsthetic was given by Dr. McLearn, and assistance rendered by Mr. Roy Van Wart, medical student.

A median incision about four and one-half inches long was made above the navel. When the peritoneum was opened a puff of gas escaped, and some bubbles were also seen. Then some turbid serum flowed out from the right side of the upper incision, and some mucus and lymph were seen there. An opening of the size of a lead pencil was found on the anterior surface of the stomach, near the pylorus, with nearly black mucous membrane pouting out of it. The hole was closed by two rows of Lembert's silk sutures. Considerable induration was felt around the opening. Sponges were used to clean out parts beneath the liver and the right lumbar region. Some strips of iodoform gauze were placed here for drainage, their ends being brought out of the upper end of the wound. The rest of it was closed by fish-gut sutures. Iodoform and bichloride gauze dressings were applied.

12:30 P.M.: He feels much better and has slept considerably since the operation. He is rather lethargic. The pupils are much contracted. P., 68; T., 96.5°.

March 27th, 9 A.M.: The dressings were changed last night and at the visit; the temperature ran up to 100° in the night; it was 99.5° this morning. He had gr. $\frac{1}{8}$ morphine last evening and rested fairly well.

March 28th, 9 A.M.: Temperature normal. One piece of iodoform gauze was removed from the abdominal cavity. No vomiting has occurred since the operation.

March 29th: The rest of the gauze was removed from the abdomen. Some fish-gut sutures, which had been left loose at the site of the strips of gauze, were now tightened. P., 70; T., normal. The bowels were moved well yesterday by enema.

April 6th: All is doing well. The sutures were all removed. The wound is about healed.

April 15th: He has had heartburn at times, for which soda and bismuth have been given. Also care was used in diet. The pain in the epigastrium was quite severe to-day and he vomited a pint or more of dark liquid, with considerable blood in it. Morphine gr. $\frac{1}{8}$ given hypodermically relieved him. He is to have only milk and lime-water, and curds.

April 20th: He is doing well, and may get out of bed. He asks for and may have the whites of two or three eggs per day, as he says these always agree with him.

April 25th: He is discharged from the hospital, and left for his home in Grand Manor a few days afterward.

On March 3, 1900, I received a letter from the patient's wife, informing me that he had just died. She said he seemed to get on well until about Christmas when he began to be troubled again with his stomach, and vomited a good deal of bloody mucus for a week. Then he improved for a time, but later on had "pleurisy and a trouble with his lungs and never regained his strength."

Hæmophiliac Joints.—Tilmann describes a case of this somewhat rare lesion occurring in a man of twenty-two years, whose previous history and antecedents did not point to any blood dyscrasia. A slight trauma was followed by extensive painless swelling of the left knee joint which kept relapsing after apparent recoveries during a period of three years. Tuberculous disease was excluded by the tuberculin test, and a diagnosis of arborescent lipoma made. Operation was accordingly decided on, with the remarkable result that thirty-six soft elastic bodies, varying in size from that of a pea to that of an almond, were removed. The patient recovered well from the operation, but the next day the joint was found distended with blood and all attempts to check the hemorrhage, which apparently consisted in extensive capillary oozing, were fruitless, the patient finally succumbing three weeks later, completely exsanguinated. The bodies removed from the joint were found to be fibrin clots, which, as they were

almost wholly devoid of red-blood cells, were assumed to have resulted from the chronic plastic inflammation set up in the synovial membrane. The case is interesting as illustrating the care which must be exercised in excluding the possibility of this lesion before operating on obscure joint affections.—*Deutsche Aerzte-Zeitung*, October 1, 1900.

A New Symptom in Epilepsy.—Carlo Ceni reports a curious fluctuation in the bodily temperature of epileptics, which he considers of sufficient constancy and importance to merit a place in the symptomatology of the disease. The phenomenon in question is a very marked temporary drop in temperature occurring at various times of the day or night. The drop may be of from one to five degrees and last from a half to one hour. The phenomenon has all the characteristics of an epileptic crisis, which does not come to the consciousness of the patient. In some instances it was observed three or four times in the twenty-four hours, but more often it appears periodically at intervals of several days or weeks. There is no apparent connection between the occurrence or the frequency of these variations in temperature and the severity of the disease itself, neither do they appear to stand in any relationship to the typical epileptic seizures.—*Centralblatt f. Nervenheilkunde und Psychiatrie*, October, 1900.

Some Thoughts Relative to the Etiology of Degeneration.—Charles E. Woodruff defines a degenerate as an abnormal man whose variations or stigmata are developmental and due to an unstable nervous system. The variations from the average may also be due to diseases resulting from an unstable nervous system, such as rickets and the deformities of infantile paralyses. So long as we recognize that the essential defect of the degenerate depends upon the faulty composition of the substance of the nerve cell or its ancestor, the germ cell, although the character of the defect may be absolutely unknown, we are justified in using the unscientific term, nervous instability. We are perfectly aware of its indefiniteness, yet until the pathologist shall have taught us all about the composition of the nerve cell in health and disease, we can find no other term which will define a condition which, however, we know to exist. Marvellous results, however, follow from the proper care and raising of the children of degenerates. Children of the slums taken early, fed and raised in honest families, as a rule become normal citizens in spite of terribly degenerate parentage. We read of the results with delighted astonishment. This theory may also do away with that fatalism which condemns degenerates and their offspring as hopelessly incorrigible, and which gives rise to the various absurd proposals for preventing their reproduction. Efforts at regeneration will take the place of nature's brutal methods of ruthless destruction of the least fit, as it is the rule for civilization to preserve and make useful that which was formerly destroyed by nature with reckless prodigality. Unfortunately the adverse environment of an abnormal intra-uterine life may be so disastrous that no subsequent care can repair the damage already done, so that degenerates will be encountered so long as man exists.—*American Journal of Insanity*, October, 1900.

Popliteal Aneurism Cured by Digital Pressure of the Femoral Artery.—C. A. Hamann thus writes of his experience with a recent case: The patient was a colored man aged forty-two years. Some four or five weeks before coming under observation he noticed swelling about the knee and pain in the popliteal space when walking. On examination I found a very distinct aneurism of the popliteal artery, about as large as a hen's egg. The characteristic symptoms of aneurism were present with the exception of a bruit. There was œdema of the leg, and the superficial veins were distended. The arteries were atheromatous, the aorta was dilated, and the left ventricle was hypertrophied. There was no history of trauma, the pain and other symptoms coming on gradually and steadily increasing. The treatment used was digital compression. The services of a number of medical students were secured, and compression of the superficial femoral artery was kept up for thirty-six hours. It was necessary to use some morphine. Four hours before the compression was stopped there was still pulsation in the sac. At the expiration of thirty-six hours the pulsation had ceased. A splint was applied for three or four days, and in a week the patient was allowed to get up. He now limps slightly, but extension is almost perfect. A solid mass can be felt in the popliteal space. The swelling and œdema have disappeared.—*Cleveland Journal of Medicine*, November, 1900.

Primary Sarcoma of the Liver.—Antonio Cesario Semel reports a case which demonstrates the fact that a primary sarcoma may develop in the liver, even in adult life. It also demonstrates that the structure of sarcoma is not always alveolar, nor its origin perivascular, as is usually the case, but that it may be developed directly from the connective-tissue trabeculæ of the liver, having the form of round or polymorphous celled sarcoma in the young, actively proliferating nodes, to be later transformed into the typical fibrosarcoma.—*Archivio per le Scienze Mediche*, vol. xxiv., No. 3.

On the Use and Abuse of Lavage.—John Herr Musser believes it unwise to allow patients themselves to do lavage; soon a habit develops in them, which is apt to prove injurious. Every ache or sense of distress, every eructation or heartburn invites the use of the tube. The writer uses it in cases of atonic dilatation, when the retention is extreme; in cases of organic pyloric obstruction; in gastric neurasthenia and certain cases of hysteria, and in some cases of chronic gastritis with subacidity. To ascertain the nature of any gastric lesion or disorder, he makes a practice of analyzing the stomach contents of all patients whose complaints are gastric, and all whose general health suggests imperfect nutrition from defective gastro-intestinal processes. He also employs physical means for determining the size of the stomach—percussion, inflation, etc.—*The Therapeutic Gazette*, November 15, 1900.

Injuries to the Wrist: Diagnosis and Treatment.—Edward A. Tracy gives directions for ascertaining whether the injury be a sprain or a fracture. If the styloids are found in normal relations with the wrist it is a case of sprain. If the radial styloid is on a higher level than its ulnar fellow we have fracture. In the treatment: (1) rest for the joint is important, and may be secured by immobilizing it by means of a piece of wood-plastic splint material, bandaged over the back of the forearm and hand. (2) Massage should be carefully applied to cause absorption of the tissue exudates. This is done by gently grasping and squeezing the forearm a little above the swelling, and then relaxing the hold and repeating the grasp and squeeze about a half-inch below, and continuing to do this until the lower limit of the swollen tissues is reached; then a swift gliding pressure from below upward (toward the elbow) should be made. In this way the lymphatic circulation is stimulated and the broken-up detritus absorbed. (3) Pathological adhesions are prevented by properly applied passive motion. The fingers should be bent daily, and the wrist may be bent

about the fifth day, gradually at first. The splint form above described permits of this easily.—*The Virginia Medical Semi-Monthly*, November 9, 1900.

The Technique of Exploratory Craniotomy.—A. Codivilla describes an instrument designed to remove large pieces of bone from the cranial vault, which is capable of making circular, oval, or other shaped openings. The incision which it makes in the bone is almost linear, the loss of bony substance being very slight. It can be used on thick, hard skulls as well as upon thin and soft ones; it works rapidly and accurately, without danger of injuring the skull contents. The instrument can be taken apart, perfectly cleansed and sterilized, and is easily transported. The only energy necessary in its use proceeds from the hand of the surgeon. It is inexpensive.—*Revue de Chirurgie*, November 10, 1900.

Malaria and General Paralysis.—E. Marandon de Montyel concludes from a number of cases studied that acute malaria can cause progressive general paralysis, or general pseudo-paralysis, in predisposed patients. Chronic malaria may not only do the same, but may even create the paralysis in non-disposed persons, but very exceptionally. Acute malaria may cause early progressive paralysis in the predisposed. Malarial symptoms occurring during the course of general progressive paralysis are frequently complicated by cerebral congestions which aggravate the malady. The paralysis which develops under the influence of acute and chronic malaria is nearly always rapid in its course. While the relation between malaria and general paralysis is undeniable, their simultaneous occurrence is rare. The symptomatology and pathological anatomy of general paralysis of malaria lorigin do not appear to possess any special individual characteristics.—*Revue de Médecine*, November 10, 1900.

The Treatment of Cancer of the Female Breast.—James Bell thus sums up the present status of the subject: (1) Cancer is primarily a local disease, extending (*a*) by infiltration, (*b*) by extension along the lymphatics, and (*c*) by metastasis. Cancerous glands are nearly always found in the axilla in this disease. (2) The only treatment which offers the patient any hope is early and complete removal of the growth, extirpating the whole of the infected structures by incisions through the healthy tissues beyond the remotest extensions of the disease. Local recurrence in the axilla is not uncommon. Early diagnosis of cancer is most important—to be followed by early operation. No breast tumor should be looked upon lightly when there is the remotest possibility of its being cancer or sarcoma. In certain of the more advanced cases an operation which would remove all the axillary structures, including the blood-vessels and the brachial plexus, from the level of the first rib outward, would effect a cure in many cases in which, after any lesser operation, early recurrence, and hopeless, miserable, distressing, and painful invalidism for a short time is all that is left for the patient. If necessary an interscapulo-thoracic amputation should be performed. The performance of the operation up to the extreme limit would probably yield the most beneficial results.—*The Montreal Medical Journal*, November, 1900.

Mental Sanitation.—R. W. Bruce Smith urges that the public be enlightened with regard to the nature of insanity in order that they may recognize that heredity is the most potent factor in its causation. They should also know that, as the development of the morbid disposition is most insidious and seldom recognized until late, the consideration of the personal and family history should receive early attention. Many cases of insanity are justly chargeable to the imposition of burdens beyond the capability of the individual. If the conditions under which many cases of insanity originate were properly understood many attacks of the disease might be avoided. The study of child character and the careful consideration of the variability in the development of mental phenomena during the period of growth in the child are all-important. The family physician should take the steps necessary to secure the adoption of these and all precautionary measures, and must be prepared to advise, caution, and restrain, in exercising his influence in the prevention of mental diseases.—*The Canadian Journal of Medicine and Surgery*, December, 1900.

Widal's Test.—Rufino Fiocca considers that this reaction is the best practical method which clinical microbiology possesses for the diagnosis of typhoid fever. If applied once or more times during the course of the disease the reaction will always be found in cases of true, non-lethal typhoid. In some fatal cases it may be absent. If the dilution of the serum be high enough (1:40–1:50) this reaction will not be found in other infective diseases. In a certain number of cases it may be used for the early diagnosis of typhoid. The time of its appearance and the curve of the agglutinating-power do not furnish absolutely reliable data for prognosis.—*Il Policlinico*, November 1, 1900.

An Inquiry into the Existence of Autochthonous Malaria in Buffalo and its Environs.—Irving P. Lyon and Alfred B. Wright approached their investigation along two lines: 1. What species of mosquitos are found in and about Buffalo? 2. What evidence of the existence of autochthonous malaria is there furnished by examination of the blood? The answer to the first question may be thus summarized. Of the three hundred and seventy-four specimens of mosquitos collected, every one belonged to the genus Culex, and not a single example of Anopheles, the malaria-bearing variety, was found. As to the examination of the blood, that of twenty-eight cases suspected of malaria was examined, and found negative for malarial organisms. Inquiry of practising physicians, and at all the larger hospitals, elicited the reply that malarial cases were seldom seen. The authors have been unable to discover any evidence that proves the development of malaria in and about Buffalo in recent years.—*Buffalo Medical Journal*, November, 1900.

Carbonic-Acid Gas per Rectum in Pertussis.—C. Legrand Kerr describes the following method of relief to be used in cases when there is a complication, or, more particularly, a drug intolerance. While the results have not been uniformly satisfactory, there has been enough success to warrant a more extended trial. A wide-mouthed bottle, of at least one-pint capacity, has a cork perforated with a glass tube which is adjusted so that the end reaches half-way to the bottom of the bottle. To the external end of the tube is attached flexible rubber tubing three or four feet long, on the free end of which is placed a hard-rubber rectal nozzle. The bottle is filled one-third with water in which has been dissolved ʒ vi. bicarbonate of sodium. To this is added ʒ iv. tartaric-acid crystals. The bottle is kept stationary, and as the tartaric acid dissolves slowly the gas is liberated at the proper rapidity for administration. The rectal tube being inserted, the gas is administered for from five to ten minutes, according to age of child. Two or three treatments daily are sufficient. Ephraim explains the effect as the result of the increased quantity of oxygen which reaches the air vesicles, there to be exchanged for the larger amount of carbonic acid contained in the blood in consequence of absorption from the rectum.—*Pediatrics*, November 15, 1900.

MEDICAL RECORD:

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MUNICIPAL HOSPITAL REFORM.

THE Bellevue Hospital scandal is still in the high light of public investigation, the recent brutality of some of her male nurses forming the grim background of the revolting picture. Three of the men who cared for a lunatic are charged with actual murder. The alleged cruelty of nurses in the alcoholic wards, as attested by eye witnesses, matches the sternest facts against the wildest imaginings.

In the face of such disclosures the friends of the old and time-honored institution bow their heads in shame and wonder what new mortification is awaiting due development. All admit, however, that the time has come when the real extent of rottenness in its management should be impartially disclosed.

The commissioner of charities is evidently doing his best to that end, and deserves due encouragement in his work. It is hardly fair, however, in his attempt to explain the varied causes of the trouble impliedly to shift their real responsibility on the medical staff. This is certainly inexplicable on any reasonable ground, and inconsistent with any apparent fact.

To all who are acquainted with the working of the hospital the insinuation of the commissioner that the medical board itself needs investigation is a great surprise. It is well known that while the medical staff is virtually held accountable for all misdoings of nurses, ward attendants, and others indirectly concerned in the care of the sick, it has really no power to enforce its regulations. It can make suggestions, but nothing more. The medical board then should scarcely be blamed for what it could not prevent.

Take the management of the insane ward as an example in point. This part of the hospital had for many years an experienced medical superintendent who resigned last spring, and whose particular office was then abolished. It cannot be denied that the medical staff strenuously advocated the continuance of such a superintendency, but without avail. Instead of honoring the appeal, the commissioner of charity shifted the new duties upon an already overworked house staff. This was doubtless considered wise on his part at the time, but the ultimate results can hardly bear out such an assumption. The virtual acknowledgement of error in this regard is now manifest in his finally acceding to the original wish of the board by recreating the office of medical superintendent of the insane, and holding the incumbent to the strict accountability for proper supervision of his wards. Thus, a great deal depends upon how a thing can be explained.

Although the commissioner may have every desire to do his duty so far as he is able, it is not becoming to his manly spirit to divert proper attention from the real interests at stake by simply "investigating" the responsibilities of all those under him, and thus virtually placing himself beyond the pale of ordinary criticism.

While defending the medical staff against the imputation cast upon it, it is only just to the commissioner to say that he himself, although legally responsible to the public for the proper executive conduct of the hospital, is very much handicapped by outside political influences. When we say he has done the best he could under the circumstances, we offer the strongest argument for changing the entire system of municipal hospital management. Whatever may be said to the contrary, the real fact is that the executive management of Bellevue from beginning to end, from top to bottom, is thoroughly political in character.

It can be seriously doubted that the head of the department can actually have at all times and under all circumstances absolute power to discipline the hosts of employees, whose places are made for them by the various political "bosses." Thus, it may not be an easy thing even to discharge an incompetent superintendent, a brutal nurse, or a drunken ambulance driver, who may be the friend of a ward leader. But these are the humiliations of high office which need only to be named to be pitied. And yet we are soberly informed that the hospital has nothing whatever to do with politics.

It is openly asserted that even the medical board is not above utilizing so-called "pulls," social, political, and cliquish, in controlling college interests and in naming favorite candidates as prospective colleagues. However, thus far such alleged practices have not interfered with the construction of a staff composed of good men, although equally competent men may have been crowded out. In any event, the commissioner holds the balance of power in appointing, and then the political influence of the applicant is very apt to determine the result. Still it is comforting to know that politics has nothing whatever to do with the direct treatment of the sick, as the commissioner frankly declares that he is not competent to judge the skill of the doctors.

But whatever may come of the investigation and whatever promises may be made for the future, a reorganization of the entire system of municipal management of our public hospitals seems inevitable. In the latter direction of reform, the proposed charter amendment, giving the hospitals in charge of an independent board of citizens, offers the best opportunities for their practical, broad-minded, and thoroughly systematic administration.

Dr. John E. Weeks has been appointed professor of ophthalmology at the University and Bellevue Hospital Medical College, to succeed the late Dr. Henry D. Noyes.

THE ETIOLOGY AND TREATMENT OF TABES DORSALIS.

Disease is scarcely a less complex process than life itself, and it should be borne in mind in connection with etiology that, while one cause or set of causes may be more prominent than others, the development of the morbid process will require the conjunction of all of several. Disease has not inaptly been compared to a closed chain, which is incomplete so long as a single link is missing. The links are represented by the causative factors, exciting or predisposing; and it should be the object of the clinician to prevent or to destroy the continuity of the chain. In an interesting communication on the etiology and treatment of tabes dorsalis, Pel (*Berliner klinische Wochenschrift*, 1900, Nos. 29 and 30) expresses the opinion that the principal factor in the etiology of many diseases of the nervous system probably consists in morbid irritation, with resulting impairment of nutrition, of the nervous elements by soluble substances circulating in the blood—in other words, a toxic process. In this connection it should be borne in mind that there are great variations in individual susceptibility, that minimal amounts of toxic substances are capable of exerting an injurious influence, and that each exhibits an elective affinity for different parts of the nervous system.

That the influences under consideration are operative in the etiology of tabes dorsalis is indicated by clinical experience and pathological-anatomical findings, symmetrical degeneration of nerve cells taking place simultaneously or consecutively at widely separated points; as, for instance, the posterior roots, the intervertebral ganglia, the posterior columns, the bulbar nuclei, the peripheral nerves. At the same time, different symptoms of varied localization appear, as, for instance, lancinating pains, ocular disorders, weakness of the bladder, bulbar and ulnar symptoms, and disorders of the sexual functions. For the foregoing reasons, tabes dorsalis is believed to be of hæmatogenous toxic origin, although the identity of the poisonous agent or agents has not yet been established; the deleterious effects being exerted directly upon the cellular elements, but only when the resisting-power of these has been lowered by other injurious influences. All agencies increasing the irritability of the nervous system and lowering its resistance favor the development of morbid processes; as, for instance, excesses of all kinds, exposure to cold, overexertion, traumatism, acute infectious diseases, emotional disturbances, hereditary predisposition. Syphilis, without doubt, plays the most important rôle in the etiology of tabes dorsalis, which is essentially a disease of large cities, and to whose development the strains and competitions of modern life materially contribute. Alcohol and tobacco also are contributing factors.

In the prophylaxis of tabes dorsalis, the most important measure is the avoidance of syphilis, and, in the event of syphilitic infection, the institution of thorough and systematic treatment. In addition, care should be taken to avoid constitutional debility, increased irritability of the nervous system, and lowering of its resisting-power, and, therefore, all of the predisposing influences. When tabes is already developed, the mode of life should be carefully regulated and made simple and quiet, especially excesses of every kind and over-exertion being avoided. A spirit of hope should be sustained, and the patient not oppressed with the incurability of his disease. Mercurials should be employed only when symptoms of syphilis are still present, when tabes has developed a short time after symptoms of syphilis have been present and effective antisyphilitic treatment has not been employed, and when the clinical picture exhibits peculiarities indicating involvement of the spinal or cerebral meninges, and the possibility of the presence of actual syphilis of the cord cannot be excluded. Perforating ulcer of the foot is sometimes favorably influenced by mercurial treatment. Not much is to be expected from the administration of potassium iodide, although some of the symptoms, such as pain, are occasionally mitigated thereby. Strychnine exerts a favorable influence on weakness of the bladder, the gastric functions, etc. The salts of silver may also be employed.

Symptomatic or palliative treatment may require the administration of such drugs as acetanilid, phenacetin, antipyrin, pyramidon, sodium salicylate, cocaine, salophen, quinine, chloral, or applications of ichthyol, or the use of warm baths for the relief of lancinating pains. The application of a flannel bandage, as well as cold or warm affusions and cutaneous stimulation, appears occasionally to exercise a mitigating influence, and a band firmly applied about the abdomen may ameliorate the distressing girdle sense. Relief may sometimes be afforded by suspension or by extension of the spine by stooping forward. Efforts should be made to avert the crises —of which the gastric are the most common—by appropriate hygienic and dietetic measures. Rest in bed, with the avoidance of all irritation, and the employment of anodyne measures and remedies for the control of vomiting, will be indicated. In severe cases morphine will be the only remedy that will afford relief. In mild cases nervines, such as bromides, cocaine, antipyrin, or opium may suffice. They may advantageously be administered by the rectum. If the paroxysms be long continued, nutrient enemata may be required. In the intervals the prostration should be relieved by rest, nutritive diet, and tonics. For the weakness of the bladder strychnine and ergotin may be employed, preferably injected subcutaneously in the vicinity of the viscus. To neutralize the bodily weakness small doses of arsenic may be administered. This metal, in appropriate doses, together with rest and a suitable diet, constitutes an admirable remedy for nervous, emaciated, and debilitated individuals. Baths and other hydrotherapeutic measures, climatic treatment, electricity, massage, supporting apparatus, stimulants, are measures that, if they have no direct influence upon the tabic process, favorably influence certain symptoms, as well as the general condition. Paræsthesiæ may be relieved by the faradic brush, motor weakness by the galvanic and the faradic current, atonic weakness of the back by suitable jackets, and pain by stimulation of the skin.

For the ataxic movements, so called, compensatory exercises may be advantageously practised systematically, for the purpose of both education and exercise.

STERILIZATION OF DRINKING-WATER FOR ARMIES IN THE FIELD.

Typhoid fever in every war has claimed more victims not only than wounds caused by weapons of destruction but even than any other disease. The modern conditions of warfare, though far more sanitary than those of ancient times, do not appear to have exerted any very potent influence in decreasing the death roll from this malady. The report of the commission appointed to inquire into the various causes of death among our soldiers during the Spanish-American war has just been handed in, and from a perusal of this document the fact is gathered that enteric fever was responsible for the great majority of fatalities. The reasons assigned for this peculiar prevalence are many, but all are agreed that to the drinking of polluted water is due a large proportion of the typhoid-fever cases. The South African campaign is another prominent example of the wholesale devastation effected by this disease when it once gains a foothold among a large body of men. It is contended by some that this incidence and mortality are almost exclusively owing to the contamination of the drinking-water. What is needed is an effectual method of purifying the drinking-water. Filtration and boiling are the means which suggest themselves for sterilizing water. *The Medical Magazine*, November, commenting upon the subject, says: "Filtration must be done through the porcelain candle to be effective, but it is too tedious for practical uses in connection with great bodies of troops and for emergencies. Boiling is also inconvenient, and the cooling process entails waiting." The German government has caused a series of investigations to be made with respect to this matter, and some of the results have been given by Dr. MacWeeney (*Journal of State Medicine*, October, 1900). Tea and coffee were useless; brandy and wines were inefficient; formalin gives the water an objectionable taste and may injure digestion; permanganate of potassium was effective, but the drug was with difficulty got rid of afterward; alum, lime, ferric chloride, peroxide of hydrogen, iodine, and chlorine were all tried and found practically unsuitable. Of all the substances to which a trial was given the author accords the preference to bromine. In a former number of the *Journal of State Medicine* the author described Schumburg's method of employing this element in the disinfection and sterilization of drinking-water. It may prove useful to recapitulate the conclusions at which he has arrived: (1) Free bromine added to drinking-water in the proportion of 0.0692 per litre (=4.2 grains per gallon) kills all pathogenic germs, including those of typhoid and cholera, within five minutes. (2) In view of the difficulty of measuring bromine it is used dissolved in KBr solution according to the following prescription: Bromine, 21.91 gm.; potassium bromide, 20 gm.; distilled water, 100 gm. (3) The readiest way to estimate the free bromine in the solution is to add KI and starch paste and titrate the iodine set free with hyposulphite of sodium. (4) When the water is rich in ammonia or organic matter in solution, enough bromine must be added to produce a yellow coloration lasting for about half a minute. Visible impurities and coarse suspended matter must be removed by a rough process of sand filtration. (5) The bromine is to be got rid of when it has been acting for five minutes. For this purpose a nine-per-cent. solution of ammonia was at first suggested, but the object is now accomplished by means of tablets of the following composition: Sodium sulphite, 0.095 gm.; sodium carbonate exsiccated, 0.049 gm.; mannite, q. s., one tablet to be used for a litre of water. In from one to two minutes all taste and smell of bromine have disappeared. Bromine is best conveyed in sealed glass tubes containing enough for 100 litres of water. With the overcoming of the difficulties in the way of purifying water effectively, in camps or on the march, the most important advance toward abolishing typhoid fever among soldiers will have been made. Some of the portable filters now in use are said to answer the purpose fairly well, but at the same time the best of them is far from perfect. Schumburg's method of employing bromine may clear the water of pathogenic germs, but it would seem to be too elaborate and intricate for use with soldiers on the march. If bromine possesses the qualities claimed for it, is it not possible to devise some more simple mode of utilizing them? There is a wide field for investigation here, and certain it is that to the man who discovers the means of purifying water by uncomplicated methods will come both fame and money.

THE ETIOLOGY OF DEGENERATION.

Prevailing currents of thought appear to be healthfully pervaded by sound biological doctrine, and we are coming to have clearer conceptions with regard to the respective influences of heredity and environment. Life is no longer viewed with superstitious awe, but as a manifestation deserving of the most intelligent and liberal study. Much has been written in recent years concerning degeneration, sometimes upon insufficient grounds and at other times without a proper judicial regard for all of the facts; and the significance of the term has been largely lost by reason of its adoption into popular parlance.

As the result of a study of the stigmata of this condition, as observed in soldiers in the course of his duties as an army surgeon, Charles E. Woodruff (*American Journal of Insanity*, vol. lvii., No. 2, p. 203) defines a degenerate as an abnormal individual whose variations or stigmata are developmental and due to an unstable nervous system. Such variations, it is thought, may be dependent also upon disease resulting from instability of the nervous system, such as rachitis and infantile paralysis. Inasmuch as this instability may be of widely varying degree, it is at times difficult to make a distinction between the degenerate

and the normal. Here it is that education and environment enter and help to decide the result.

Unfortunately, degeneration may give rise to anomalies identical with those resulting from involution, or the retrogression of parts once useful, but no longer so. The one process is unwholesome and leads to extinction, and its variations depart widely from the parental form; while the other process is wholesome and favors survival, and its variations do not depart widely from the parental form. Thus, civilization is responsible for the wide diversity in normal variation, and the result has been a minute subdivision of labor, so that an individual may throughout his whole life be engaged in one narrow pursuit, densely ignorant of all subjects outside this specialty.

The body and the brain of a race react to its environment, increasing amid adverse surroundings, and vice versa. Civilization is a product of the intellect, but it can add nothing to brain-growth. In savage life the tendency is toward uniformity, by reason of sameness of pursuit; while in civilized life variation is the rule, for the opposite reason. Such normal variation, which may, however, be identical with that resulting from degeneration, is to be identified by its resemblance to similar variation in the parent, while the reverse is true of unstable or degenerate development.

It has been shown that acquired modifications due to use, disuse, or general environment are not transmissible from parent to offspring; so that nervous instability must be looked upon, not so much as a matter of inheritance, but rather as a result of interference with nutrition, poisoning by toxins or alcohol, or of mechanical accidents to the ovum—an acquired characteristic in the strict scientific sense. There is thus ground for suspicion that degeneration is not hereditary, but that the ova always tend to revert to the normal if permitted so to do; so that if the degenerate were placed under favorable environment there might be hope of regeneration. Unfortunately, however, the opposite conditions commonly prevail, and purification takes place by elimination.

The importance of these modern doctrines resides in their application to the care and raising of the children of degenerates, from which such admirable practical results have already been obtained. Degeneration may possibly be due to vicious causes acting injuriously upon the ovum before or after fertilization, and diverting it during development from the normal groove into which it is naturally directed by the hereditary impulses accumulated by natural selection from millions of previous generations.

If degeneration were hereditary there would be an end to hope of regeneration, but genealogical studies demonstrate the reverse. Aristocratic and degraded families generally become extinct or revert to the average within a few generations unless kept alive by intermarriage with new normal blood. The children of degenerates are degenerate from environmental and not from developmental causes, and the remedy consists in the removal or avoidance of the deleterious influences. The increasing recognition and application of this principle augur well for the future of the race.

A certain degree of nervous instability must be looked upon as a normal variation resulting from the greater development of the nervous system that is an expression of our higher civilization, and the transmissibility of this condition must be admitted. The average man is not degenerate, and the species is carried on and modified by individuals varying least from the average, while those at either extreme die out or tend to return to the normal or average.

News of the Week.

Appendicitis in an Infant.—A child six weeks old died with intestinal symptoms a few days ago in Yonkers, and the autopsy revealed extensive gangrenous appendicitis.

Dr. Charles Warrenne Allen, adjunct professor at the Post-Graduate College, accepted an invitation to give a lecture and hold a clinic on skin and venereal diseases at the Detroit Medical College, last week.

The Spitting-Habit in Brooklyn.—The officers of the Brooklyn Rapid Transit Company have issued a notice which the conductors are to hand to any person whom they see violating the health ordinance against expectorating in the cars of the company. The notice reads as follows:

"The Brooklyn Rapid Transit Company would respectfully call attention to the fact that 'spitting in cars is forbidden by the board of health of this city.' Any violation of this section of the sanitary code shall be treated and punished as a misdemeanor, and the offender shall also be liable to a penalty of $250."

A Lengthened Medical Curriculum in Germany.—The Imperial government has sent to the Bundesrath a bill regulating entrance to the medical profession, prolonging the period of study to five years and enlarging the subjects upon which the examinations are based. The bill provides for one year of practical work before a license can be granted to practise. This bill, which is intended as a remedy for the overproduction of physicians, meets with the approval of the profession. In connection therewith official statistics published this week exhibit the overcrowding of the medical profession in the large cities. Berlin has one physician to every 798 of population, Breslau one to every 775, Halle one to every 735, and Koenigsberg one to every 681.

The New Lying-In Hospital.—The latest annual report of the Society of the Lying-In Hospital contains a description of the new building which will soon be ready for occupancy. The building has a frontage of eighty-three feet in Seventeenth Street, one hundred and sixty-six feet in Eighteenth Street and one hundred and eighty-four feet in Second Avenue. It has eight stories, is about one hundred and fifty feet high, and is a fireproof structure of steel, brick, and stone. The main entrance will be from the avenue, with side entrances opening on the streets. The material of the front walls is buff Indiana limestone and red brick,

and of the rear walls buff brick. The yard and area walls are of glazed brick. The heat for the building will be furnished by three boilers of an aggregate capacity of six hundred horse power. These boilers will also furnish the motive power for the ventilating apparatus, elevators, laundry, kitchen, and for the ice-making, cold storage, and sterilizing plants. The material for the plumbing fixtures is white enamelled earthenware throughout. Two laundry plants are provided, one for the general laundry work, and one is to be known as the septic laundry. In the septic laundry a sterilizer will be placed and all the laundry machinery is to be driven by electricity. The basement will be devoted to the outdoor work; the first story to the executive offices, the second to the nurses' department, the third to the septic department, and the fourth, fifth, and sixth stories to wards for patients, containing about two hundred beds. The seventh story contains the operating-room, laboratory, kitchen, and laundry, while the eighth story is a continuation of the laboratory, with additional amphitheatre seats for the operating-room. The building will be the gift of Mr. J. Pierpont Morgan. This hospital is one of the oldest institutions for the reception and treatment of the sick on Manhattan Island. The society was organized on December 6, 1798, and the first shelter for homeless and destitute women about to be confined was provided in a small building at 2 Cedar Street, which was opened for the reception of patients in July, 1799.

Medical Society of the State of New York.—The ninety-fifth annual meeting of the society, as previously announced, will be held January 29, 30, and 31, 1901, in the City Hall, Albany. The following is the preliminary programme of the meeting: Tuesday, President's inaugural address, reports of officers and committees, executive business; "Recent Progress in the Treatment of Pneumonia," by James King Crook, New York; "Congenital Dislocation of the Shoulder with Report of Cases," by Daniel W. Marston, New York; "Appendicitis and Menstrual Irregularities," by A. L. Beahan, Canandaigua; "Small Hospitals and their Administration," by Louis Nott Lanehart, Hempstead; a paper, title not given, by Abraham Jacobi, New York; "The Necessity of Greater Conservatism in the Use of Vasodilators, in Certain Cases of Cardiovascular Disease," by Louis Faugères Bishop, New York; "Hernia of the Urinary Bladder," by William S. Cheesman, Auburn; "Treatment of Prostatic Hypertrophy," by Ramon Guitéras, New York; "The Medical Society of the State of New York: its Past and Future," by Albert Vander Veer, Albany; "What is Rodent Ulcer?" by John A. Fordyce, New York. Section in surgery: "Noma of the Genitalia," by Andrew McFarlane, Albany; "Esophoria or Latent Squint," by Francis Valk, New York; "Changes in the Crystalline Lens during Accommodation," by Lucien Howe, Buffalo; "Tuberculosis of the Iris," by W. F. Mittendorf, New York; "Can Interstitial Keratitis be Prevented in the Offspring of Syphilitic Parents?" by Peter A. Callan, New York; "Treatment of Chronic Purulent Otitis Media," by James F. McKernon, New York; "Operations for Deformities Following Pott's Fracture," by W. O. Plimpton, New York; "Indications for Operations upon the Mastoid," by Wendell C. Phillips, New York; "Indications and Limitations of the Vaginal Route of Attack in Pelvic Diseases in Women," by J. Riddle Goffe, New York; "What Complications of Pregnancy, Labor, or Puerperium Justify Abdominal Section?" by William Warren Potter, Buffalo; "The Treatment of Persistent Suprapubic Fistula Resulting after Ovariotomy," by Willy Meyer, New York; "Results Following the Cure of Chronic Defects on the Vesical Function," by Eugene Fuller, New York; "Ectopic Pregnancy, Primary Rupture, the Opportune Time for Making Diagnosis," by George McNaughton, Brooklyn; "An *x*-Ray Study of the Causes of Disability Following Fractures Involving the Elbow-Joint," by Samuel Lloyd, New York; "Contributions to Abdominal Surgery," by James E. Kelly, New York; "Loose Cartilage in the Knee-Joint," by P. R. Furbeck, Gloversville; "Pus in the Peritoneal Cavity," by Robert T. Morris, New York; "The Indications and Limitations of Spinal Cocoainization in Surgery," by George R. Fowler, Brooklyn; "The Results of Nephropexy for Movable Kidney," by George M. Edebohls, New York. Section in medicine: "Relations between Certain Diseases of the Skin and the Menstrual Function," by L. Duncan Bulkley, New York; "Hysterical Anæsthesia and Analgesia," by B. C. Loveland, Syracuse; "Deep Breathing as a Curative and Preventive Measure," by John H. Pryor, Buffalo; "Belladonna vs. Scopolia," by Reynold W. Wilcox, New York; "Disinfection within and without the Body in Diphtheria," by M. A. Veeder, Lyons; "Diphtheria, After-Thoughts on," by I. N. Love, New York; "Fatty Degeneration of the Heart," by Thomas E. Satterthwaite, New York; "Recent Experiences with Erythromelalgia," by Henry L. Elsner, Syracuse; "A Simple and Accurate Method of Substitute Infant Feeding," by Henry Dwight Chapin, New York; "Leprosy in the Hawaiian Islands," by Charles E. Davis, Albany; "The Tonometer and its Value in Determining Arterial Tension," by Henry L. K. Shaw, Albany; "Pleuro-Pericardial and Diaphragmatic Adhesions," illustrated by colored wax models, by D. H. Goodwillie, New York; "Differential Diagnosis in Diseases of the Spinal Cord," by E. D. Fisher, New York; a paper, title not given, by Carlos F. MacDonald, Pleasantville; "Masturbational Neuroses," by William C. Krauss, Buffalo; "Arthritis Deformans," by Herman Mynter, Buffalo; "Tenosynovitis Calcarea," by Carl Beck, New York; "The Treatment of Puerperal Fever," by Herman J. Boldt, New York; "The Immunizing Effect of 'Rag Weed' in Hay Fever," by H. Holbrook Curtis, New York. Wednesday, Demonstration clinic, conducted by Drs. Albert Vander Veer, Samuel B. Ward, and Willis G. MacDonald of the Albany Hospital staff, at the Albany Hospital; "Contribution to Pelvic Infection in Women," by Charles A. L. Reed, Cincinnati (discussion by J. F. W. Ross, Toronto, Ont.; L. S. McMurtry, Louisville, Ky.; W. E. B. Davis, Birmingham, Ala.; Bache McE. Emmet, New York; William M. Polk, New York; George M.

Edebohls, New York; James Clifton Edgar, New York; James P. Boyd, Albany); "Report of Five Cases of Ovarian Tumors with Twisted Pedicles," by George B. Johnston, Richmond, Va.; President's address, 12:15 on hernia; "Surgery of the Spleen," by J. Collins Warren, Boston, Mass. (discussed by Albert Vander Veer, Albany; Charles McBurney, New York; Robert F. Weir, New York; Robert T. Morris, New York; Thomas Roddick, Montreal, Canada); "The Pathology and Diagnosis of Intestinal Obstruction," by J. B. Murphy, Chicago, Ill.; "Inguinal Hernia," by Merville Ricketts, Cincinnati, Ohio; "Gastro-jejunostomy in Gastrectasis," by A. H. Cordier, Kansas City, Mo.; "Toxin of the Colon Bacillus," by Victor C. Vaughn, Ann Arbor, Mich. Thursday, "Tetanus Following Clean Operation: Report of Cases," by Joseph W. Bissell, New York; "The Advances in State Medicine," by M. J. Lewi, New York; "Aseptic and Antiseptic Precautions in Dental Surgery," by J. B. Ransom, Dannemora; "The Treatment of Delirium Tremens by the Intravenous Infusion of Saline Solution," by James P. Warbasse, Brooklyn; "Report of Case of Brain Tumor; Operation; Improvement," by William M. Leszynsky, New York, and James H. Glass, Utica. The officers for this meeting are: *President*, A. M. Phelps, New York; *Vice-President*, George Seymour, Utica; *Secretary*, Frederic C. Curtis, Albany; *Treasurer*, O. D. Ball, Albany.

The San José Medical College in Manila.—It is reported from Manila that the first question dealt with by the Taft commission affecting the church and the United States government is whether the control of the San José Medical College is vested in the government or in the church. The college was established by bequest in the seventeenth century, and the Jesuit order was given the control of it. When the authority of the Jesuits in the Philippines ceased, the Spanish government assumed direction of the college, and later permitted the Dominican order to conduct San José College as part of the University of Santo Tomás. Following the American occupation, it was claimed that the college under the treaty of Paris came into the control of the United States, and ought not to be controlled by the church. The church authorities insisted that the church had full legal possession. General Otis finally closed the institution, pending a legal decision in the case.

The Plague in San Francisco.—The Texas health authorities persist in asserting that the plague exists and is still spreading in San Francisco. In a report to the governor made on December 20th, the Texas State health officer says that twenty-two cases are known to have occurred in that city since March 6, 1900. He quotes Dr. Kinyoun of the Marine-Hospital service in San Francisco as reporting officially: "I would state that it is my belief that the area of infection is gradually growing wider, so that now there are only three blocks of the Chinese quarter proper in which there has not occurred since March last a case of plague. The conditions which will obtain in the next six months will be, in my opinion, conducive to a further spread of the disease. I believe other cases occurring in San Francisco are being reported under another name."

Philadelphia County Medical Society.—At a stated meeting held December 26th, Dr. Francis T. Stewart read a paper entitled "Profound Shock Following Crush of an Arm; Dermoid of the Ovary; Enormous Ventral Hernia." Dr. Levi J. Hammond read a paper entitled "The Rational Treatment of Chronic Suppuration Within the Antrum and Attic." Dr. J. P. Crozier Griffith read a paper entitled "Scurvy, not Rheumatism, with a Report of Sixteen Cases of Infantile Scurvy." Dr. Griffith laid particular stress upon the fact that pain in an infant not explicable by other cause should always arouse suspicion of scurvy, which would be confirmed by disappearance of the symptoms upon treatment with orange juice and beef juice. Bruise spots, petechiæ, and spongy, bleeding gums are at times also present. Dr. Boardman Reed read a paper entitled "The Treatment of Dilatation of the Stomach."

Warring against Mosquitos in Cuba.—According to a despatch from Washington, Governor-General Wood has issued an order in Havana which declares that the chief surgeon of the department of Cuba has reported that it is now well established that malaria, yellow fever, and filarial infection are transmitted by the bites of mosquitos. The troops are enjoined to observe carefully two precautions: first, they are to use mosquito bars in all barracks, hospitals, and on field service whenever practicable; second, they are to destroy the larvæ by the use of petroleum on the waters where they breed. Pools or puddles are to be filled up. To other collections of water is to be applied one ounce of kerosene to each fifteen square feet of surface twice a month.

A National Psycho-Physical Laboratory.—An endeavor is to be made at this session of Congress to secure the passage of a bill for the establishment of a laboratory at Washington under federal control, for the application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal pauper and defective classes and in hospitals, and also as may be observed in schools and other educational institutions. The plan is not to have a necessarily complete laboratory. It is not to be in competition with other psycho-physical laboratories in our country. Besides these data, it is desired to gather more special data with laboratory instruments of precision and to make such experiments or measurements as are generally considered of value not only by psycho-physicists and anthropologists but by physiological and pathological specialists.

Formal Opening of the Cornell Medical College Building.—The exercises formally opening the new Cornell University Medical College building, which has been in use for several months, were held in the main lecture hall of the building, last Saturday afternoon. Speeches were made by Governor Roosevelt, President Seth Low of Columbia University, Dr.

Lewis A. Stimson, professor of surgery in the Cornell Medical College, and President Schurman of the University.

Smallpox continues in New York, but the cases are few in number and the type of disease is very mild. Vaccination has been more generally practised than in any previous "scare," the number of persons vaccinated during the past six months in this city being estimated at over one million. The vaccinations have "taken" in an unusually large proportion of cases.

Pathological Society of Philadelphia.—At a stated meeting held December 27th, Dr. Joseph Sailer exhibited two specimens of "Malignant Disease of the Intestine." In one the lesion was situated in the duodenum just beyond the papilla of the choledoch and pancreatic ducts, and in the other several feet farther on in the small intestine. Dr. David Riesman exhibited a specimen of "adherent pericardium." Dr. D. J. McCarthy read a paper entitled "Pseudo-Cerebral Porosis in Rabies." Dr. William G. Spiller presented a communication entitled "Remarks upon the Importance of the So-Called Specific Lesions of Rabies." Dr. M. Howard Fussell exhibited a specimen of "Aneurism of the Abdominal Aorta with Fresh Endocarditis."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending December 29, 1900. December 21st.—Assistant Surgeon R. E. Ledbetter detached from the *Monongahela* and ordered to the *Constellation*. Assistant Surgeon C. R. Burr, order of December 19th revoked; ordered to resume duties on the *Monongahela*. December 24th.—Medical Director G. P. Bradley commissioned medical director from May 31, 1900. Medical Director P. Fitzimons commissioned medical director from November 19, 1900. Medical Inspector W. H. Jones, retired, died at Bethlehem, Pa., December 13, 1900. Assistant Surgeon S. S. Rodman and J. M. Brister appointed from December 14, 1900. Surgeon G. H. Barber commissioned surgeon from June 7, 1900.

Obituary Notes.—Dr. Robert V. K. Montfort, of Newburg, N. Y., died on December 29th. He was born in Fishkill village in 1835, and was graduated from the Albany Medical College in 1859. In September, 1862, he entered the federal army as assistant surgeon in the One Hundred and Twenty-fourth New York Volunteer Infantry (Orange Blossoms). He was on every battlefield of the Army of the Potomac from Chancellorsville to the end of the war, and was one of the five original officers who served with the regiment during the whole term of service. He was promoted surgeon in March, 1865, and was mustered out in June of that year. Dr. Montfort was formerly health officer of Newburg. He was a prominent educator and was for many years clerk of the board of education and superintendent of the public schools of Newburg.

Dr. Theodore Giddings died of apoplexy at his home in Housatonic, Mass., on December 28th. He was born in Housatonic in 1837 and was graduated from the College of Physicians and Surgeons in this city in 1868. He served in the Massachusetts legislature in 1886 and 1888.

Dr. Oren George Hunt, a well-known homœopathic physician of this city, died on Christmas eve of hæmatemesis, at the age of forty-two years. He was a graduate of the New York Homœopathic Medical College in 1886.

Dr. Ulysses Higgins Brown, of Syracuse, N. Y., died suddenly in this city on December 27th at the age of forty-nine years. He was a licentiate of the Onondaga County Medical Society in 1878, and was an ophthalmologist of repute. He was a member of both the State medical societies and of several local societies.

Dr. Erastus Edgerton Marcy, formerly one of the most prominent homœopathic physicians in this city, died on December 27th. He was born in Greenwich, Mass., and was graduated from the Jefferson Medical College, Philadelphia, in 1837. He practised as a regular physician in Hartford, Conn., for ten years, and then took up homœopathy, to which he had become a convert. Soon he came to New York, where he acquired an extensive practice and was ranked among the most prominent of his school in the country.

Progress of Medical Science.

Medical News, December 29, 1900.

A Theory of the Physiology of Spinal Anæsthesia.—H. H. Stoner states that the term "medullary narcosis" is misleading, since it gives the impression that the injection is made into the substance of the cord, whereas in reality the solution is thrown into the subarachnoidean cavity some distance below the termination of the spinal cord. The most plausible theory as to the way in which the poison gains access to the cell-bodies is that the axons, occupying the cavity into which the solution is thrown, absorb it and transfer it by way of their vascular supply back to the cell. It is noteworthy that the neurons most profoundly affected by the solution are those that go to make up the cauda equina. The motor neurons, the axons of which pass through the cauda equina, apparently go on performing their function of transmitting motor impulses unmindful of the presence of the toxic agent. It must not be supposed that these neurons are unaffected by the solution. The cytological structure of their cells undergoes the same morbid change as do those of the sensory neurons, but owing to the direction of the motor current and the relation of the end plates of the peripheral motor neurons to the muscle fibres, their capacity for transmitting motor stimuli to their destination in the muscle is not seriously handicapped. Stimuli over the sensory tract are prevented from reaching their destination owing to paralysis and withdrawal of the arborizing extremity of the peripheral sensory neuron from contact with its associated one, but in the case of the peripheral motor neuron no such effect takes place. The solution paralyzes the arborizing processes of this collateral branch as well as those of the ascending branch, and such being the case it is withdrawn from functional relation to the peripheral motor neuron and reflex activities are thereby inhibited.

The Nitrite Treatment in Syphilis.—William Browning states that the nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilitic disorder (cerebral, spinal, peripheral). This lumps clinical indications rather than differentiates them, but for present and practical purposes it may suffice. With these indications goes the mandate immediately to employ such other and more directly specific agents as the case demands. The writer finds the hypodermic use quite unsuitable. As nearly a continuous action as possible is desirable, hence administration by mouth answers best. The various preparations have their special indications. All of these agents

are highly explosive if improperly handled. The sodium salt should be given in solution, while the sugar preparation is available in tablet form.

The Value of the Schumburg Method of Purification of Water for Military Purposes.—John H. Huddleston reviews Schumburg's experiments, from which he concluded that bromine is the only chemical disinfectant of the many he tried which yielded successful results. He reported that .06 gm. of bromine kills the pathogenic bacteria in one litre of water in five minutes, and that then the bromine can be neutralized by ammonia so that a clear, tasteless, and odorless water results. After more elaborate experiments Schumburg found that the bromine is best handled in a potassium-bromide solution: ℞ Potassii bromidi, 20.00; bromi, 21.91; aquæ q.s. ad 100.00; for the bromine and for the neutralization tablets each containing sodii sulphitis, .095; sodii carb. exsic., .040; mannit. q.s. Of the solution ½ c.c. is sufficient for one litre and is neutralized by one tablet. The method described is rapid and the solutions are easily made and not expensive.

The Failure of the Consensus Judgment with Reference to Tuberculosis.—By Charles Denison.

Boston Medical and Surgical Journal, Dec. 27, 1900.

Operative Treatment of Goitre.—J. Collins Warren says that the operative treatment of tumors of the thyroid gland appears to be indicated in rapidly growing tumors in young persons in whom the medical treatment has been ineffective. As soon as the tumor has reached a size sufficient to cause pressure symptoms, the operation becomes urgent. The operation consists either in the removal of a limited portion of the gland, such as an isolated lobe or a more or less independently growing adenomatous mass of solid gland tissue, or in the enucleation of a cyst. The author describes the steps of the operation in detail. He has operated upon only two cases of exophthalmic goitre, and his experience has not been encouraging. In benign goitre he has had but one death. He has seen a number of cases in which treatment by thyroid extract has produced no effect. He is not cognizant of a single case in which it has effected a permanent cure.

Two Cases of Perforating Duodenal Ulcer with Subphrenic Abscess.—By J. C. Pegram.

Statistics of Operative Treatment of Thyroid Tumors.—By Lincoln Davis.

The Practical Use of Vital Statistics.—By Frederick L. Hoffman.

Neoplasms of the Thyroid Gland.—By Charles G. Cumston.

Journal of the American Medical Ass'n, Dec. 29, 1900.

Hemorrhagic Infection in an Infant due to the Typhoid Bacillus.—George Blumer reports this case as probably belonging in the category of congenital typhoid infection. The mother, although in apparently perfect health at the time of the child's birth, gave the history of an acute illness four and a half months previous that indicated typhoid fever. The child, which died on the ninth day, had vaginal hemorrhages, bleeding from the gums, and a petechial eruption over the forehead. The post-mortem anatomical diagnosis was as follows: Hemorrhagic follicular colitis and ileitis. Swelling of the spleen. Swelling of the mesenteric lymph glands with hemorrhage. Cloudy swelling of the liver and kidneys. Congestion of the lower lobes of the lungs. Dilatation of the uterus with hemorrhage into the endometrium. Hemorrhages into the kidney and the submucosa of the bladder. If this is really an example of congenital typhoid fever, then it must be assumed either that the typhoid bacillus was present in the mother's circulation for four and a half months after the attack, and gained entrance to the blood of the child only shortly before birth, or that it was transmitted to the child at the time of the mother's attack, and remained latent in its tissues until just before birth. The latter probability would seem more likely on account of the fact that the typhoid bacillus is seldom found in the blood of adults in any number, even during the attack, and it would, therefore, seem extremely unlikely that it is ever present four and a half months later. It would seem likely, then, that the case was one of congenital typhoid fever in which the bacilli had remained latent in the fœtal tissues for a period of four and a half months. The septicæmic character of the disease is characteristic of this class of cases, and the hemorrhagic tendency is seen at times both in children and adults.

Local Use of Guaiacol in the Treatment of Frequent, Painful Urination.—Jesse Hawes believes that guaiacol is applicable only to those cases in which the cause of the symptom is located in the extreme inner portion of the urethra, usually in a space three-quarters to one and one-quarter inches external to the urethro-vesical orifice. Many diseases of the genito-urinary system cause urgent micturition, yet it is probable that all other causes combined furnish fewer cases of frequent painful urination than the one condition under consideration. Guaiacol in a fluid condition should not be permitted to cover the mucous membrane; barely enough to make a surface application is all that is desirable; thus applied, it is an anæsthetic and mild stimulant. It gives rise to much less pain than the usual local applications. A few applications from five to ten days apart, in the writer's experience, have been more satisfactory to patient and physician than any remedy previously used. It has cured twenty per cent. of his patients. About seventy per cent. are improved markedly. The application will not cure frequent and painful urination due to an enlarged prostate, but in so far as a congested prostatic urethra accompanying prostatitis is a factor in enuresis, the application of this agent is indicated. There are other diseases that cause enuresis, however, which will not be improved by this treatment.

Morphological Variation in the Pathogenic Bacteria, with Two Pronounced Examples.—By A. P. Ohlmacher.

Epispadic Exstrophy of the Bladder Complete.—By Ap. Morgan Vance.

Treatment of Injuries to the Ureters.—By Byron B. Davis.

Philadelphia Medical Journal, December 29, 1900.

Some Anomalous Cases of Typhoid Fever.—Augustus A. Eshner reports several cases of typhoid fever in which the symptoms were far from typical. One was a case of unusual severity, the fever lasting irregularly for three months; another was unusually mild, and the nature of the case would probably not have been recognized had not the man been brought to hospital for treatment of a fracture of the leg. Two cases were marked by hemorrhages and petechial eruptions. A fifth case was one which was believed to be typhoid fever without intestinal lesions, but this supposition could not be verified or disproved, although the patient died, as permission to make an autopsy could not be obtained. The author reports the cases as a warning to the clinician to be ever on the alert lest he overlook mild or atypical cases of typhoid fever, or mistake for typhoid fever other diseases which may simulate it more or less.

Amputation of Both Feet, the Left Hand, and the Right Hand, Saving the Little Finger and Part of the Thumb.—By J. S. Wight.

Rotary Lateral Curvature and Pott's Disease of the Spine; their Diagnosis and Treatment.—By A. M. Phelps and D. W. Manton.

Ovarian Cysts in Colored Women, with Notes on the Relative Frequency of Fibromas in Both Races.—By Daniel H. Williams.

On the Use of Formalin in the Dissecting-Room.—By William Keiller.

An Unusual Case of Achylia Gastrica.—By Frank H. Murdoch.

Fracture of the Extremities.—By G. G. Ross and M. L. Wilbert.

New Slide Lifter and Holder.—By A. H. Stewart.

British Medical Journal, December 22, 1900.

A Clinical Lecture on Syphilitic Diseases of the Tongue.—Christopher Heath states that primary syphilitic disease of the tongue is very rare. An important point to remember is that a chancre of the tongue, like a chancre of the lip or of the finger, does not present that remarkable hardness which a chancre on the genital organs does. There is no doubt that mucous tubercles in the mouth can produce a primary chancre in the mouth of another person. One symptom of constitutional syphilis about the tongue and mouth is the development of inflammation superficial in its character. With it there is generally a shedding of the superficial layers of the mucous membrane of the tongue. Inflammation may go on to ulceration, which is generally multiple. There may be also a chronic thickening of the tongue. The treatment for all kinds of secondary syphilis of the tongue is mercury. This drug must be pushed not merely constitutionally but locally. A mouth wash of a strength of gr. ¼ of perchloride of mercury to the ounce is excellent—this strength may be gradually increased. The lotion should be held in the mouth for five minutes two or three times a day. For the internal method of administering mercury, the writer prefers the inunction method. As to tertiary syphilis, Jonathan Hutchinson's words may be quoted: "If you irritate a part sufficiently long, you may grow epithelioma." The treatment of a gummatous condition consists of full doses of potassium iodide plus a mercurial mouth wash. Many cases of leukoplakia arise in conjunction with syphilis. Syphilitic warts at the back of the tongue should not be confused with the condition that is sometimes seen on a perfectly healthy tongue. When the enlargement is merely an hypertrophied papilla, it should be touched with the acid nitrate of mercury.

Remarks on Chronic Enlargement of the Pancreas in Association with or Producing Attacks Simulating Biliary Colic.—Gilbert Barling declares that diseases of the pancreas are not yet as well understood, or as thoroughly worked out, as diseases of the other abdominal viscera. The writer then reports four cases of enlargement of the pancreas found accidentally in operating on the gall bladder or ducts. In two, gall stones were not found. The common features in these cases are enlargement of the head of the pancreas with attacks of colic and more or less complete blocking of the common bile duct. The four patients undoubtedly suffered from chronic pancreatitis, which in two of them led to an ill-founded diagnosis of gall stones. In the other two gall stones coexisted, and possibly, by inflicting damage upon the common duct in their passage, directly induced the pancreatic inflammation. The possibility that, in the occurrence of thickening about the head of the pancreas with jaundice, a malignant growth is not present, is held out by such cases as those described in this article.

Otomycosis in the Tropics.—H. Campbell Highet believes otomycosis, or the growth of fungus in the external auditory meatus, to be rare in temperate climates. All the cases of the writer were in adult Europeans. Children are said to be exempt. The symptoms vary. There may be itching, pain, and discharge. In typical first attacks, the meatus is seen to be filled up with a soft wool-like substance. The disease is readily curable if carefully attended to. As much of the fungus as possible should be removed by a probe and the canals cleansed with warm bichloride of mercury solution. After the fungus has ceased to grow a powder is insufflated consisting of boric acid, bismuth salicylate, and oxide of zinc. The ear should be kept clean and dry as a prophylactic measure.

Some Points in the Treatment of Spinal Abscesses.—A. H. Tubby emphasizes the following points: (1) Do not wait to open a spinal abscess until the skin is reddened and involved. (2) So far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. (3) Wherever evacuation is decided upon, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. (4) Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. (5) Avoid drains of all kinds. (6) Be careful to carry out perfect aseptic measures from first to last.

Intraperitoneal Rupture of the Bladder.—W. Percy Blumer reports the case of a man aged thirty-five years, who fell, striking his abdomen. Four days after the injury the patient walked over two miles to the infirmary, where he was operated on. One hundred and ninety-six ounces of urine were drawn out by the catheter. There were no symptoms of peritonitis, and in three months the patient was perfectly well.

Mechanical Constriction of the Uvula.—W. E. Hadden reports this interesting case in which the uvula became accidentally constricted by a bit of thread, causing distressing symptoms of vomiting and retching. The patient was a linen weaver, and relief was afforded by snipping off the swollen part with scissors.

The Use of Tuberculin in the Treatment of Lupus Vulgaris.—Edward F. Maynard reports the successful treatment of a tuberculous nose by tuberculin. Reaction followed the injections. The patient is still well, although a year and a half have passed since her admission to the hospital.

A Case of Restoration of the Lower Lip after Almost Complete Excision for Epithelioma.—By Robert Kennedy.

A Case of Congenital Hypertrophy with Stenosis of the Pylorus.—By H. D. Rolleston and R. Crofton-Atkins.

Complete Prolapse of the Rectum Successfully Treated by Intra-Abdominal Fixation.—By Thomas S. Kirk.

Notes on a Case of Profuse Hydroperitoneum Complicating Uterine Fibroids.—By A. C. Butler-Smythe.

Further Observations on Epidemic Arsenical Peripheral Neuritis.—By E. Septimus Reynolds.

Two Cases of Blindness due to Sphenoidal and Ethmoidal Sinus Disease.—By G. Victor Miller.

Abstract of a Clinical Lecture on Recurrent Appendicitis.—By F. A. Southam.

The Strength of the Hypertrophied Bladder.—By D. W. Samways.

Case of Prolonged Retention of Fleshy Mole.—By R. A. Johnston.

Karyo-Chromatophile Granules in the Blood.—By W. B. Orme.

An Unusual Case of Iodoform Poisoning.—By H. M. Eustace.

Quantitative Color-Tests.—By Karl Grossmann.

French Journals.

A Case of Acquired Partial Exstrophy of the Bladder Consecutive to a Double Hypogastric Cystotomy; Operation; Cure.—Louis Tixier and Charles Viannay state that although by exstrophy of the bladder a congenital malformation is generally indicated, still this case by analogy seems entitled to the term "acquired exstrophy of the bladder." The two operations on the bladder were performed for the removal of vesical calculi. The first operation was performed in 1856, and forty years later another calculus developed after an attack of nephritic colic. Cystitis also developed, followed by suppurative pericystitis. After the second operation under these unfavorable conditions, a large vesical opening was left through which the upper pole of the bladder pushed, forming a permanent tumor and a true acquired partial exstrophy of the bladder. This complication of hypogastric cystotomy is quite rare and seems worthy of report. This patient was operated on for his trouble, and as the result was only partially favorable, a urinary fistula persists. Still the condition is greatly improved.—*Gazette Hebdomadaire*, December 2, 1900.

How to Treat Infantile Paralysis.—H. Gillet speaks of electricity, hydrotherapy, massage, and drugs. By the electric current, faradic or galvanic, the extent of degeneration caused by the disease may be discovered. Massage and gymnastics combined form a complement to electricity. Various douches and baths, *e.g.*, sulphur bath, salt bath, sea bath, etc., are effectively associated with the electrical treatment. When there is impossibility of active movement, massage finds play. Friction applied more especially to the injured member with simple or aromatic vinegar or with cologne, etc., is grateful. The preparations of ergotin used occasionally from the beginning of the febrile period and strychnine for the later period are valuable. Orthopædic apparatus is sometimes indicated. The treatment of this disease must be pursued with perseverance and care.—*Journal des Praticiens*, November 22, 1900.

Prophylaxis of Tuberculosis.—D'Hotman calls attention to the danger of transmitting the tubercle bacillus through expectoration. The dejections are likewise a source of propagation of the deadly bacillus. The writer believes that water is also an agent for transmitting the bacillus. He does not believe that density of population plays an important rôle. As to dwelling-houses and buildings of various sorts, they form a hearthstone of propagation. As to the disposal of the sources of infection, the writer thinks that this subject is treated theoretically to a great extent, but that the practical side is much neglected. Much is to be accomplished in this direction in the future.—*Journal de Médecine de Paris*, December 2, 1900.

Medical Examination of Children; the Normal Infant.—G. Carrière mentions several conditions necessary to the successful examination of children. Great gentleness must be exercised; the voice should not be raised, but must convey authority and firmness. Patience must be observed by the physician even in the most trying moments, for it eventually brings success. Children should be amused and distracted when auscultation is necessary. A regular routine must be observed. The attitudes should be closely observed both in sleep and in the waking hours. The writer then goes into the minute details of the examination of the different parts of the body.—*Le Nord Médical*, December 1, 1900.

Münchener medicinische Wochenschrift, Dec. 4, 1900.

The Intestinal Action of Atropine.—Paul Ostermaier, inspired by the good results obtained by Batsch and others in the treatment of intestinal obstruction with this drug, used it with success in various conditions of reflex enterospasm or secondary paresis of the intestine with or without spasm. The causes of the trouble were hepatic or renal colic, cardialgia, epididymitis, lumbago, movable kidney, traumatism, etc., and in most instances laxatives had already been tried without avail or even to the patient's detriment. In all cases the effect of the atropine was to relieve promptly the subjective symptoms, pain, nausea, and distention, and to cause a copious fecal evacuation in from twelve to thirty-six hours. In the few instances in which the desired result was not promptly obtained a very mild laxative, such as a teaspoonful of castor oil, was sufficient to produce an easy stool. The drug was given either subcutaneously or in pill form in doses of ½ mg. night and morning. In conclusion, the author suggests the trial of this treatment in the severe intestinal paresis so often following laparotomies.

The Causative Treatment of Tuberculosis.—Edwin Klebs advocates the use of tuberculocidin and antiphthisin, two preparations known as TC and AP respectively, but details as to whose method of manufacture are not given. A number of cases are reported with very favorable results,

and experiments on animals seem to show that the new agents actually have the power to neutralize the toxins of the disease even when these have been artificially introduced into the organism by injection. The author emphasizes the fact that it is not fair to expect from this nor from any other method of bacteriotherapeutics any effect on lesions not directly produced by the specific organism in question, and also that it is of great importance to remove, as nearly as may be, any existing complication before the treatment is begun. An interesting observation is that the tuberculocidin is active when given by the stomach, and indeed produces less febrile disturbance when so administered than when subcutaneously injected.

The Significance of Alcohol in Hand Disinfection.—Egbert Braatz supplements a former article on this topic, in which he called attention to the fact that the value of alcohol in the various disinfecting procedures in use could not be due solely to its fat-dissolving or intrinsic bactericidal power, by a reference to the chemical law which makes the solubility of air in alcohol ten times greater than in water. Inasmuch as the skin is full of minute interstices holding small portions of air, the action of any fluid antiseptic must be greatly impeded, and if its use be preceded by the application of alcohol, which almost instantaneously removes this obstacle, the resulting cleansing will be much more thorough.

Amyloform in Chronic Middle-Ear Disease.—H. Sagebiel's conclusions are that amyloform is not adapted for use in the treatment of suppurations of the middle ear, since its power of checking the pus formation is far inferior to that of other agents in use, and it also is too irritating to the tympanic cavity. A third disadvantage is its tendency to form concretions of varying degrees of hardness, whereby secretions are dammed back and the already existing trouble is aggravated.

A Method for the Determination of the Internal Friction of the Blood in Man during Life.—By Carl Hirsch and Carl Beck.

The Use of the Diverticulum Bougie in Œsophageal Tumors.—By Hugo Starck.

A Case of Pityriasis Rubra Pilaris.—By G. Hügel.

Auto-infection in Obstetrics.—By H. Fehling.

Artificial Infant Feeding.—By Soxhlet.

Berliner klin. Wochenschrift, Nov. 26, and Dec. 3, 1900.

The Treatment of Infection Arising in the Uterus.—Abel calls attention to the large number of cases of infection from the uterus, a number still large in spite of modern antiseptic methods. He describes the various clinical aspects of the subject, and then passes to the consideration of treatment. He is sceptical as to the value of antistreptococcus serum. The same attitude is held toward the method of artificial abscess when an abscess is purposely induced by the injection of sterile oil of turpentine, the injection being made in the calf, the theory being that the abscess contents are sterile and that there is generated an antitoxin which counteracts the deleterious influences spreading from the uterine site. Two procedures which in his hands have yielded good results are saline transfusions and oxygen inhalations, these being used, of course, in addition to the local antiseptic measures. If pyosalpinx or ovarian abscesses result from infection laparatomy is advised.

Diffuse Chronic Œdema of the Skin with Involvement of the Larynx.—W. Lublinski's patient was a woman aged fifty-two years, with general cutaneous œdema which had begun in the eyelids three months previously. The lymph glands were not involved, the thyroid was normal, fever absent, and the pulse but little accelerated. In the larynx œdema involved the aryepiglottic folds, arytenoid cartilages, and interarytenoid commissure, but there was no redness. Physical examination otherwise was negative. The urine was normal throughout. She improved slightly on arsenic, somewhat on lukewarm baths with cold rubbings, and greatly (though not entirely cured) on thyroid extract. Lublinski does not believe that the complex of symptoms pointed to a myxœdema, as the thyroid was not enlarged and she did not present many of the common features of that affection.

Ziehen's Modification of Flechsig's Opium-Bromide Cure for Epilepsy.—E. Meyer and C. Wickle give their experience with this plan of treatment, which consists essentially in the administration of gradually increasing doses of opium, together with a careful attention to the diet and the application of hydrotherapy. The point especially insisted on is the size of the initial doses of bromide and their long continuance. Clinical histories are given in detail. The authors find that this method lessens the number of attacks and contributes to both physical and mental well-being.

The Sensitiveness of Simplified Modifications of the Phenylhydrazin Test for Evidences of Sugar in the Urine.—By A. Kowarski.

Thyroid Treatment in Sporadic Cretinism.—By H. Neumann. A detail of clinical histories showing on the whole favorable results.

The Treatment of Nervous Diseases in the Family.—By R. Gnauck.

Treatment of Fractures of the Maxilla.—By Dr. Warnekros.

Treatment of Cross-Presentations.—By A. Cramer.

Diabetes Mellitus.—By C. von Noorden.

Deutsche medicinische Wochenschrift, Dec. 6, 1900.

A Résumé of the Conclusions Reached by the Malaria Expedition.—R. Koch believes that the various subspecies of the malarial parasite which many authors have brought forward of late are not truly distinct varieties and in his studies of the malarial fevers in various parts of the world he has found only the three classical types. These are the tertian, the quartan, and the crescent forms, for which latter the names of æstivo-autumnal and malignant tertian have also been proposed, but which the author thinks is most suitably known as the "tropical-fever organism." The work of the expedition was done in New Guinea, a field particularly adapted for such investigation, for owing to the perpetual petty warfare carried on by each village with the neighboring ones each community exists under absolutely ideal quarantine conditions, while quinine or other medication is wholly unknown. The finding of the disease in every one of the villages visited, therefore, proves that it is endemic for those particular localities, while the primeval conditions under which the patients subsist make it sure that the course of the malady has been entirely unchanged by treatment. It is of extreme interest to note that from eighty to one hundred per cent. of the children under two years of age were found to be malarious, while in no instance were the parasites found in the blood of individuals over ten years old, which fact the author construes as indicating an acquired immunity to the disease, which can be attained only under such conditions as obtain in these cases in which the disease is allowed to run its full course absolutely unchecked. Splenic tumor was very noticeable in all the smaller children, but no enlargement could be detected in any of the adults examined, nor was there evidence of any immediate or late sequelæ to the disease.

Processes of Repair in Damaged Tissues.—Ernst Ziegler in the first part of his contribution lays down the thesis that injury to the tissues of man or the higher vertebrates of a nature to cause solution of continuity is speedily followed by reparative efforts which are inaugurated by a formation of new cells. As long as the lesion is of small extent and only isolated cells or groups of cells perish—for example, those of the entoderm or ectoderm—the restitution of these elements is possible and perfect repair results. If the damage is more far-reaching, however, and there is in addition to the epithelial defect some interruption of continuity in the vascular and connective-tissue systems, the process terminates less favorably, since the gap is filled with an inferior type of tissue, viz., cicatricial tissue. If the injury was very extensive, a permanent defect results, for the cicatricial tissue does not fully replace the lost portions and restoration of serious tissue loss never occurs. The remainder of the paper is devoted to a seriatim enumeration of the various tissues with the mechanism of repair that follows injury to each and is not adapted for reproduction in brief.

Attacks of Apnœa in Diphtheritic Paralysis.—Wilhelm Ebstein reports the case of a ten-year-old girl who came under observation suffering from pharyngeal, lingual, and recurrent palsy with impaired accommodation and weakness of the extremities following diphtheria. For a week after entering the hospital nothing of interest occurred, till suddenly without prodromata the temperature, pulse, and respiration rose simultaneously and severe dyspnœa appeared, which was soon replaced by apnœa, lasting for three hours. Similar attacks occurred during the next few weeks, but a month or two after discharge all paralytic and other symptoms had disappeared. The second of these attacks was the longest, lasting thirty-four hours, during which time, as well as in the other seizures, the child was kept alive simply by uninterrupted artificial respiration performed by Sylvester's method. The author refers the trouble to some post-diphtheritic bacterial poison which inhibited the respiratory centre.

The Demonstration of Typhoid Bacilli in the Blood of Typhoid Patients.—By M. Auerbach and E. Unger.

Preliminary Report on the Casualties of the Heidelberg R. R. Disaster of October, 1900. By Fr. Völcker.

An Automatic Thermo Regulator for Permanent Baths.—By Georg Gottstein.

The Anti Bodies Found in Normal Serum.—By M. Neisser.

Clinical Results with Hedenal.—By S. Heichelheim.

Athyreosis in Childhood.—By H. Quincke.

University Medical Magazine, December, 1900.

Diet in Typhoid Fever.—James Tyson strenuously upholds the milk diet as being the safest, most satisfactory, and most convenient. Absolute inability to take milk may necessitate a deviation from the rule, but the condition is seldom met with. A tendency to constipation can be counteracted by not boiling the milk, and by the addition of buttermilk, animal broths, especially chicken broth, beef juice, and peptonized foods to the diet. Should evidences of inability to assimilate milk continue to present themselves, there is no more satisfactory nourishment than albumen water. The whites of two eggs to a pint of cold water is an average proportion, and a drachm of lemon juice or brandy or whiskey may be added. The occurrence of hemorrhage calls for the immediate reduction of food. As to the transition to convalescent diet, the author lays down the rule to adhere to liquid food until the temperature has been normal one week. Then he allows a single soft-boiled egg. If nothing happens in twenty-four hours, he allows an egg daily, then, after two or three days, soft milk toast, tentatively, then rice or oatmeal; later, a bit of steak may be chewed or two or three small oysters. Chicken is one of the last foods allowed.

Recent Advances in the Bacterial Treatment of Sewage.—D. H. Bergey describes various systems in use, such as the septic tank, the contact beds, and the coal filter. Professor Claves gives the following advantages of bacterial over chemical treatment: It requires no chemicals, produces no offensive sludge, but only an odorless deposit of sand and vegetable tissue, removes the whole of the suspended matter, and effects the removal of 51.3 per cent. of the dissolved oxidizable and putrescible matter. The resultant liquid is entirely free from objectionable smell, does not become foul when kept, and maintains the life of fish. But as these methods fail to destroy such organisms as the bacillus coli communis, it is safe to believe that they are also incapable of destroying the typhoid bacillus when present. When suitable land is at hand, the effluent of the system of contact beds should be applied to it. Otherwise sand filtration, or electrolysis, or chemical treatment may be used to render the effluent harmless.

Phototherapy in Cutaneous Medicine.—Henry W. Stelwagon gives an account of a visit to Professor Finsen's Light Institute at Copenhagen, where light rays are used for the destruction of the tubercle bacillus in cutaneous tuberculosis. A description is given of the apparatus and of its method of application. The results of the treatment are unquestionably good. Relapses have so far been infrequent and readily managed. The disadvantages are the long duration of the treatment, the cost of the apparatus, the expense of the treatment, and the necessary attention in carrying it out. The Finsen method is practically painless, and appeals strongly to patients with lupus, who have perhaps already been the subjects of repeated curettings and cauterizations. It is probable that the apparatus and technique may be considerably improved in the future, and the duration of the treatment thereby materially shortened.

Successful Removal of Cataracts in Insane Subjects, with Recovery of Mind Attending the Restoration of Sight.—William Campbell Posey reports two cases in which this happy result was obtained. Loss of sight had precipitated loss of mind, and restoration of vision was attended by immediate and permanent return of normal mentality. Such cases are rare, says the writer, but should serve to teach us what may be accomplished by proper measures for the unfortunates who are too often relegated to the list of the hopelessly insane.

Thirty-five Cases of Diphtheria in Private Practice, Treated with Antitoxin.—By Richard A. Cleeman.

The Various Rings Produced in Heller's Nitric Acid Test for Albumin.—By M. H. Fussell.

A Brief Report of a Series of Interesting Cases Recently Seen.—By Alexander Marcy, Jr.

Dublin Journal of Medical Science, December, 1900.

The Operative Treatment of Cleft Palate.—By E. H. Taylor. The operation is thus described: The patient lying in Rose's position under chloroform, the edges of the cleft are pared freely. Blood is removed by a suction apparatus (figured), and throughout the operation sponges are dispensed with as far as possible, pressure with the finger on the bleeding point proving sufficient. A curved incision is now made on each side close to the alveolar margin of the palate, commencing posteriorly inside the last molar tooth, and curving round anteriorly to terminate in the cleft, and arranged at the same time in such a way that sufficient tissue is left immediately behind the incisor teeth to hold a suture subsequently. With this incision the posterior palatine artery is retained in the flap. The latter is reflected by means of a rugine, an instrument which enables one to lift the mucoperiosteal flaps very rapidly and without laceration or serious damage. The next step in the operation is to sever the connections between the hard and soft palate on their nasal aspects. This step is much facilitated by turning back the flaps which have been already detached from the hard palate, and a knife or curved scissors may be employed for the purpose. Silkworm-gut sutures are usually employed. In introducing them it will probably be most convenient to commence behind and come forward. Small curved needles passed with a needle-holder may be used; but, if preferred, a curved needle in a handle may be substituted for them. It is very striking to observe the facility afforded by the mobility of the flaps in carrying out this stage of the operation. At the anterior extremity of the cleft the suture should be passed through the flap from its mucous to its periosteal aspect; the free end of the suture is then carried through the gum, behind the incisor teeth in the reversed direction —viz., from its deep to its superficial aspect. This suture anchors the flap in front during the process of healing. Should it be deemed insufficient an accessory suture passed further out on each side will afford ample security. Difficulty may be experienced in bringing the flaps into apposition at the level of the hard and soft palate, and seeing how unfavorable a high degree of tension is for securing good and rapid union it will be well, following the advice of Dieffenbach, to make an anteroposterior incision in each side, about half an inch in length, at the inner side of the hamular process. The advantages of the operation are thus summarized: 1. It can be performed with greater ease and rapidity than any of the cleft-palate operations with which the author is acquainted. 2. It is not accompanied by troublesome hemorrhage, as no large arterial branch is divided, and whatever hemorrhage does occur may be effectually controlled by digital pressure. 3. The mucoperiosteal flaps have their blood-supply assured. They are raised with the least possible damage; and this is a material advantage when dealing with the delicate and friable tissues of young children. 4. The free range of mobility of the flaps facilitates in a very marked way the introduction of the sutures; more especially is this the case at the anterior extremity of the cleft, which has hitherto been a difficult part to close. 5. Lastly, the operation is well adapted to young children. One of the main difficulties with them is the carrying out of the post-operatory details. A skilled nurse can do a great deal to promote a favorable result, and a few days before operation spent in making friends with the little patient will have a telling effect on the subsequent course of events.

Fracture of the Pelvis.—E. H. Bennett describes the findings in three cases, the bony specimens from which were presented by him at a recent meeting of the Royal Academy of Medicine in Ireland, section on pathology. His contention is that these injuries are not necessarily fatal, though of course always grave.

Porro's Operation (Extra-Peritoneal); a Successful Case for Ruptured Uterus Complicated by a Large Myoma and a Five and a Half Months' Pregnancy.—By George Cole-Baker.

The Relation of Veterinary Science to Human Medicine.—By Sir C. J. Nixon.

Journal of Tropical Med., Nov. 15 and Dec. 15, 1900.

Bodies in the Urine in a Case of Blackwater Fever.—E. G. Hamilton Williams and Mary Hamilton Williams describe as follows bodies found by microscopical examination in the urine in a case of blackwater fever. (A) A body of an elliptic or round contour, showing a refractile spot with a central dark spot; the rest of the body finely granular or containing fine vacuoles stained faintly blue, with a distinct margin. (B) Far more numerous bodies, round or elliptic in contour, staining deep blue, with an indistinct margin, surrounded partly or completely by an irregular area of some substance stained less deeply. In the second day's urine the number of bodies was smaller; the third day's urine showed a few bodies (C) elongated in shape. On the eighth day some bodies (D) were seen, somewhat pear-shaped, with a dark spot placed laterally on the side of the pear, and partly surrounded by a clear space. The question arises: Are any or all of these bodies organisms connected with the disease? The large numbers found of A, B, and D make it appear to the writers probable that they are not accidental, but it is mostly the similarity in structure of the bodies marked C which make any

relationship of these likely. Are the bodies described various stages in the life of an organism, and, if so, is it pathognomonic of blackwater fever?

Some Difficulties in Dealing with Liver Abscess and How to Obviate Them.—Neil Macleod describes his methods of aspirating and of operating. The objects to be kept in view in dealing with these abscesses are: 1. Aseptic, free drainage of their contents. 2. To provide the shortest drainage track emerging at a point in the abdominal or chest wall, preferably in front or laterally. 3. If the liver is not adherent to the wall of the abdomen at the point of puncture, to prevent leakage of the contents into the pleural or peritoneal cavities, and to maintain opposite each other the openings in the organ and wall during the operation. 4. To anchor the liver securely at that point, and create adhesions if they are absent. 5. To do no more damage to the soft and bony tissues than is absolutely necessary to secure these ends, with as little hemorrhage as possible. 6. To keep the drainage tract open until the abscess cavity has contracted all round the drainage tube, and discharge has ceased.

Pani Ghao, Water Sore, Commonly Called "Sore Feet" of Assam Coolies.—An anonymous writer says that during its season, from May to October, more coolies are laid up from this cause alone than from any other, with the exception perhaps of malaria. The disease is not fatal, but causes great pain and discomfort. The first symptom is intense itching, with a little pain, which increases on the second day, when an eruption begins to appear and the foot swells. Walking becomes painful. The eruption may occur in one of three forms, the vesicular or pustular, the herpetiform, and the interdigital. It occurs only in those who walk slowly about with naked feet on the bare, loose cultivated soil. Treatment is surgical and preventive. The wearing of clogs would decrease the number of cases to a certain extent, but the difficulty lies in inducing the coolies to wear them, as they hate new customs and learn them with reluctance.

Goundon and Ainhum in South China.—J. Preston Maxwell describes the case of a man who came to him suffering from a condition precisely similar to ainhum. His left little toe was swollen and nearly surrounded by an ulcerated groove, the ulceration showing some tendency to spread more widely on the plantar aspect of the foot. Anæsthetic patches appeared later, and from one of them a bacillus resembling the leprosy bacillus was obtained. There is no doubt at present that the man is a leper, and the author raises the question as to whether there may be a connection between ainhum and leprosy. The illustration of the case of goundon shows a woman with two symmetrical swellings situated one on either side of the nose. The swellings are hard, painless, and the skin over them is movable and natural. The disease began when the patient, now forty-five years of age, was a girl, steadily progressed for some years, is now entirely stationary, and the woman appears to be in good health.

The Treatment of Night Blindness by Ingestion of Liver.—W. J. Buchanan has treated some twenty cases, with great and immediate success, by giving about eight ounces of liver (goat, sheep, or ox) fried in oil and with spices, daily, for a few days. Usually he finds that five or six days are sufficient to effect a cure, but he usually continues the treatment for at least a week. Under the ordinary tonic treatment such cases are not even improved under two or three months. It seems probable that the liver acts somewhat after the fashion of thyroid and suprarenal extract, and the other substances used in organo-therapy. The immediate good effect cannot be due solely to any nitrogenous element in the food, for an equal quantity of fresh meat is useless. The night-blindness meant is the common form so often found in malarial or scorbutic cachexias; not that due to retinitis pigmentosa, which is a rare disease.

Malarial Ulcers in British Central Africa.—David Kerr Cross says that the first indication in the treatment of fever sores is bodily rest in the horizontal position with elevation of the limb. The next, realizing that we have to do with a phagedenic sore and bacilli and dead tissue, is to annihilate these deleterious influences by the actual cautery, or other strong caustic, as pure carbolic acid. The author usually gives the natives chloroform and scrapes away the false membrane and dead tissue, and freely swabs with carbolic acid. In a few days a healthy-looking sore, free from all putridity, is the result. The wound is dressed with some one of the excellent antiseptic dressings. A creamy-looking powder made of one part iodoform to three of boric acid, dusted on these wounds, acts like a charm on the natives. These measures must always be accompanied by tonics, as iron, arsenic, quinine, and strychnine.

Notes of Blackwater Fever as Found on the Congo (Mid-Congo State).—Charles B. Banks is inclined to believe that blackwater is only a complication arising in the course of a remittent fever, and should be treated as such. He thinks it is often a result of sudden congestion of the kidneys, sometimes kept up and aggravated by such drugs as quinine, antipyrin, and phenacetin. His reason for believing this is that he has always found that it ceases when steps have been taken thoroughly to relieve the kidney, and hæmostatics given. He has sometimes used ergot externally with good effect, although the temperature usually rose a little after its use. He has noticed that it is usually persons of a nervous temperament, also those of a gouty or rheumatic diathesis, who are most prone to have blackwater fever, and it usually comes on after a time of worry or anxiety.

Mosquito-Screened Houses versus Quinine.—A. H. Hanley says that although it has been proved that the use of the mosquito net on the Campagna prevents malaria, any one going to Southern Nigeria and expecting to steer clear of fever by its use at night will be disappointed. The anopheles here attack both by day and night. In the author's practice he has had to take long journeys in a boat at night, and for twenty-six miles has been exposed to the attacks of mosquitos and other pests, but thanks to ten grains of quinine taken either when starting, or on his arrival, has for years escaped fever. He cannot speak too strongly of quinine as a prophylactic, and he deprecates the tendency to put the quinine bottle aside and depend on the mosquito net, which used only at night confers but partial protection.

A Handy Method of Preparing Slides and Slips for Taking Blood Films.—By W. L. Braddon.

Cerebro-Spinal Meningitis.—By E. G. Hamilton Williams and Mary Hamilton Williams.

Notes and Observations on Diseases of the Tropics.—By O. Johnson.

A Case of Multiple Gangrene in Malarial Fever.—By William Osler.

Circumscribed Cutaneous Œdema.—By H. Campbell Highet.

Some Notes on the Diseases of Mashonaland.—By Charles Todd.

Notes on Yaws in Trinidad, W. I.—By R. C. Bennett.

Notes from Lagos, West Africa.—By Henry Strachan.

Surgery in the Tropics.—By James Cantlie.

The Edinburgh Medical Journal, December, 1900.

The General Care of the Skin, Considered from the Point of View of Prophylaxis.—W. Allan Jamieson says that one port of entrance by means of which the ubiquitous microbe finds its way into the body is by the skin, but in a sound and healthy state the integument presents an almost impassable barrier to micro-organisms. To maintain the surface of the skin in the best possible condition, the writer advocates cold baths, the use of less soap than is the custom, or the use of neutral soaps, and friction with the loofah. Warm baths should be used in great moderation. The nails require care, to prevent them from carrying infection. They should be kept short and cleaned by means of a nail brush and soap and warm water, not metal files or knives. To disinfect the hands themselves, they should be smeared over with kaolin or, better yet, with emolkeleet to remove the surface fat, then washed in an infusion of bran with green soap and warm water and a nail brush; and then dried with friction by a rough towel.

Dental Caries as a Factor of Disease.—J. R. Leeson dwells upon the fact that unclean mouths and decaying teeth cause many diseases whose etiology is little understood. The mouth cavity acts as a first-rate incubator, and, by its moisture, heat, and darkness, supplies the microbe with all that it can desire to breed its innumerable progeny. Cases of anæmia, general debility, neuralgia, indigestion, tetany, hysteria, chronic gastritis, etc., may all be due to carious teeth. Diseases of the gums, tongue, tonsils, larynx, oral and nasal pharynx, nose, and even middle ear are found to consist of chronic congestions and inflammations of their mucous membranes. How much of all this trouble is caused by the constant invasion of these regions by the septic organisms of contiguous carious teeth we are only beginning to realize. Absolute mouth cleanliness and the watchful care of a good dentist are necessities to health.

Points of Practical Interest in Surgical Gynæcology. VI. The Indications for the Operations of Hysterectomy and Myo-hysterectomy in Myoma.—By H. Macnaughton Jones.

Observations Relating to the Symptoms and Effects of Oxygen Inhalation.—By G. Leeb du Toit.

Notes on the Surgery of Joints.—By Arthur Neve

Zeit. f. Tuberkulose und Heilstättenwesen, Nov., 1900.

Observations on Tuberculosis by a General Practitioner.—Hirsch attributes much of the non-success of our efforts to

restrict the spread of the disease to the difficulty experienced in getting patients to realize the gravity of their condition while the malady is still in its earlier stages, and their reluctance to submit themselves to the systematic and preferably institutional treatment which alone affords any hope of cure. It is the duty of the physician to inform the patient of the possible presence of tuberculous infection just as soon as it is even suspected, and though the news may come as a shock to the patient his co-operation in any line of treatment is thus assured, and greater attention will be paid to details of hygiene and daily life, so that permanent cure may be reasonably hoped for. The main lines along which the disease is to be attacked are those of diet and general hygiene, but the almost universally prevalent custom of enforcing large meat consumption is ill advised. The poorly balanced system of the tuberculous subject reacts with too great intensity to the highly stimulating properties of such a diet, and especially in those predisposed to hemorrhage the consequences are often distinctly unfavorable. Alcohol, likewise, is not to be regarded as adapted for habitual use, since in such patients the oxidation processes suffer great reduction, owing to the diminution in lung capacity. As a result of actual observation on a large number of patients it was found that the omission of alcohol from the regular medication was followed by better appetite, greater increase in weight, and less fluctuation of the temperature.

The New Norwegian Statute Controlling the Institutional Treatment of Tuberculosis.—M. Holmboe reports the provisions of this law, which are essentially as follows: All cases of tuberculous disease of such nature as to make the danger of infection possible are to be reported to the sanitary commission by the attending physician, who has also to give proper directions to prevent the spread of the disease. If these are not complied with, or the patient is without medical attendance, the commission has the power to direct his removal to a suitable institution. Persons suffering from such disease are not to be permitted to engage in any business which involves the handling of food products nor to take positions as wetnurses or children's maids.

How does Infection of the Intestine Take Place?—Buttersack is of the opinion that the direct localization of tubercle bacilli in the intestinal mucosa, while possible, is infrequent. If the infectious matter be swallowed during or shortly after a meal the digestive juices and active peristalsis do not give the invaders much opportunity to gain a foothold, but during the period of physiological rest infection may sometimes occur. The mesenteric glands occupy the same position in regard to the intestinal tract that the bronchial glands do to the lungs, and it is usually only after these have become infected and their powers of resistance overcome that involvement of the gut takes place.

The Demonstration of the Tubercle Bacillus in the Sputum.—Czaplewski calls attention to the fact that, in the usual treatment of sputum with an uncontrolled amount of caustic soda solution preparatory to centrifuging, there is danger of diminishing the staining-power of the bacilli. His method is to add 0.2 per cent. soda solution and heat under constant stirring. As soon as liquefaction ensues a few drops of phenolphthalein solution are added, giving a red color. Ten per cent. acetic acid is now added drop by drop till the color is discharged, *i.e.*, the mixture is neutral, and centrifugal sedimentation proceeded with as usual.

Tuberculosis in Roumania and the Means of Combating it.—According to Babes, Roumania has not yet had to suffer greatly from tuberculosis, and he therefore considers it an especially favorable country for the inauguration of stringent sanitary regulations. He outlines a system of legislation which shall control mortality and morbidity statistics, public sanitation and education, etc.

On the Treatment of Tuberculosis by Sodium Cinnamate.—By Alfred Mann.

Tuberculosis, Blood Supply, and Blood.—By H. W. Blöte.

Zeitschrift f. klin. Medicin, vol. xli., Nos. 5 and 6.

The Stokes-Adams Syndrome.—August Hoffmann's case furnished opportunity for a careful investigation of the nature of this rare symptom complex, which consists in slowing of the pulse, attacks of unconsciousness, and respiratory disturbance. By a study of the pulse tracings obtained, together with combined auscultation and fluoroscopic examination continued over a period of several hours, the author reached the conclusion that the bradycardia was due to diminished conductivity of the heart muscle itself, whereby the normal contractile impulse which originates at the venous ostia of the auricles is impeded on its way toward the apex, and therefore, while the auricles may be making several contractions, systole of the ventricles occurs but once. The causes of this inhibition of conduction may be various, though the disease is most frequently found in those of advanced years who are suffering from fatty degeneration of the heart, arteriosclerosis, myocarditis, or other cardiac myopathies, while it has also been observed in disease of the spinal cord, vagus, and even in purely functional affections. The assumption is that the simple nutritional disturbance of the heart muscle accompanying the anæmia is sufficient to produce the disorder. In the author's case the daily inhalation of thirty litres of oxygen seemed to cause marked improvement, though this conclusion is not wholly free from *post hoc ergo propter hoc* reasoning.

Metabolism in the Obese.—Jaquet and Svenson report on a series of observations made on patients of the adipose habit to determine whether in addition to those cases of obesity ascribable to excess of food with a deficiency of muscular work, there are others in which there is restriction of the physiological oxidation processes. Basing their calculations on a study of the gaseous interchange of respiration, they found that in the fasting state the subjects examined did not vary from the normal, while they did not react sufficiently to the ingestion of food. The rise in gaseous interchange is less and is of shorter duration than is the case in average individuals. A not inconsiderable saving of fuel is the natural sequence, and at least a part of the fat accumulation is explicable on this ground. The reaction to muscular activity in the corpulent appears to vary according to the condition of the organs. In one case the results were much like the normal, while in another very slight muscular action was followed by a very great increase in oxygen consumption. The beneficial effect of thyroid extract in such patients may be referred to two factors. In the first place, in one series of experiments the loss of water alone was sufficient to account for the result, while there may also be an increase in oxidation, though this was observed only after the taking of food.

The Prognosis in Aortic Aneurism.—Kotowtschicoff is inclined to consider this affection more optimistically than most clinicians. Assuming that in most cases it is of luetic origin and due to inflammatory processes in the substance of the vessel wall, the proper antisyphilitic treatment should check the inflammation and therefore also bring the dilatation to a standstill. Eight cases are reported, four of them offering indisputable evidence as to the nature of the lesion, while in the others it was only presumptive. In all of these potassium iodide in large doses produced most gratifying results, the pulsating tumors were reduced in size, laryngeal palsies were cured, dulness on percussion was obliterated, subjective symptoms were relieved, etc. Evidence of incipient iodism is not an indication for cessation of the treatment, and the drug should be pushed to the very limits of tolerance.

Glycolysis in Pathological Conditions, Especially in Diabetes and the Functional Neuroses.—By E. Biernacki.

The Clinical Value of the Present Bacteriological Methods in Typhoid Fever.—By E. Scholze and P. Krause.

Extrahepatic Glycogen Formation after the Administration of Lævulose.—By Hans Sachs.

The Electric Reaction of Nerves and Muscles under Curare.—By Donath and Lukáes.

The Question of the Effect of Pilocarpine on Gastric Secretion.—By A. Simon.

Iodipin as Indicator for the Motility of the Stomach.—By S. Hildesheim.

Amatus Lusitanus and His Day.—By M. Solomon.

Revue de Chirurgie, October 10, 1900.

Intestinal Juice in the Treatment of Intestinal Occlusion.—E. Vidal says that the purely mechanical conception of intestinal occlusion is no longer found satisfactory. The important factors of the condition are now recognized to be the stasis of septic and toxic substances in the intestinal tract, an increase in virulence of the bacteria within the strangulated loops, and a disappearance of the defensive agents with consequent penetration of the coli bacillus, and resorption of the active microbial toxins and putrid poisons. Stercoræmic infection is the usual cause of death in these cases. The author holds that the injection of intestinal juice will neutralize poisons already in the circulation and in every way take the place of the normal secretion which has been impaired. His experiments on animals bear out his theory. Unfortunately, in the case of two patients, treatment was begun too late to save life, but many symptoms were so markedly relieved as to indicate happier results in cases treated in time.

Suture of Heart Wounds.—F. Terrier and E. Reymond thus conclude an article giving a detailed description of the various operations used for heart wounds: (1) A flap opening outward appears to be the best in the majority of cases. (2) When possible, it is better to push the pleura aside to reach the pericardium, rather than to go through it. (3) A continued suture is better than separate stitches in

closing heart wounds. (4) Neither pleura nor pericardium (more especially the latter) should be drained, but whenever possible should be completely closed.

Cancer of the Large Intestine, with the Exception of the Rectum.—By R. De Bovis. A continued article.

Sub-Pyloric Gastroduodenostomy.—By Eugène Villard.

Revue de Médecine, October 10, 1900.

Trophic Disorders and Disorders of Sensation in Hemiplegia.—P. Chatin, from a study of a number of cases, concludes that trophic and vasomotor disturbances are of frequent occurrence in hemiplegia, and are usually more marked in the upper than in the lower extremity. Disorders of sensation, whether subjective or objective, are also almost constantly present. Motor troubles alone may be accompanied by the symptoms of dystrophy, but when motor and sensory disorders are found together, there is much more probability of their being followed by atrophy. In other words, double lesions of the reflex arc are more often accompanied by trophic disorders than are simple lesions. The conclusion to which the author leads is that muscular atrophy is the result of the simultaneous impairment of sensory functions on the one hand, and motor and vasomotor functions on the other hand.

Family Spasmodic Paraplegia and Family Disseminated Sclerosis.—R. Cestan and G. Guillian believe that these two affections, in spite of their evident clinical resemblances, do not belong in the same morbid group. Disseminated sclerosis they hold to be a true clinical syndrome. In order to decide whether a given disease is a family affection, several points are to be borne in mind: (1) The disease must, in unchanged form, affect several children belonging to the same generation. (2) Its onset must occur at about the same time in each. (3) It must be clinically independent of all external influence, of any acquired disease, or of any intra-uterine accident. (4) These various characteristics must be the rule and not the exception.

Simple Persistence of the Arterial Canal.—By G. Gérard. A continued article.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BEER, ARSENIC, BERI-BERI—MEDICAL COUNCIL, FINANCES, DUBLIN APOTHECARIES' HALL—THE NATIONAL HOSPITAL FOR PARALYSIS, ETC.—ADDENDUM TO B. P.—NON-MALIGNANT CANCER—FEMALE INTEMPERANCE—OTOLOGICAL SOCIETY—OBITUARY.

London, December 14, 1900.

BEER still holds the field as the topic of the week. Pure beer, poisoned beer, malt and hops beer, substitute beer, glucose, invert sugar, arsenic—these are the words that crop up in almost every conversation. Nor is it to be wondered at, considering the widespread danger. Great dissatisfaction and suspicion have prevailed in consequence of the adjourned inquests, but these feelings were somewhat allayed by the announcement that Dr. Seaton Buchanan was despatched by the local government board to investigate the outbreak of peripheral neuritis. It is probable that further inquiry will take place.

The coroners have declared that there will be no suppression of facts at the adjourned inquests, and it seems a pity they should have been put off for so long a time—until January 9th. However, at that date we shall probably have a good many facts requiring digestion.

Meantime the brewers are very active in culling out their products and emptying contaminated samples down the sewers—thus preventing the spread of the epidemic, say some; nay, destroying the evidence against them, retort others. Of course, the brewers are anxious, for their responsibility must be great whatever facts may transpire. They have appointed a committee of experts, including two official analysts, but it was stated in the House of Commons last night that these gentlemen are not acting on behalf of the Home Office in this matter.

A number of summonses have been taken out by the local authorities against the retailers of the poisoned beer for selling what was not of the nature, substance, and quality of the article demanded, to the prejudice of the purchasers. This would seem to be a way to get at the brewers, for it would certainly be hard to punish mere retailers. It seems there is some difficulty about taking samples at the breweries, and, moreover, the contaminated products have mostly been destroyed.

A curious attempt to exploit the epidemic is the offer of an insurance company to issue policies indemnifying brewers against legal liability arising out of arsenic being found in their beer. Perhaps this is chiefly a cover for a further offer to insure individuals against death brought on by poisoned beer.

Among interesting points connected with the cases of arsenical neuritis is the similarity of the symptoms to those of beriberi. In fact, as I told you, some cases had been attributed to that disease. I conjectured that some epidemics supposed to have been beriberi might have arisen in such a way. And now no less an authority on tropical diseases than Ronald Ross, after examining a number of the cases in Manchester and Chester, says that if the cases had occurred in a beriberi region few medical men would have failed to consider them such. He remarks that on other grounds it has long been thought that food-poisoning may have to do with beriberi, and there are many points that suggest intoxication rather than infection.

Before the Medical Council closed its long session there was the report of the finance committee to consider. According to some the accounts require complete revision and economy must be enforced. The report shed little light on the subject, and after much talk a professional accountant is to look into the matter, which is, therefore, again postponed.

Another dead-set was also made on the Dublin Apothecaries' Hall through the report of the examination committee, which reflected on their inspector and suggested that the hall had not the power to appoint examiners in certain subjects. The hall is prepared to fight that question in the law courts. One cannot blame them for that. There is no need whatever for the existence of the hall, and I think it would be well if its powers were annulled, but it is not to be got rid of by a side wind; nor are unfair criticisms and reiterated reproaches from representatives of hostile corporations likely to lead it to give up rights under charters or acts of parliament.

The management of the National Hospital for Paralysis and Epilepsy is still a subject of dispute. The board, which proceeded to appoint an arbitrator, has had another fall. At the opening of the inquiry on Monday the "court" was informed that the staff declined to recognize it—as it was appointed by one party to the dispute and the most important points were excluded from its cognizance. Result: adjournment *sine die*. The board will have to give in. If the dispute is satisfactorily settled before May 1st, the Sunday fund will grant an award; otherwise, perhaps nothing for another year. The draft of the promised *addendum* to the pharmacopœia was presented to the council at the late session and will soon be in the hands of those who feel any interest in it. It contains fifty-four drugs and sixty-five preparations. Some of the names are not unfamiliar to prescribers in this country, though a large proportion come as almost or quite strange. The *addendum* is really an extension of the appendix, which authorized for local use certain preparations employed in India and the colonies as substitutes for drugs in the B. P. Of course, it is not intended that dispensers may substitute one for the other, but that prescribers must be guided by their own judgment as to the value of alternatives for older remedies. This recognition of the value of medicinal products of India and the colonies is expected to lead to further investigations into their value in the localities where they are found.

"Non-malignant cancer" sounds like a contradiction in terms. Yet that was the name applied to a case of cancer of the breast related to the Pathological Society by Dr. S. Bontor. Perhaps quiescent or stationary would be a more appropriate name for such cases. Carcinoma in the aged is of slower growth than in younger patients, and sometimes seems to stand still for long periods. This seems to have been so in Dr. Bontor's patient, and the case is not unique though unusual. His patient died of asthenia at the age of seventy-seven, having had a lump in the left breast for twenty-three years. It never gave her pain, though latterly she felt a sense of constriction of the chest. There were some secondary deposits in the right breast and in the skin over the abdomen, but no enlarged glands, no signs of distant organs being affected. Most cases of chronic cancer end in extension. After remaining stationary for years, they suddenly take on active growth and ulcerate. Dr. Bontor's case seems to have remained quite quiescent even when the patient sank from asthenia. But both macro- and microscopical appearances showed the growth to be cancerous.

The president (Mr. Watson Cheyne) remarked that the case seemed to be a typical one of atrophic scirrhus which had lasted a long time, but was not otherwise remarkable except that there was no involvement of internal organs. He recalled a case which lasted fourteen years and then a sudden outburst took place, and another in which after nine years rapid extension followed an attack of influenza.

Mr. Balance mentioned a case in which cancer appeared in both breasts at the age of seventy, but did not affect the general health of the patient, who lived on to the age of eighty-two.

The British Medical Temperance Association has had a debate on the increase of drunkenness among women, and has adopted a resolution to the effect that grocers' licenses promote female intemperance and ought to be abolished.

The Otological Society has held its first annual dinner, at which the presidents of the leading societies were present and welcomed their juvenile sister into their family. Dr. Pavy, of the Medico-Chirurgical, described the meeting as the christening ceremony. The otologists seem full of hope for the progress of their branch.

Dr. G. H. Milnes, a distinguished Cambridge graduate, physician to the Derbyshire Infirmary, died on the 20th ult. from an overdose of morphine, subcutaneously injected by himself. He was in the naval service from 1886 to 1890, and held the Egyptian war medal with clasp and the Khedive's star.

The deaths are also announced of Dr. A. D. Davidson, ophthalmic surgeon to the Swansea Hospital, aged fifty-one years, on the 7th inst.; Dr. H. G. Rawdon, surgeon to the Southern Hospital and Children's Infirmary, Liverpool, aged sixty-four years, of cerebral hemorrhage; A. E. Elliott, M.A. Cantab., M.R.C.S., etc., civil surgeon to the Field Force, South Africa, on December 1st, of enteric fever.

THE SELF-LIMITATION OF INFECTIOUS DISEASES.

To the Editor of the Medical Record.

Sir: In your issue of December 8, 1900, I find an abstract from the *Indiana Medical Journal* in which J. O. Malsbury gives utterance to the belief that micro-organisms are governed by that law of nature which holds good for high animal life, viz., that to the constant interbreeding and the resultant loss of vigorous procreation is due the early death of the organisms producing the disease, and consequently the self-limitation of that disease. This may be partly true, but seems to me to be rather far-fetched, and by applying another law governing high animal life to the lower types, let us see if we cannot approximate a conclusion which seems more plausible. Given a certain area of ground which furnishes a limited number of persons perfectly healthy media of life, fresh air, pure water, drainage, and sufficient food, and we will have, barring accidents, a comparatively healthy community. Take now the same area and in its space crowd together ten, twenty, or even a hundred times the number of inhabitants, and what is the result? The air becomes vitiated, the water contaminated, drainage defective, and the very soil polluted; disease manifests itself, and unless the conditions are speedily remedied, life itself would soon cease to exist. In this case it is not the interbreeding which checks the vigor and procreation of our community, but the decomposition products of animal life, which render the air unfit to breathe, water unfit to drink, and the very soil, on the whole, incapable of sustaining life. As the above holds good in high animal life, so it does in high plant life: any crowding together of a large number of plants is punished by either distorted and poor growth or a complete failure of the plants to come to maturity. Here, again, it is not the interbreeding which does the harm, but the close herding, which does not allow the individual plant to obtain its required amount of carbon dioxide (CO_2), sunshine, the moisture and salts of the soil necessary to sustain life, and so life becomes self-limited.

And this law also governs low plant life; given a culture of any micro-organism, if we place the same under proper conditions for growth in a short time we shall find that our culture has ceased to be reproductive and a little later becomes even harmless. It is not the interbreeding which produces this effect, for we can keep a culture virulent and even increase its virulence if we add fresh material to our original culture medium. No matter how large the growth and number of the organisms present, their number and virulence will increase if we can only supply sufficient media for them to grow on. It is the product of tissue metabolism evolved by the organism during its life history which does the harm, or rather in this case the good.

Every organism in its growth produces toxins and antitoxins, either one of which may be inimical to its own well-being, and it is only a question of time, if new soil is not added, or if the abstraction of these poisons is not provided for, when the soil will be rendered unfit for further growth and the culture dies. The same conditions hold good in disease and especially in the infectious fevers. Infection having taken place, if the soil is suitable, multiplication of the organism ensues until all the available soil is occupied. Then the crowding begins and with it a decline in number and virulence of the micro-organism. Multiplication has been going on at an enormous rate, the decomposition products of metabolism are being constantly set free from these minute units of life, in their birth, growth, reproduction, and death, and the result is that unless new soil is invaded a sudden check is put upon the growth and life of the organisms by the very poisons which they have produced to the detriment of the host they inhabit. Pneumonia is a disease which exemplifies the above. After infection has taken place we have the incubation period lasting a variable length of time, during which period the micrococci of Fränkel are multiplying and producing their toxins and antitoxins. Suddenly the patient has a chill; this is the sign that the system is becoming surcharged with the toxins, an inflammatory reaction now sets in which endeavors to limit and localize the infection, namely, by consolidation. This being successful the organisms are hemmed in, and reproduction continuing, crowding and its consequences result, and the death of the pathogenic germs is soon manifested by the crisis. If the hepatization is not effective in isolating the points of infection, then new areas are constantly involved, the crisis does not appear, the patient becomes surcharged with the toxins from the constant absorption, and death soon ends the scene.

The same thing occurs in typhoid fever, only much more slowly, as the bacillus of Eberth does not produce so intense an inflammation in the intestinal tract, and consequently isolation and localization do not occur so rapidly. New areas are constantly infected until either all the available soil has been invaded or the inflammatory wall checks the spread of the organism; then the decline in the fever begins as the bacilli have begun their own destruction. The lesions of typhoid in the intestinal tract explain to a great extent why we do not get a crisis in this disease. The lymphatic tissue is soft, absorption is great, and the inflammation produced by the typhoid bacillus is not sufficiently severe to produce the rapid isolation of the infected area, such as happens in pneumonia; consequently, while one area is being surrounded by the protecting wall of inflammation, new areas are freshly infected, and this continues until either tissue is reached in which sufficient inflammation is produced to limit the further extension of infection or until all the soil suitable for the propagation of the organism has been invaded. Judging from all this, the belief seems reasonable that it is not the interbreeding which limits the life of these death-dealing organisms, but mainly the fact that when placed under conditions suitable for growth they will propagate so rapidly that unless sufficient new soil is added from time to time the toxins and decomposition products they produce during their life will become powerful enough to end soon their existence and so self-limit the disease they have produced.

R. Hertzberg, M.D.

Stamford, Conn.

The Effect of Mastication in Influencing Gastric Secretion.—Max Schreuer and Alfred Riegel, in order to determine in how far the secretion of gastric juice was influenced by the mastication of the food, gave test meals of various composition and then examined the stomach contents after longer or shorter intervals of time had elapsed. The food was given in various ways; being chewed and swallowed as usual, or artificially subdivided and put into the stomach through a tube, or being chewed and then expectorated without swallowing. The results showed that the act of mastication is capable of directly modifying the activity of the gastric glands and that this is independent of the chemical stimulation produced by the saliva swallowed. When the material tested consisted of carbohydrates it was found that the exclusion of mastication was followed by a more or less considerable deficiency in the hydrochloric-acid values, while when the meal consisted of proteids (meat, hard-boiled eggs) the normal or hyperacid stomach reacted differently from one in which subacidity was present. In consequence of the greater degree of stimulation produced by these substances, the normal or hyperacid stomach is able to compensate for the HCl deficit attending the omission of the act of chewing, while the subacid stomach is not capable of this but shows marked variation from the normal after the reception through a tube of artificially masticated food.—*Zeitschrift für diätetische u. physikalische Therapie*, No. 6, vol. iv., 1900.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Fifty-ninth Regular Meeting, Held on Friday, December 7, 1900.

A. ALEXANDER SMITH, M.D., PRESIDENT, IN THE CHAIR.

The Prevention and Relief of Post-Operative Intestinal Obstruction.—DR. CLEMENT CLEVELAND read this paper (see page 1).

DR. GEORGE L. PEABODY said that while he did not feel competent to comment upon the surgical aspect of the procedure suggested by Dr. Cleveland, it interested him as furnishing a good illustration of the value of empiricism in medicine. It would be rather difficult to explain, however, how the oxygen gas could exert anything more than a mechanical effect, unless, perhaps, it stimulated peristalsis, as suggested by Dr. Cleveland. There was probably no absorption of the gas. It must satisfy its chemical affinities locally on the mucous membrane or on colon contents, and at once cease to be oxygen in consequence.

DR. WILLIAM M. POLK said he was glad to learn of this simple and apparently efficient method of treating cases of post-operative intestinal obstruction. This complication was often a very trying one, and its treatment by catharsis had not proved very satisfactory in his hands.

DR. WILLIAM T. BULL said that all surgeons were familiar with the trying situation which might arise after abdominal section, when the bowels refused to respond to enemata or cathartics, and Dr. Cleveland had suggested a possible resource, which, in his hands, seemed to have been very effective. He was disposed to criticise Dr. Cleveland's notion that these cases of post-operative intestinal obstruction were purely of a mechanical nature, and were unaccompanied by peritonitis. In spite of the fact that there might be no elevation of temperature, there was probably in these cases a plastic peritonitis which sometimes yielded if we ceased in our endeavors to promote peristalsis by cathartics and enemata. The speaker said that, in his own practice, when the obstruction failed to yield to ordinary methods, he went back to the old-fashioned opium treatment with cold applications over the abdomen. In some instances the obstruction had yielded to the latter method, after catharsis had failed. Dr. Bull said he wished to mention another way of relieving tymanites after abdominal operations, in cases in which no peritonitis was supposed to exist. It was suggested by a surgeon in the West, and termed by him the "postural" method. It was particularly useful after operations on the liver or gall bladder, which were likely to be followed on the first or second day by vomiting and tympanites without elevated temperature or other symptoms of peritonitis. At such an early time one did not want to administer cathartics, and the postural method referred to often gave very satisfactory results. It consisted in elevating the patient's pelvis as high as possible or putting him in the knee-elbow position; this placed the outlet of the alimentary canal much higher than the inlet, and gas was found to escape freely. The explanation suggested by Dr. Cleveland seemed rational. Other gases besides oxygen ought to accomplish the same purpose if the effect was a mechanical one, and one ought to succeed just as well with air or hydrogen gas.

DR. JOSEPH D. BRYANT said that but few cases of post-operative intestinal obstruction had come under his observation. He could recall only three. In one, after a futile attempt to move the bowels by enemata, he kept the patient quiet and administered small doses of opium, and the result was entirely satisfactory. In another instance an enema preceded by a dose of calomel was sufficient. The same treatment was satisfactory in the third case. As bearing upon this subject, Dr. Bryant reported the following case, which he had seen casually about a year ago. The patient had been operated on outside of the city for appendicitis. Two or three weeks later he developed pain in the appendicular region and symptoms indicating obstruction, particularly as intestinal peristalsis could be seen extending down to the lower portion of the ileum, and disappearing at the point where the pain occurred. The method employed to relieve the obstruction consisted of the introduction into the lower bowel of carbonic-acid gas and a small-sized hand, and then an electrode was carried up with the idea of influencing the supposed adhesions by the electrical current. The patient eventually recovered.

DR. BEVERLEY ROBINSON said that experiments had shown that in some cases the ileo-cæcal valve would permit of the passage of fluid from the cæcum to the ileum, while in others it would not. In a recorded case of supposed volvulus, the injection of fluid into the bowels was followed by a gush of the fluid from the child's mouth, and the subsequent disappearance of the volvulus. It had also been shown that hydrogen gas injected into the bowels might escape through the mouth.

DR. PEABODY said he had seen oil given per rectum vomited by the mouth.

DR. V. P. GIBNEY asked Dr. Cleveland why he waited forty-eight hours before resorting to the injection of oxygen. If there was no objection to its use, why should it not be given earlier, without resort to enemata or cathartics?

DR. CLEVELAND, in closing, said that in one of his cases he resorted to the use of the oxygen gas soon after the symptoms of obstruction became apparent. The reason he had not done so in all of his cases was that he still looked upon the procedure in the light of an experiment, and his chief experience with it was recent and limited. In the future, he intended to resort to it without delay. The gas was injected from an ordinary hospital cylinder, and its force was checked by first passing it through a bottle of water. The injection was made very slowly, and was stopped when the patient complained of pain and distention.

A Case of Æstivo-Autumnal Fever with Unusual Symptoms.—DR. GEORGE L. PEABODY reported this case (see page 3).

DR. E. G. JANEWAY said he had recently seen a case of æstivo-autumnal fever in which the abdominal pain was so severe that a diagnosis of appendicitis had been made and an operation was under consideration. There were also vomitings and tenderness over the right side of the abdomen with sensitive skin, but no rigidity of the rectus muscle was apparent. The first blood examination failed to indicate the presence of an inflammatory process, only a single malarial parasite was discovered, the leucocyte count was 5,500, and no Widal reaction was present. The second blood examination was absolutely negative. At a subsequent examination, made at the Presbyterian Hospital, a few malarial organisms were found. The vomiting was so severe that quinine could not be given by mouth for diagnostic purposes. The case eventually proved to be one of malaria of the æstivo-autumnal type. Dr. Janeway said it was a mistake to assume that the spleen enlarged only downward. It might also enlarge upward, forming a tumor underneath the thorax, and still there might be no adhesions. These cases he had seen cause mistakes in diagnosis.

DR. ROBINSON inquired whether the æstivo-autumnal

type of malaria was very rare in New York City. The speaker said he had seen one such case this year, which he thought had originated here.

Dr. Walter B. James, in answer to Dr. Robinson, said that this type of malaria had been rather rare in New York in past years. The cases that were seen here usually originated at a considerable distance from the city. Recently, however, the speaker said, he had seen a number of cases which apparently originated in this neighborhood. He recalled one case which apparently originated at City Island and another at College Point. A possible explanation for this fact is that a large number of patients suffering from æstivo-autumnal fever were brought to this city after the Spanish War, and it is not unlikely that in this way the peculiar organism causing this type of malaria found a foothold in this neighborhood and might become endemic. Dr. James said that the clinical features of æstivo-autumnal fever differed widely in different cases, and in some instances the organism in the blood must be searched for very diligently before it was discovered, as in the case mentioned by Dr. Janeway. In some cases the most pronounced symptom was the prostration, with perhaps very low range of temperature and a moderate degree of anæmia. The diagnosis could sometimes be made only after repeated examinations of the blood by one skilled in this particular line of work.

Dr. Robinson said that while this was generally regarded as a grave type of malaria, the symptoms were not severe in the case he had seen.

Dr. Janeway said that in the case he referred to the symptoms were very severe at first: the fever was high and there were indications of profound sepsis.

Dr. Peabody said he had had under observation four cases of æstivo-autumnal fever, and in none of them did the symptoms bear a very close resemblance to each other, although they had all had a continuous fever, not of a high grade. In three of them the original diagnosis was typhoid fever, on account of the marked prostration and continued fever. In one of them the blood gave the Widal reaction, but all of them had crescents in their blood, and all promptly recovered under quinine.

Dr. Robinson said that some patients objected to having repeated blood examinations made.

Dr. A. A. Smith thought there was less objection to this now than formerly.

Dr. Janeway said some complained if their blood was not examined.

A Case of Appendicitis with Diffuse Pelvic Exudate.—This was reported by Dr. William M. Polk. The patient was a woman who, upon examination, presented a very well-defined mass on the right side, extending well down into the bottom of the pelvis and involving the whole of the right broad ligament. The uterus was fixed and pushed over to the opposite side, and there was an exudate between the bladder and uterus which extended for some distance toward the left side. The patient was an ignorant Italian, and it was impossible to get a clear history of her previous condition. When the abdomen was opened, the appendix was found lying bent upon itself, with the knuckle resting well on the base of the broad ligament. Its free end was adherent to the broad ligament and extended upward between the ovary and uterus; upon its anterior face there was an ulceration which had, in turn, produced an ulceration and perforation of the broad ligament, and led to the production of an extensive anteperitoneal exudate between the bladder and uterus. The question was one of differentiation—appendicitis versus salpingitis. It was viewed as the former, because the line of extension was upward and outward toward the line of the mesentery, and not toward the line of the round ligament, as it would probably have been had it been salpingitis.

Dr. Cleveland said he always bore in mind the possibility of appendicular inflammation in connection with pelvic disease in women. Several times he had found a diseased appendix attached to the ovary and tube on the right side, and in one instance to a suppurating left ovary. Several times, in removing the uterus by vaginal hysterectomy, he had found the appendix presenting through the opening, and a few years ago he had removed an appendix four inches long through such an opening. The speaker said it seemed to him that the appendix could be found almost anywhere in the body.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, December 4, 1900.

Frederick Peterson, M.D., President.

The Terminal Condition in a Case of Diplegia.—Dr. William M. Leszynsky presented a man twenty-one years of age, in whom the chief feature of interest was a trembling of the hands, which had existed as long as he could remember. Nothing was known of his early history except that he had always been nervous. His mother had died of cancer of the uterus. The trembling had always been more marked on the left side, and his condition was apparently growing steadily worse. On careful examination no disturbance of sensibility could be detected. There were excellent muscular development on the left side and a spinal curvature, probably arising from the use of one side more than the other. There were no signs of atrophy. There was some asymmetry of the cranium. There was no disturbance of vision, but concentric contraction of the visual field. There was no nystagmus, and the pupils and fundi were normal. There was a positive tremor when at rest, and a more active tremor on motion. He held the left arm in extension, but close scrutiny showed that all of the rigidity was in the extensors. The elbow jerk was elicited only on the right side. Both knee jerks were exaggerated. Ankle clonus had been demonstrated on both sides, though it was much more marked on the left. Dr. Leszynsky said that this man had probably recovered from a paralysis that he had had at one time, and was now suffering from a terminal condition of an infantile palsy. Undoubtedly there was a good deal of functional disturbance added to the organic trouble.

Dr. M. Allen Starr thought the case was an athetosis on the left side, and that probably the same lesion, to a minor degree, was present on the opposite side. It was apparently a post-diplegic condition.

Dr. B. Onuf called attention to the lordosis and the unusual muscular development of the deltoids.

Dr. E. D. Fisher also looked upon the case as one of cerebral diplegia, more marked on the left side, and with the athetoid movements often seen in such cases. This extreme muscular development seemed to him not at all uncommon in this class of cases. He would like to know concerning the electrical reactions.

Dr. B. Sachs said that there could be no doubt that the left side was the centre of disturbance, and it was also probable that a part of the tremor was functional. The condition of the muscles in the scapular region seemed to him fully accounted by the spinal curvature present.

Dr. F. Peterson agreed with the diagnosis of post-paralytic athetoid form of movement. When the paralysis was small he thought these finer movements were more apt to be present.

Dr. Leszynsky regarded the remarks of Dr. Sachs a sufficient answer to those of Dr. Onuf. He had not yet tested the electrical reactions. It seemed to him that this man could be benefited if properly trained. Hypnotism had been suggested, and it seemed to him worthy of trial. The method used for ataxics would probably prove beneficial; it had just been commenced.

Report of Two Cases of Spinal Tumor with Operation and Removal.—Dr. M. Allen Starr said that five years ago he had been able to collect one hundred and forty-five cases of spinal tumor, in twenty-two of which operation had been undertaken. In the cases forming the subject of the present paper, the symptom pain had been very prominent, and this, together with the symptoms of pressure on the cord, had allowed of the diagnosis being made.

Case I.—Mrs. E. W——, thirty-five years of age, had been in good health previous to March, 1899, at which time she had begun to suffer from paroxysms of pain near the heart at night. They were not brought on by exertion, but were much increased by touching a region to the left of the nipple. From September, 1899, to May, 1900, she had been treated by many physicians for angina pectoris, hysteria, and other disorders. Nitroglycerin had always intensified the pain. On May 10th Dr. Theodore Janeway had examined her and found her in an extremely nervous condition and suffering from constant pain. The left knee jerk was exaggerated. Over the left side of the dorsal spine was extreme sensitiveness from the first to the eighth dorsal vertebra, and over the corresponding intercostal nerves at the angles of the ribs. There was no affection of the arms, and the internal organs were normal. When examined by Dr. Starr on October 26th she was suffering much from pain at the level of the fifth and sixth intercostal nerves, much more marked on the left side. There was very marked tenderness over the dorsal region from the first to the seventh dorsal vertebra. A condition of partial anæsthesia was found on the trunk and total anæsthesia in the legs. Her legs were quite powerless, but there was no atrophy of the muscles. Ankle clonus was present on both sides, and both limbs were cold, blue, and œdematous. She had recently been unable to control the sphincters. Dr. Janeway had made a diagnosis of tumor of the spinal cord at the fifth dorsal segment. On October 22d she had been operated upon by Dr. McCosh at the Presbyterian Hospital. On division of the dura an extremely œdematous state of the pia was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumor was found. Three days later the wound was enlarged upward and the dura found to pulsate freely at the upper level, but not lower down. A tumor, one and one-eighth inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed *en masse* without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumor. No attempt was made by Nature to heal the first operation wound, and in spite of great care an extensive bedsore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation wound healed very slowly. In the fourth week after the operation she had constant fever, probably because of the extensive bedsores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third cervical vertebra, an error of one vertebra had been made in the count at the time of operation. The case seemed to emphasize the fact that there should be no delay in operating for spinal tumor after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of antisyphilitic treatment, the husband being known to be syphilitic. Bedsores had developed before the operation, and had continued to extend in spite of it, and had eventually caused death from sepsis. Gumma of the spinal cord was quite rare; only twenty-six such cases had been found in a series of four hundred cases. The tumor had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but, according to Bruns, the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumor; hence in operating for spinal tumor the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain was found.

Case II.—Mrs. K——, forty-six years of age, had been in good health until May, 1900, when after a slight injury she had been delivered of a dead child. Soon afterward she had begun to suffer pain over the left hip, and this pain had extended down to the left knee. It had caused insomnia and progressive loss of health. In September she had noted numbness of the left foot. On October 16th, on admission to the Presbyterian Hospital, she was pale and feeble, and seemed to be suffering from paroxysms of pain over the left trochanter and that side of the sacrum. There was a drop-foot due to paralysis of the peronei and anterior tibial muscles. The bladder required catheterization, and the rectum had to be emptied by enema. There was an area of anæsthesia down the back of the left thigh and leg, and a smaller area was found on the right side. Under mixed treatment the paralysis extended, and the pain became more severe. An area of tenderness to pressure was found over the second, third, and fourth lumbar vertebræ, and pressure here aggravated the pain in the hip. It seemed probable from these facts that there was a tumor pressing on the cauda equina, and extending as high as the level of the exit of the second lumbar nerve. The functions of the sacral nerves and last lumbar nerve were evidently affected on the left side. A diagnosis of a cauda lesion was reached because of the level of the pain. On November 15th Dr. McCosh removed the spines and arches of the second, third, and fourth lumbar vertebræ. Dissection showed a tumor involving both the soft and hard tissues of this region. The spines and arches had been eroded by the tumor, which subsequently proved to be an endothelioma. This tumor had invaded the spinal canal and produced pressure on the dura. The patient was in a critical condition for two days after operation, but then had improved rapidly, and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly, and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence. Out of one hundred and forty-five cases of spinal tumor that he had collected, the history had been fairly clear in one hundred and twenty-two. In seventy-six cases an operation should have been feasible, and, according to the pathological report, in seventy-five per cent. the tumors could have been removed.

Dr. A. J. McCosh said that he had found spinal surgery much more satisfactory than brain surgery; certainly the localization of the lesions had been more satisfactory. It was difficult to say, however, that a lesion was situated at any one segment of the spinal cord; but, as a portion of the cord equal to three or

four vertebræ must be exposed, a slight error in localization was not of great importance. He had had recently a case presenting symptoms almost exactly like those of the first case reported in the paper. The line of anæsthesia had been almost the same, but there had been no paralysis of the arms. The autopsy showed a crushing injury of the cord between the fourth and sixth cervical vertebræ. The ordinary rules laid down had indicated a lesion much lower down, and he had in this way been misled at the operation. He had not, as a rule, found laminectomy a very serious operation, most of the patients having exhibited comparatively little shock; hence, one should not hesitate in advising the operation when the diagnosis was sufficiently clear. He agreed thoroughly with what Dr. Starr had said about the inadvisability of delaying the operation for weeks in order to give antisyphilitic treatment a trial. He had met with a number of cases in which he believed the fatal result was attributable to such delay. When bedsores were already present the case was practically hopeless, the patient almost invariably dying from sepsis. It was well to remember that tumors of the cord were usually found higher up than at the estimated level. By beginning above and working downward, it seemed to him that the healing-process would be favored. He was not of the opinion that there was any good ground for believing that the operation of laminectomy so weakened the spine as to lead to disability. Mention was made of one of his cases in which a man was engaged at an occupation requiring the frequent lifting of heavy weights, yet he had felt no inconvenience as a result of the operation upon his spinal column.

Dr. Pearce Bailey reported the case of a man forty-one years of age, who had been treated for some time previously for a variety of troubles. When seen in May he had stated that about fifteen months previously he had begun to have intense pain on the inner side of the left thigh. There had been an interval of a few months in which this pain had almost subsided. There was slight atrophy in the left leg; the left knee jerk was absent; there was very slight anæsthesia. The case was diagnosticated as one of tumor of the cauda equina. Dr. McCosh had operated upon him on the 22d of May. He had removed the last dorsal and the first and second lumbar vertebræ, and had exposed what had looked at first like a blood clot, but microscopical examination had proved this to be a round-cell sarcoma. Although it was probable that all of this sarcoma had not been removed, the man had done extremely well all these months, was free from pain, and had resumed his occupation.

Dr. Sachs agreed with those who had advised against delaying in these cases in order to try specific treatment. He was thoroughly in favor of operating just as soon as the diagnosis had been established with reasonable clearness. It was a great mistake, in his opinion, to look upon operation as a *dernier ressort*. Gumma of the cord was quite rare, and even in these cases very little had been accomplished by the administration of the iodides; hence, such treatment might very well be neglected. In one of his cases, in which the operation had been done quite early, the man had been restored promptly to health. In another case he had not been allowed to operate early, and the recovery had been far from satisfactory. It seemed to him that a little too much importance was attached to the mere matter of localization; the important question was in regard to the nature of the morbid process and whether or not a tumor was present. In Pott's disease the sensory disturbances were sometimes as marked as when there was a tumor of the cord. Pain was the important symptom, but this was applicable more particularly to dorsal rather than to ventral tumors. He was not prepared to speak regarding the relative frequency of these two forms of tumor. He was of the opinion that a very extensive laminectomy could be done without causing notable disability or deformity. Early operation, he felt sure, would make spinal surgery much more satisfactory than brain surgery.

Dr. Theodore C. Janeway said that he regretted very much that in his case the diagnosis of spinal tumor had not been made sooner. There had been pain a year previously, but the pain had disappeared for a considerable time, and when he had first seen the patient she had been so extremely nervous that the question of hysteria had been seriously considered at first. The case had progressed very rapidly during the part of the summer in which he had not seen her.

An Analysis of the Symptoms Observed in Cases of Tuberculous Meningitis at the Babies' Hospital.—Dr. C. A. Herter read a paper with this title. There were 24 cases of tuberculous meningitis, and in 15 of these there were autopsies. In these 15 cases, 6 were at the age of eight months; 7 patients were one year old or under. In 9 cases of tuberculous meningitis without autopsy, 6 patients were five months old. These figures showed that tuberculous meningitis was not so rare in the first year of life as had been supposed by some writers. Nineteen of the cases had run their course in less than one month. The fontanelle had been markedly distended in 7 of the 24 cases, and in 3 there had been a marked excess of fluid found at autopsy. In 1 case the fontanelle had been depressed—a patient sick for four or five months. In 6 cases there had been a delay in the closure of the fontanelle. Vomiting had been noted in 19 of the 24 cases, and had been the first symptom in 14 cases. In 5, in which there was no vomiting, the autopsy showed nothing different from the cases that had presented vomiting. In 11 cases there had been marked constipation. In cases coming to autopsy there had also been tuberculous lesions in the intestine. In several of the cases there were tuberculous ulcers of the colon, and yet constipation instead of diarrhœa had been present. The pupils were unequal in 12 of the 24 cases, and dilated in the others. The pupils were contracted in only 2 cases. Nystagmus was observed in 4 cases, and strabismus in 10 cases. In the cases showing strabismus there were marked lesions at the base and in the interpeduncular space. There were general convulsions in fifty per cent. There was no case which did not present either rigidity or convulsions. In cases without meningitis, but with tubercles in the brain, convulsions were not so common. Paralysis was noted in 10 of the 24 cases of tuberculous meningitis, and was monoplegic in a number. The variability of these palsies was a rather notable feature. In the cases without meningitis, but with tubercles in the brain, no palsies or paralyses were noted. The tache cérébrale was noted in 7 cases and flushing of the face in 10 cases. All the cases of tuberculous meningitis with autopsy had presented stupor or coma, or more or less irregularity of respiration, while these had not been observed in any of the cases with tubercles but without meningitis. Hyperæsthesia had been noted in only 1 case, and in only 1 had there been a well-developed cephalic cry. Retraction of the abdomen had been noted to a greater or less degree in 15 of the cases of tuberculous meningitis, but not at all in the other cases. The fever had not been high in the uncomplicated cases, and the pulse had shown nothing distinctive. In the cases without meningitis marked opisthotonos and convulsions had been the rule, and early vomiting had been much less frequent than when meningitis was present. Only 2 or 3 of the cases had presented solitary tubercles. In all of the autopsy cases the cerebral tuberculosis had been clearly secondary. The intestine was the seat of

tuberculous lesions in 11 of the 13 cases in which the intestine was examined. The knee jerks were increased in a large proportion of cases, and absent in only 2. An interesting feature was that at times the knee jerks would be alternately exaggerated and absent.

Dr. Leszynsky said that he had made some observations in children under three years old with regard to the knee jerk, and had noted that in the early stages the knee jerks had seemed to be absent, but as soon as the pressure symptoms appeared the knee jerks became exaggerated and remained so until death.

Dr. Sachs said that the diagnosis of tuberculous meningitis was usually delayed by the general practitioner because he overlooked, as a rule, the cranial nerve symptoms so commonly found quite early in these cases, and waited for some of the more common and typical symptoms. He would like to know whether examination of the fundus and lumbar puncture had been of any diagnostic aid.

Dr. Herter replied that lumbar puncture had been practised in a few instances, and in two or three tubercle bacilli had been found. The examination of the fundus had been undertaken in so few cases that no deductions could be made. None of the cases diagnosticated as tuberculous meningitis had ended in recovery.

Dr. Sachs said that in a series of cases of sporadic meningitis lumbar puncture had been made, and the diplococcus had been found in almost every instance. He had been surprised also at the large number of recoveries in these cases of sporadic meningitis in which the diplococcus had been found. Their clinical course had been greatly at variance with the older descriptions of cerebro-spinal meningitis. The onset had been very violent, the fever lasting often a week or more, and then recovery was rapid.

Dr. Herter said that in the cases he had seen there had been a much more violent onset than in tuberculous meningitis.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 21, 1900.

Charles N. Dowd, M.D., Vice-President, in the Chair.

The Present Status of the Treatment of Puerperal Infection.—Dr. Henry J. Garrigues read a paper with this title. He said that in 1883 he had presented to this society the results of the then new treatment of puerperal patients. From 1875 to 1883 3,504 deliveries had occurred with 146 maternal deaths, or a mortality of 4.17 per cent. During the first three months after the change of the treatment at the Maternity Hospital there had been 102 confinements without a single death, a freedom from mortality that at that time had seemed almost miraculous, but which soon had become quite a common event. During the first nine years of the new era there had been 3,879 deliveries with 33 deaths, of which only 7 had been due to sepsis, or a total mortality of 0.87, and a mortality from sepsis of 0.18 per cent. At the present time the total mortality in lying-in institutions was about 0.5 per cent. While our public institutions all followed the rules of aseptic and antiseptic midwifery, these rules were far from being observed in private practice in this country. He did not ask for asepticism in private practice, for it seemed to him impracticable, but it was the duty of every obstetrician to practise antiseptic midwifery. In the present paper he would use the word infection in a very broad sense, including not only the disturbances resulting from microbic invasion but also the intoxication resulting from the absorption of the toxins produced by the microbes. Puerperal infection was a wound infection, and hence it might be either trifling or severe. As the diseased conditions varied greatly, the treatmen must also vary considerably.

Injections.—Intra-uterine injections demanded a certain amount of skill not found in every legally qualified practitioner of medicine. If corrosive sublimate were used there was danger of acute poisoning. Some years ago he had collected twenty-three cases of death attributable to the use of corrosive sublimate. Shortly after an injection as many bacteria had been proved by bacteriological examination to be present as before the injection. He had seen cases in which each intra-uterine injection had caused a rise of temperature, and the patients had recovered after these injections had been stopped. At the beginning, however, an intra-uterine injection after a curettage was useful.

Cauterization.—When the wounds became diphtheritic he was accustomed to apply a caustic composed of equal parts of chloride of zinc and distilled water. Vaginal injections should be given once in three hours and once daily the parts should be inspected with a speculum, and if the diphtheritic process had extended the cauterization should be repeated. The object of this cauterization was to kill the microbes on the surface and also to seal the channels leading into the interior of the tissues. He had found chloride of zinc better than other applications commonly employed.

Aperient Enemata.—At the beginning of puerperal infection the bowels should be thoroughly cleared out. When there was peritonitis he did not move the bowels except by occasional enemata. Large enemas of soapsuds with ox gall were useful.

Anodynes.—As pain was not only unpleasant but weakening, it was important to conquer it. This was done by the local and internal use of opiates. To reduce the temperature the local application of cold was the best means. Ice coils were convenient for this purpose, but baths and packs were sometimes desirable. If the interior of the uterus were infected it was his custom to leave a suppository containing gr. c. of iodoform in the cavity, and to renew it from day to day. Iodoform gauze was good for packing but not for drainage. If the uterus had not properly contracted, ergot by the mouth or faradization of the uterus was indicated.

Internal Antiseptics.—If the patient had been exposed to diphtheria she should be given diphtheria antitoxin. Antistreptococcus serum had apparently been proved not only useless but harmful. Unguentum Credé, an ointment containing soluble silver, had been extolled in this city because of its supposed efficacy in a single case, but he had not personally seen any benefit from its use; however, it was at least harmless. The attempt had been made to establish an artificial leucocytosis by the administration of nuclein. It was apt to cause pain in the bones, especially in the tibia, but this passed off in a week. A rational and useful modern method of combating sepsis was by washing out the whole system by the injection into the veins or into the cellular tissue of one or two pints of saline solution at short intervals. Sometimes vomiting was such a prominent feature as to demand attention. The administration of cocaine or of hydrocyanic acid, or the application of an ice coil to the epigastrium, had proved most useful in his hands. Years ago he had presented a paper in which he had reported the treatment of thirteen cases of diffuse peritonitis by the opium treatment. Seven of these patients had recovered, which was probably as good a result as could be expected.

Curettage.—If there was any doubt about the placenta having been totally removed, the patient should be anæsthetized, placed on a table in the dorsal position, with the knees well flexed and supported in a leg-holder. A systematic digital exploration of the uterine cavity should be made, special attention being paid to the horns of the uterus. Any remaining portions of the secundines should be scraped away with the finger nails. This was far better than using instruments. He did not think he had ever seen a patient recover when curettage had been resorted to after sepsis had become well established. By scraping the inside of the uterus one broke down the protecting wall by which nature limited the disease, and so carried the pathogenic germs directly into the lymphatics and capillaries. On the other hand, he had found the curette a wellnigh indispensable instrument in cases of abortion.

Abscesses.—When an abscess pointed above Poupart's ligament, a large incision should be made parallel to this ligament. Then the finger should be introduced, and, if deemed necessary, through drainage established by way of the vagina. If an abscess could be reached easily through the vagina it was better to make a transverse incision behind the cervix and open the abscess. If the latter were situated in the broad ligament it could be opened without entering the peritoneal cavity.

Laparotomy.—Whoever had seen an autopsy on a person dead of diffuse peritonitis must feel timid about opening the abdominal cavity during life. It had been done, but the results did not seem to be better than the older treatment. Since the uterus was in most cases the starting-point of infection, gynæcologists had been inclined to remove that organ, but to be of service this operation must be done before the microbes had invaded the general system. It was difficult to determine this fact, and hence the operation was liable to be done either too early or too late. He had attempted hysterectomy only twice in such cases. In the first he had operated a few days after confinement, but had been compelled to desist from operating to avoid a death on the table. In the other case he had operated about three weeks after confinement, and while the operation had done no special harm, the patient had succumbed later to pleurisy. He was inclined to think that surgical interference, inclusive of intra-uterine douches and curetting, had done more harm than good. In the hands of men of exceptional judgment and skill a few lives would be occasionally saved, but the average practitioner would best subserve the interests of his patients by abstaining from even such seemingly simple operations as intra-uterine injections and curettage.

An Exact Diagnosis Essential.—Dr. E. A. Ayers thought puerperal infection, being distinctly a surgical fever, should be treated like other wound infections, with only such modifications as were made necessary by the special organs involved. What was most needed at the present time was exactness of diagnosis. Certain forms of this infection extended with great rapidity; hence one must operate early if this step was to be effective, yet in doing so one was compelled to operate before an accurate diagnosis could be made. For this reason it seemed that exploratory incisions and hysterectomies were likely to cause more deaths than if they were not done. It was well known in hospital practice that only a very small percentage of cases terminated fatally, even though many appeared to be desperately ill, and hence it seemed unwise to advocate surgical interference. As soon as there was a rise of temperature no time should be lost in determining the cause of the fever. A knowledge of the history of the labor was most important here. If it was known that there had been a tedious labor and that the head of the child had pressed upon the soft parts in a certain place for hours, there was good ground for suspecting that a slough had formed. If it was known that the placenta had been removed completely the curette should not be employed. The retention of the membranes alone did not seem to him to call for such interference. He did not find it often necessary to go farther than local cauterization and local irrigation with sterile water.

Dr. Ralph Waldo said that he had been on the house staff of the New York Maternity Hospital at the time when Dr. Garrigues had done a good deal of his pioneer work in the field of antiseptic midwifery. As soon as a fetid discharge was detected he was accustomed to cleanse the vagina thoroughly, first with injections of corrosive sublimate, and afterward with sterile water. He then curetted the interior of the uterus, using a large dull curette, and completed the operation by irrigation of the cavity. Packing was used only in cases of hemorrhage. This was the treatment employed by him at the Lebanon Hospital, and not a single patient had died who had been septic on admission but not suffering from general sapræmia. At the present time antiseptic drugs were not administered by the mouth in these cases. Some cases were admitted with salpingitis or with inflammation affecting the tissues in the vicinity of the uterus. In such cases an ice bag was placed on the abdomen, and the case was kept under careful observation. As soon as pus could be detected and located the abscess was opened, usually under primary anæsthesia. All of the patients who had not entered the hospital with the abscess already opened had recovered. These abscess cavities were washed out and disinfected with peroxide of hydrogen, and the cavity was very lightly packed with gauze. Iodine had sometimes been found in the urine, and this had been asserted by some to be a positive indication of iodoform poisoning. This he did not believe, though it, of course, indicated that iodine was being eliminated by the kidneys. He was opposed to the internal use of iodine, carbolic acid, and similar preparations, as he considered them poisons, and liable to injure rather than to benefit the patient.

Hysterectomy Powerless in Acute Cases.—Dr. H. J. Boldt thoroughly approved of discarding the curette in favor of the finger. The use of the curette in these cases, he said, should be restricted to those who thoroughly understood it. He wished to assert boldly that no patient had ever recovered when hysterectomy had been done for actual puerperal septicæmia. This had never occurred; when such had been claimed it was to be explained only by a mistake in diagnosis. Septicæmia was due to invasion of streptococci into the general circulatory system, and rapid multiplication there. Every case of this kind that he had seen had ended in death, no matter what the treatment, and hysterectomy could only hasten the fatal issue. When there was a metrophlebitis, and from the area of infection in the uterus a stream of parasites was continually passing into the system, and other methods seemed to be futile, and if one were able to show by bacteriological examination of the blood that streptococci were present there, one might expect benefit from such a radical operation as hysterectomy, but only under these conditions. He knew of no method of treatment that would save the more acute cases. In his opinion, a deep-seated abscess in the parametria should be let alone until it pointed; one should not grope around in these parts.

Pyæmia.—Although the prognosis was very bad in the pyæmic cases, it was not absolutely hopeless when the pyæmia developed rather late. Patients presenting a general peritonitis due to a chronic septic infection, with no distinct encapsulation, were best treated

by making a free incision into the abdomen and washing out the cavity.

Dr. Henry C. Coe said that the first question arising in actual practice was as to whether the infection had extended beyond the uterus, yet this was a most difficult one to answer; hence our methods must be more or less vague. He was opposed to the use of the curette after the first or tentative exploration. These patients were more apt to be benefited by too little than too much treatment.

Dr. S. Marx said that from the trend of the discussion this evening it would seem that puerperal septicæmia could not be a very dangerous malady after all. It was now over a year since a case of true puerperal sepsis had developed in the New York Maternity Hospital. The treatment employed at that hospital now was practically that introduced by Dr. Garrigues in 1882, except that the vaginal injections were rarely given. He had not yet been able to fix the indications for hysterectomy in puerperal infection. He had seen iodoform poisoning produced by the introduction of a narrow strip of iodoform gauze into the uterus; hence he objected to Dr. Garrigues' practice of leaving iodoform suppositories. The woman referred to had become maniacal, and had had an extremely rapid pulse, all from the iodoform poisoning. After some days she had recovered.

Dr. Garrigues, in closing the discussion, said that he did not use the curette for the removal of membranes merely, but for taking away retained placenta; nevertheless, if a large piece of membrane were left behind immediately after delivery it should be removed. He was surprised that so much objection had been made to the use of iodoform, as Dr. Pryor, of this city, made it his special aim to saturate the system with iodine. In his personal experience he had never seen any intoxication from the use of the iodoform suppository or the iodoform gauze. According to the latest work of the best bacteriologists only four or five per cent. of cases of puerperal infection were lost when the infection was due to streptococci. Quite a number of cases had been reported in which the infection had been due to other bacilli, and particularly to the bacillus coli communis and the pneumococcus.

Clinical Data Relating to Ectopic Gestation.—Dr. Egbert H. Grandin read this paper. He said he had repeatedly recorded instances of ectopic gestation, and had called attention to the fact that rarely had the classic symptoms described in most text-books been present, and yet there had been sufficient to arouse the suspicion of the thoughtful and careful practitioner. In his experience, based on about fifty cases, it had usually been by exclusion that he had made the diagnosis. He had repeatedly operated upon women who had given no history of amenorrhœa followed by irregular bleeding. These women had usually given a history of the last menstrual flow having been markedly less than usual. This was a point which deserved to be kept in mind. Again, ectopic gestation might exist without associated uterine enlargement, and without enlargement of the lower uterine segment—the so-called Hegar's sign of early uterine pregnancy. As a rule, he had found colicky pains fairly constant as a symptom of ectopic gestation, yet he had met with it in other cases. Five cases were cited to justify the concluding statement of the paper, that an exploratory vaginal section was of very great value. It should be done in every case in which the clinical history in the least suggested the possibility of ectopic gestation. If carried out by experienced hands it was practically devoid of risk. When precedent amenorrhœa was followed by bleeding, one could be sure that the pregnancy was not normal. If under anæsthesia examination showed an enlarged and congested tube the indication for operation was stringent.

Dr. Simon Marx said that the correct diagnosis of extra-uterine pregnancy would be made much oftener if physicians would only keep constantly in mind the possibility of its existence. He could not recall having operated upon a case that had simulated ectopic gestation in which he had regretted such interference. When an extra-uterine tumor was present, together with symptoms of pregnancy, and yet the uterus did not present the size and shape which it should have in an ordinary uterine pregnancy at this stage, one might be reasonably sure that the case was one of extra-uterine pregnancy.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 20, 1900.

William H. Katzenbach, M.D., Vice-President, in the Chair.

Municipal Hospital for Consumptives. — Dr. A. Jacobi presented the following resolutions on behalf of a committee of the conncil, and they were unanimously adopted by the Academy:

"*Resolved*, That the committee appointed by the Academy be instructed to use its influence to have the municipal hospital constructed for cases in the early, and presumably curable, stage of phthisis;

"*Resolved*, That while the proper designation for such a hospital would be 'for curable cases,' yet in view of the bad effect the refusal to be admitted would produce, the designation should be 'Hospital for Incipient Cases';

"*Resolved*, That the committee be instructed to use its influence to have the hospital placed in that locality which will be the most productive of good, and where there shall be such space that it will not be an injury to the neighborhood, which would be the case if it were placed in a populous locality;

"*Resolved*, That the committee be instructed to use its utmost endeavors to have such examinations for admission made by thoroughly competent physicians possessed of such moral stamina as shall prevent advanced and incurable cases from being sent to the hospital for incipient cases;

"*Resolved*, That the committee be instructed to use its influence to have the rules and regulations of this hospital such that it shall not become an unnecessary burden upon the community."

Remarks on Enteroptosis.—Dr. Max Einhorn read a paper on this subject, introducing it by the presentation of a patient having this disorder. He said that enteroptosis had been known since 1885. The term gastroptosis laid too much stress upon the stomach; hence, the word enteroptosis was better, as it meant a tendency to a descent of the abdominal organs generally. The corset seemed to be an important factor in the causation, but it was not the only cause. Enteroptosis was occasionally found in very young women who had never worn corsets, and it had also been observed in men. According to some observers, enteroptosis was largely dependent upon a congenital weakness of the tissues. A weakened condition of the abdominal walls appeared to be the primary and most important factor in the etiology. This led to a diminished tension within the abdominal cavity, and to a disturbance of equilibrium. The constriction of the corset led to atrophy of the abdominal wall, thus still further increasing this weakness. The occurrence of either enteroptosis or of movable kidney could be detected only by clinicians well versed in the physical examination of the abdomen.

Both enteroptosis and movable kidney seemed to be much more frequent among women—indeed, he had found it about ten times more frequent in the female sex. In most instances morbid manifestations were encountered. The patient often complained of a faint feeling or of weakness after rising. A feeling of weight was occasionally experienced in the lower portion of the abdominal cavity, and a dragging sensation in the epigastrium. Moreover, disease of the digestive tract complicating enteroptosis proved unusually rebellious to the ordinary treatment. Cases of enteroptosis lasting for a long period were apt to lead to anæmia. As a rule, these patients were thin and appeared younger than they really were. Palpation was extremely easy of performance, there being, as a rule, no rigidity of the muscles. In the standing position the epigastric region appeared depressed, while the lower part of the abdomen was bulging. The stomach occupied an abnormally low position, as could be easily demonstrated by the splashing sound. On tapping on the left side of the abdomen below the ribs, the stomach being partly filled, a splashing sound would be elicited, and its situation would indicate the position of the stomach. The transverse colon, the cæcum, the descending colon, and the sigmoid flexure could often be palpated. In these cases the right kidney would often be found movable. This was best detected by bimanual palpation. If the physician, standing behind the patient, by encircling the abdomen with both hands and pressing upward, gave relief to the patient, there was reason to believe that enteroptosis was present. The prognosis of enteroptosis was good. A perfect cure was certainly possible; he had himself had at least half a dozen such cases. Even though the organs did not return to their normal position, the subjective symptoms could be quickly relieved. The treatment consisted chiefly in the application of a properly fitting abdominal bandage, together with massage and improvement of nutrition. The bandage should support and lift up the lower part of the abdomen. Special pads for movable kidney seemed to him useless. It was quite essential that the bandage should be kept from slipping upward by bands passing around the thighs. In women having very prominent hips it might be necessary to cut out "windows" in the bandage. It was also exceedingly important that these patients should have sufficient exercise, and should be well nourished. Out-door sports were specially suitable for them, and massage was useful in the milder cases. The patient should be given plenty of good nourishing food, being directed to take bread and milk between meals. Iron and arsenic were often indicated, and the bromides when there was great nervousness. Laxatives were sometimes required, but should be used with caution and judgment.

Nervous Dyspepsia and Enteroptosis Related.—Dr. A. Rose agreed with the reader of the paper that enteroptosis could be cured in many instances. His own plan of treatment was to strap the stomach with strips of adhesive plaster. The idea had suggested itself to him from the knowledge that the strapping of the thorax in cases of fracture of the ribs was very serviceable and was well borne. He preferred adhesive plaster to the bandage in these cases because the patients were thin, and it was difficult to fit a bandage and keep it snugly applied. Comparatively few of his patients had complained of irritation of the skin, and when they had done so he had found that this could be overcome by the application of Unna's zinc plaster before putting on the adhesive plaster. He had also tried a glue made by Unna out of oxide of zinc, gelatin, and glycerin, and so far as he had used it it had answered the purpose quite well. His own experience had led him to think that nervous dyspepsia and enteroptosis were closely allied. It was remarkable how quickly the nervous dyspepsia could be relieved by treatment directed to the cure of the enteroptosis.

Dr. Mary Putnam Jacobi said that no mention had been made of supporting the perineum at the same time the abdomen was supported. This principle was embodied in the Banning brace, and it seemed to her a useful one. It had been asserted by some that much nervous dyspepsia was dependent upon a hysterical anæsthesia of the mucosa of the stomach, and an associated perversion of the secretions. She was disposed to think that many needless operations were done for movable kidney. Many of these cases could be completely relieved without operation by improving the general nutrition and increasing the quantity of fat around the kidney.

Dr. H. W. Berg said that to establish the diagnosis of movable kidney there should be not only a movable mass in the region of the kidney, but it should have the shape of the kidney. This should be insisted upon in order to differentiate movable gall bladders and various tumors with long pedicles.

Dr. Einhorn said that it could not be denied that many cases of enteroptosis showed digestive derangements of a neurotic type, and that by treating the enteroptosis a cure would be effected more speedily than if the digestive disturbance alone were treated. Although he had seen seven or eight hundred cases of movable kidney, he had not yet seen one in which it had seemed to him an operation was necessary. All the symptoms that had been ascribed to movable kidney could be ameliorated or cured by other means. In about ninety-five per cent. of these cases it was possible to effect a practical cure without operation. It was obvious in cases of enteroptosis that little or nothing could be accomplished by simply fixing the kidney. By the same line of reasoning operations should be done for fixing the liver, the stomach, and other organs. He had known some patients to be relieved by the application of the bandage though they had not complained of a dragging sensation.

Officers Elected.—*President*, Dr. Robert F. Weir; *Vice-President*, Dr. C. L. Dana; *Recording Secretary*, Dr. John H. Huddleston; *Corresponding Secretary*, Dr. Louis Faugères Bishop; *Trustee*, Dr. Alexander A. Smith; *Member of Committee on Admissions*, Dr. John V. D. Young; *Member of Committee on Library*, Dr. C. L. Gibson.

Constipation Fever.—G. Edlefsen regards this as a separate pathological entity and has seen forty-nine typical cases. The disease consists in a temperature rise which is often very considerable, depending solely on the retention of fecal masses in the large intestine. This causative relationship is to be demonstrated by the absence of any other reason for the febrile movement and the fact that evacuation of the bowel is followed by a return to normal. The direct agency at work appears to be the passing of pyretogenetic substances, that is, toxins the result of decomposition, from the intestine into the blood. In most cases the pyrexia is of short duration, sometimes lasting not longer than a day, but usually the administration of purgatives and enemata is followed by a drop extending over a day or two before the normal is reached again. Frequently the disease is ushered in by severe colicky pains, the temperature rising suddenly and rapidly, with chilliness or even slight chills. The pulse does not follow the temperature; a true retardation being the rule and affording a valuable diagnostic sign. The therapy is obvious from the etiology.—*Klinisch-therapeutische Wochenschrift*, November 18, 1900.

Medical Items.

Growth of Population in Germany.—The growth of Germany since the war with France is the most remarkable phenomenon of modern Europe. Since the treaty of peace was signed in 1871 Germany has not extended her territory by a single acre on the Continent of Europe (if we except the acquisition of Heligoland), but she has increased her population by 16,000,000. The Germans numbered 40,000,000 in 1871; they number 56,000,000 now, and yet, although there are so many mouths to feed, the Germans are better fed, better clothed, and in every way more prosperous than they were then. This is attributed largely to the fact that for twenty years Germany devoted herself to improving the elementary education of her people.—*Tit-Bits.*

Antitoxic Qualities of the Bile of a Victim of Tetanus.—Vincenzi (*Münch. med. Wochenschr.*, September 12, 1899) studied the bile of a fatal case of tetanus. He had previously examined the blood of a patient who had survived an attack of the disease, but was unable to recover a trace of antitoxin therefrom. He administered the usual fatal dose of tetanus virus to guinea-pigs, and found that the bile of the human patient, when injected later, was able to prevent the development of the disease. When bile and tetanus virus were mixed and injected into a guinea-pig, a mild attack of tetanus resulted. The author's extended studies upon the subject appear to show that the bile in this case was free from the tetanus poison, and that it possessed distinct antitoxic qualities.

Journal Devoted to Seasickness.—The *New York Herald* of December 9th, says: "It will interest transatlantic voyagers to know that a journal has just been started in Paris, the object of which is to discover, if possible, some effectual means of preventing that bugbear of ocean travel, seasickness. This periodical, which is entitled *Le Journal de Mal-de-Mer*, is edited by Dr. Madeuf, who is president of one medical society, and an associate of several others. His aim is to form a league, which shall be composed not only of all persons who suffer from seasickness, but also of all steamship companies, hotel keepers, theatrical managers, and any other persons or places whose business is at present periodically injured in some way or other through mal-de-mer. Dr. Madeuf invites all sufferers from this malady to write to him, explaining the manner in which they are affected, and describing the various remedies which they have used. In the first number of the journal there are thirty-five leading questions and several minor ones on these two subjects which subscribers are requested to answer. Furthermore, Dr. Madeuf informs his readers that he intends to collect all obtainable documents, especially those of historical and scientific value, in regard to seasickness, and that he hopes to be able to formulate a plan by which adequate prizes may be offered to those steamship companies which succeed in constructing their vessels so that passengers on them will be quite as comfortable and as free from this annoying malady as they would be on land, as well as to those inventors who may succeed in discovering infallible remedies for mal-de-mer."

Thomas Sydenham.—Dr. J. F. Payne, who undertook the task of writing the life of the father of English medicine in the masters of medicine series, has just completed and published his book. It presents a vivid and lucid picture of the great man. From a review of the work in *The Lancet*, we gather that Thomas Sydenham was baptized on September 10, 1624, and died on December 29, 1689. He came of an old Dorsetshire family, being the fifth son of William and Mary Sydenham, of Wynford Eagle, a hamlet lying about eight miles from Dorchester. From the beginning of the Civil War the father and his sons fought against the king, and in the summer of 1644 Mrs. Sydenham, the mother, was killed by Royalist soldiers. In the following February, Francis was a major in the Parliamentary forces in Dorsetshire and afterward of sufficient importance to be specially exempted from the Act of Indemnity passed when Charles II. came to his own again. Thomas bore arms under his brother in the campaign in the West, and again in 1651, when he was a captain of horse and rendered important services to the Council of State, though, fortunately perhaps, he was absent from England at the time of the Restoration. In the Scotch campaign John, another brother, was killed, and Thomas petitioned the Protector for the arrears of his brother's pay. At Cromwell's special desire £600 (3,000) were ordered to be paid to Sydenham out of certain money belonging to the commonwealth in the hands of the commissioners, for coal dues in the port of Newcastle. Sydenham received incomplete education at Oxford, first at Magdalen Hall and then at Wadham. He was created a Bachelor of Physic in the university on April 14, 1648, but it was not until 1663 that he obtained a license of practice from the Royal College of Physicians of London. The great plague of 1665, by enforcing a holiday, led Sydenham to write his first book, a small octavo of one hundred and fifty-six pages. It was a treatise on fevers, the outcome of his own observations. Several shorter contributions followed from time to time, though Sydenham was not fond of writing, and ill-health and want of leisure made composition difficult to him. From these shorter writings comes his classical account of gout, to which he was a martyr for many years, and we learn that he gave steel filings as a chalybeate, and introduced a fluid laudanum—still known as Sydenham's laudanum and analogous to the wine of opium. While Dr. Payne gives Sydenham every credit for the great advances he made in the study of medicine, he is quite impartial and shows the points wherein he was ignorant. He failed entirely to perceive the importance of anatomy and physiology. . . . It was the especial merit of Sydenham to proclaim the great truth that science was and always must be incomplete, and that danger lurks in the natural tendency to act upon it as if it were complete. Dr. Payne, therefore, well says that, while Harvey was the master of science, Sydenham was the master of practice.

The Percentage of Microbes in London Water.—According to the testimony of Sir William Crookes, F.R.S., the bacteriological examination of four hundred and seventy samples of London water showed six per cent. to contain more than one hundred microbes per cubic centimetre. The percentage for the two or three previous months was two per cent. and the comparative impurity of the samples collected this month would probably be accounted for by the large increase of rainfall over that of the previous month. It is satisfactory to know, however, that a number of special daily examinations have failed to show the presence of any pathogenic microbes in a sample of filtered London water. It is unnecessary to insist upon the importance of the water supply of London being jealously watched and supervised, and it is to be hoped that the practice which now obtains of at once communicating with any water company supplying water containing more than a certain proportion of microorganisms, in order that they may be made aware of the fact that their filters are working defectively and require attention, produces in all cases the results de-

sired. The actual degree of danger to health indicated by the presence of non-pathogenic microbes in the water supply is a matter as to which considerable difference of opinion exists, but there can be no question that the actual effectual inspection of the water supply of London is one of the main factors which insures for this great city the healthy conditions its inhabitants enjoy.—*Medical Press.*

Coughing as a Fine Art.—In an article on tuberculosis, contributed to the annual report of the Maine State board of health by Dr. A. G. Young, he treats of the above subject and says: "There are reasons affecting both the patient and those associated with him why cough should be suppressed by the voluntary effort of the patient so far as is practicable. How far this is possible has often been noted with surprise by visitors to properly conducted sanatoriums for consumptives. At the dinner table or anywhere else where large numbers of patients are found together, hardly a cough is heard. Unnecessary coughing is bad for the patient; loud and open-mouthed coughing subjects other persons in the same room to the possibility of infection. When obliged to cough, the patient should do so as lightly as possible, and with lips closed as much as he can. Even when the cough is hard, experiments have shown that the diffusion of particles of infectious sputum into the air can be easily prevented by holding something before the mouth. The open hand will quite effectually arrest all particles, but the rule to keep the hand as clean and as free from infection as possible, forbids the use of the hand for this purpose. A suitable object is a paper napkin or a square of muslin, to be burned after it has been in use for a short time. Professor Leube of Würzburg has his patients, when confined to the house, keep upon their table in a suitable dish a bunch of cotton twice as large as the fist, to be held before the mouth while coughing. A handkerchief may be used for this purpose and for no other, but when so used it presents the same danger in a minor degree as when the handkerchief is used as a receptacle for the sputum."

Diagnostic Points of Impetigo Contagiosa Bullosa.—1. History of contagion or epidemic; other pustular conditions upon the patient, attendants, or those in close contact with the patient. 2. Location of eruption upon exposed parts and those parts accessible to auto-inoculation and scratching. 3. The acute progress of the disease. 4. Usually mild constitutional symptoms. 5. "Eccentric and peripheral extension of its primary lesion" (Elliot). 6. Auto-inoculability of lesions. 7. Other symptoms of impetigo may be found, as the "stuck on" crust, vesicles, circinate lesions. 8. Furunculosis, especially on the head, often associated. 9. Prompt reply to mild local antiseptic applications. 10. Smears from the bullæ show diplococci, cocci in short chains, and zöoglœa, neutrophile leucocytes, large lymphocytes (in infants especially), rarely red cells and only a few eosinophile cells. 11. The blood shows nothing unusual or interesting, except the absence of eosinophilia. The last two points, absence of an excess of eosinophile cells in the blood and the contents of the bullæ, are strong differential points between this disease and some other bullous affections, such as pemphigus and dermatitis herpetiformis.—Dr. Martin F. Engman, *St. Louis Medical Review*, November 10, 1900.

Some Problems Pertaining to Tuberculosis.—The results desired may be summed up as follows: (*a*) There should be less danger to the well in health resorts, and (*b*) better care for the afflicted who come to these resorts. To secure such ends the following points should be observed: (1) States possessing climatic advantages favorable to tuberculous persons should not quarantine against tuberculosis. Patients coming to these resorts should come early. (2) Each State blessed with the conditions producing a congenial climate for such persons should enact and enforce rigid sanitary and preventive measures against infection from tuberculosis. (3) The general public in all States should receive systematic instruction; it should be the purpose of all to ascertain the true sources of tuberculous infection, and our States and cities should formulate rational rules to prevent and overcome these sources of danger. (4) These rules for the public should become popularized through the daily press and public schools, and literature should be freely circulated by boards of health. (5) Rules should be formulated for the government of households in which some member is afflicted with tuberculosis, to guard against the infection of the well members. (6) Rules for the safe deposition of tuberculous secretions should be concisely formulated. (7) Precautions should be taken against infected foods; dairies should be carefully inspected and the tuberculin test periodically given to dairy cattle. (8) Rigid precautions should be taken in cities located in health resorts where tuberculous persons congregate. (9) The compulsory reporting of tuberculous cases should be demanded by boards of health, and apartments occupied by all persons thus reported should be periodically fumigated. (10) As far as possible, tuberculous persons should be prevented from congregating in thickly settled districts. Many persons would go to ranches, or less densely populated regions, but these are destitute of the real necessities which are important in the treatment of this disease.—Dr. A. Mansfield Holmes, *Denver Medical Times*, November.

Gastric Cancer.—1. Cancer is one of the most potent factors in the causation of death, with a tendency constantly to increase in frequency of occurrence. 2. Gastric cancer occurs in about one-fifth of all primary cases. 3. In gastric cancer the pyloric region is affected in sixty per cent. of the cases. 4. The treatment of gastric cancer directed toward a permanent cure is in the present state of our knowledge limited wholly to surgical methods. 5. As early total extirpation of malignant growths with the hope of permanent cure is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in sixty per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently prescribed for the cure of this malady. 6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internist and the surgeon should turn their best efforts in this direction. 7. If the operation of pylorectomy were performed before obstructive symptoms manifest themselves and before the occurrence of metastasis, the immediate results would be as favorable as in any other abdominal work and the remote results as good as in extirpation of the breast for carcinoma.—Dr. J. E. Allaban, *Hot Springs Medical Journal*, October.

Penetrating Thoracic Wounds.—The rules of practice in penetrating thoracic wounds are comparatively simple and may be briefly stated as follows: 1st. In all penetrating chest wounds avoid exploration, disinfect the parietal wound, and immediately apply an occlusion dressing with partial immobilization of the chest. Put and keep the patient in the recumbent position; calm the circulation by quiet and if necessary by opiates. Watch closely the possible supervention of internal hemorrhage and infection. 2d. Intrapleural effusions of blood though considerable, if not threatening life, should not be evacuated too hastily. Time should be given for definite cessa-

tion of the hemorrhage, then it may during the second and third weeks be gradually removed by aseptic paracentesis. 3d. In cases of severe and progressive internal hemorrhage, its source, *i.e.*, whether parietal or pulmonic, should be settled. The former should always be controlled by forceps or ligature without opening the chest, and the latter, if progressive and causing dangerous anæmia, dyspnœa, and disturbed cardiac action, may demand a large plastic thoracotomy and suture or tamponade of the lung parenchyma. In a certain few stab wounds of the heart suture is practicable. 4th. However, in practice it is chiefly the advent of sepsis which requires surgical interference in these injuries. When either pleura or pericardium becomes distended with infected fluid, it should be promptly opened freely and drained, precisely as any other purulent pleurisy or pericarditis. —Dr. James H. Dunn, *The Railway Surgeon*, November 13th.

Leprosy in New York.—"Referring to your remarks in October *Clinic*, in which you quote me as saying there were one hundred lepers in New York, I will add that not only did I say that, but I have the private records of one hundred and thirty-nine cases." —Dr. Albert S. Ashmead, *The Southern Clinic*, December.

Leucocytosis.—Dr. L. H. Warner (*Medical Fortnightly*, December 10th) makes the following clinical pathological classification of the different leucocytoses: 1. Physiological leucocytosis which must be divided into: (*a*) a digestive leucocytosis; (*b*) a leucocytosis due to pregnancy; (*c*) a leucocytosis of the new-born. 2. Pathological leucocytosis which must be divided into: (*a*) a leucocytosis due to inflammation; (*b*) a leucocytosis caused by malignant tumors; (*c*) a post-hemorrhagic leucocytosis. 3. A leucocytosis influenced by medication.

Sepsis and Antisepsis.—Dr. James E. Davis (*International Journal of Surgery*, December) summarizes his paper as follows: (1) Inculcated principles of asepsis and antisepsis should precede the practice of the same. (2) A thorough mechanical cleansing with soap and hot water is the first and most important step toward asepsis. (3) The doctor of medicine should teach and demand the strict observance of cleanliness by assistants and associates. (4) Antiseptics must always be selected with due reference to their permeative power. (5) A detailed observance of asepsis should obtain in all medical work. (6) The most effectual and reliable agents for obtaining and preserving asepsis are boiling water, soap, alcohol, and bichloride of mercury.

Danger in Boiled Milk.—In the German *Milch-Zeitung* (No. 19) Herr Bernstein gives the following explanation of occasional noxious effects from boiled milk: (1) If milk is allowed to stand it turns sour with slight production of gas. (2) If it be pasteurized or heated to 70° C., and then allowed to stand, it shows cheesy masses, full of gas bubbles, and gives off the typical odor of putrefaction. (3) If it be boiled and then stands, the cheesy masses sink without gas formation to the bottom and a gradual solution of the albuminous substances occurs. In (1) the lactic-acid ferment predominates; in (2) this has been killed and gas-forming bacteria make their appearance; in (3) these are destroyed, and their place is taken by peptonizing microbes, the products of which may be occasionally poisonous. The writer recommends that when boiled milk is not immediately used some pure culture of the bacillus lactis, or what amounts to the same thing, a little stale, unboiled milk, should be added to it.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 28, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Florida, Jacksonville	December 2d	1	
Kansas, Wichita	December 15th to 22d	10	
Kentucky, Lexington	December 22d	1	
Maryland, Baltimore	December 22d	1	
Minnesota, Minneapolis	December 15th to 22d	12	
Winona	December 15th to 22d	120	
N. Hampshire, Manchester	December 15th to 22d	14	
New Jersey, Jersey City	December 16th to 23d	7	
New York, New York	December 15th to 22d	21	
Ohio, Ashtabula	December 15th to 22d	15	
Cleveland	December 15th to 22d	25	
Portsmouth	December 22d	1	
Tennessee, Memphis	December 22d	1	
Texas, Houston	December 15th to 22d	22	1
Utah, Salt Lake City	December 15th to 22d	31	
Washington, Tacoma	December 15th	1	
Wisconsin, Milwaukee	December 22d	1	
Smallpox—Foreign.			
Argentina, Buenos Ayres	September 30th	7	6
Bohemia, Prague	November 24th to December 1st.	43	
Brazil, Pernambuco	October 1st to 15th	..	26
Rio de Janeiro	October 1st to 31st	..	69
Egypt, Alexandria	November 27th	3	1
England, London	December 1st to 8th	1	
France, Paris	December 1st to 8th	..	14
India, Calcutta	November 17th	..	6
Mexico, Mexico	December 16th	1	2
Progreso	December 9th to 15th	3	
Russia, St. Petersburg	November 24th to December 1st.	9	
Warsaw	November 24th to December 1st.	..	36
Scotland, Glasgow	December 7th to 14th	38	1
Yellow Fever.			
Brazil, Rio de Janeiro	October 1st to 31st	31	6
Mexico, Vera Cruz	December 14th	..	2
Cholera.			
India, Bombay	November 13th to 20th	..	3
Calcutta	November 10th to 17th	..	26
Madras	November 9th to 16th	..	7
Straits Settlements, Singapore	November 10th to 13th	5	6
Plague.			
Brazil, Petropolis	December 10th	..	1
Rio de Janeiro	October 1st to 31st	31	20
India, Calcutta	November 17th	..	2
Japan, Osaka	November 2d to 27th	8	
Madagascar, Tamatave	November 11th	1	

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Therapeutics, its Principles and Practice. By Haortio C. Wood, M.D. 8vo, 850 pages. J. B. Lippincott Company, Philadelphia, Pa.

Text-Book of Histology. By Philipp Stohr, M.D. 8vo, 432 pages. Illustrated. P. Blakiston's Sons & Co., Philadelphia, Pa.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements. By Hobart Amory Hare, M.D. 8vo, 428 pages. Illustrated.

A Manual of Surgical Treatment. By W. Watson Cheyne. 8vo, 370 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Clinical Treatise on Fractures. By William Barton Hopkins, M.D. 8vo, 368 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

Traité de Médecine. By Bouchard and Brissaud. Royal octavo, 612 pages. Vol. VI. Masson et Cie., Paris.

Traité de Médecine. By Bouchard and Brissaud. Royal octavo, 527 pages. Illustrated. Vol. VII. Masson et Cie., Paris.

Surgery of the Respiratory System. By George W. Crile, M.D. 8vo, 114 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

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Original Articles.

COFFEE AS A BEVERAGE, AND ITS FREQUENT DELETERIOUS EFFECTS UPON THE NERVOUS SYSTEM: ACUTE AND CHRONIC COFFEE POISONING.[1]

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COFFEE when well prepared is beyond question one of the ambrosial luxuries of modern life. Owing to its abundant production, its comparative cheapness, and its simplicity of preparation, its use has become conventional among all conditions of mankind. To condemn it indiscriminately as injurious might shake the faith of multitudes, and would be equivalent to an admission of ignorance as to its universally recognized value, and an exposure to the suspicion of abetting the propaganda of anti-coffee agitators. The purpose of this paper is briefly to demonstrate that ill-effects following the use of coffee are by no means uncommon.

Since I began to investigate this subject, about ten years ago, I have had ample opportunity, from clinical observation, to form a correct estimate of its importance. The more I have studied the question, the more firmly have I become impressed with the fact that such an apparently trivial matter has undeservedly escaped the consideration, at least in this country, that its importance demands. The discomfort or danger often arising from the injudicious or excessive use of coffee, and its increasing consumption within recent years, warrants me in calling your attention to the prevailing abuse of this valuable commodity.

"In roasted coffee are found caffeine and caffeone, and the activity of the product depends upon their presence. The latter consists of the volatile substances developed in the process of roasting. Among these is caffeol, an empyreumatic oil. Caramel is also formed by the conversion of the sugar contained in the seed. While the caffeine exerts the larger part of the physiological action of coffee, much of it depends on the volatile substances. The cerebral stimulation and activity produced by a cup of coffee are thought to be largely due to caffeone, since they are but slight after the administration of an infusion of raw coffee, although caffeine is present in it in the same degree. Moreover, experiment has shown that caffeone is opposed to caffeine in its action in at least one direction, for the effect of the isolated caffeone is to accelerate the heart's action and lower the blood pressure, whereas the effect of caffeine is the opposite."[2]

Isolated caffeone is not administered outside of physiological laboratories, while caffeine, as a rule, is prescribed as a cardiac and respiratory stimulant, and also as a diuretic. Everybody is familiar with their combination as coffee, hence I shall confine my remarks to coffee as a beverage, in the form of decoction or infusion, and its effects upon the nervous system.

Many show no discretion in its use, and while we all appreciate its beneficial influence in the economy, we are forced to the conclusion that its thoughtless abuse inevitably results in unpleasant consequences. It would require a special paper to extol the great medicinal value of coffee, for we all realize its excellence as a therapeutic agent. Its universal use as a beverage, however, greatly restricts its usefulness as a medicine. To the majority, its taste and action are agreeable. For others it is really a poison.

According to the report of the United States Department of Agriculture, in 1892, the quantity of coffee imported into the United States was 632,941,912 pounds, at a valuation of $126,801,607. From 1892 to 1896, the average annual importation was 597,484,217 pounds.

In 1897,	737,645,670	pounds, at a valuation of		$81,544,384.
In 1898,	870,514,455	"	"	65,067,631.
In 1899,	831,827,063	"	"	55,275,470.

From these figures, it will be observed that, in the year 1898 alone, the importation reached the prodigious amount of 870,514,455 pounds. It will also be noticed that the price of coffee has undergone a material and progressive decrease since 1892. We can thus readily appreciate that the demand for, and consumption of this article have been rapidly extending disproportionate to the needs of our ever-increasing population. The people of the United States consume, it is said, about one-third of the total coffee production. From this assumption (and there is no valid reason to doubt its correctness), we may account, in a great measure, for the prevailing nervous characteristics of many of our population, their increasing mental activity, and the actual accomplishment of work that might otherwise be impossible.

As coffee is an antidote to alcohol, so far as the nervous system is concerned, it is not uncommon for both to be used excessively by the same individual. While coffee often induces disordered nerve function, which is always remediable when the cause is recognized, the persistent use of alcohol, on the other hand, may ultimately lead to incurable structural changes. Love, in an interesting paper on "The Use and Abuse of Coffee,"[1] concludes that "in excess it is even more dangerous than alcohol, for it is not, like the latter, a nutrient, nor is the effect of its excessive use so apparent or unrespectable." Recognizing the immediate possible consequences of habitual alcoholic indulgence, and its demoralizing influence, it is but natural that so many of us prefer to resort to the use of coffee to tide us over certain intellectual emergencies.

The intellectual faculties excited to the greatest degree by the use of coffee are the imagination and the memory. It produces an augmentation in the power of attention, a vivacity of thought and conception, increased capacity for mental and physical work, and

[1] Read before the New York County Medical Association, December 17, 1900.

[2] "Pract. Therap.," Foster, vol. i., p. 289.

[1] Journ. Am. Med. Ass'n, February 14, 1891.

transitory ambitions often beyond the physical or mental capability of the individual. The potentiality of coffee, as above described, has thus proved both a blessing and a source of danger to modern civilization.

The matutinal cup of coffee has become almost indispensable to many, simply through time-honored custom and tradition, and it unquestionably has a beneficial and wholesome effect on the vast majority of our adult population. Were it not well known, however, that the habitual use of coffee is often intolerated, and frequently proves injurious to a large class of people, so many alleged substitutes would not be on the market. Reichert[1] has shown that the virtues of coffee in the vicissitudes of active life are entirely subjective, and depend upon its exhilarant action on the mental processes. The popular idea that coffee can replace food, or increase the power for work without corresponding tissue waste, is entirely erroneous.

In the search for the cause of obscure nervous phenomena, it is always necessary to inquire closely into the daily habits of the patient, as well as to investigate his or her antecedent history. This is particularly true in regard to the consumption of food, the indulgence in alcoholic liquors, and the use of various beverages. Although of rather common occurrence, it is often astonishing, nay, even marvellous, to witness the disappearance of inexplicable symptoms soon after the discontinuance of certain customary articles of diet. While idiosyncrasy may be considered a factor of paramount importance in many persons, in others the peculiar susceptibility to the influence of certain food products is often augmented through their excessive and continual use. To those who have given no thought to the matter, it may seem incredible that such an article as coffee, which is a part of the daily dietary in almost every household in the land, should also find its victims. The ancient adage, "What is one man's meat is another man's poison," is often well exemplified in regard to coffee. One man will sleep well all night, after drinking a cup of strong coffee before retiring, while another will suffer from insomnia after a much smaller quantity. It seems to be a rather popular belief among the people that coffee possesses no injurious qualities, and may be taken *ad libitum;* others have not considered the matter at all, and most physicians have given the subject very little if any attention. In my opinion, it is just as necessary (and much easier) to inquire as to the patients' habits in regard to coffee, tea, and cocoa, as it is to question them as to their use of alcoholic stimulants. Thousands of oversensitive persons complain that a single cup of coffee at once induces in them a transitory sensation of well-being, increased rapidity of thought, etc., which is soon followed by a feeling of apprehension, general tremulousness, and indigestion. If a smaller dose were taken, commensurate with their susceptibility, the secondary objectionable symptoms would often fail to appear.

The habitual daily indulgence in coffee, even in moderate quantity, by those who are oversensitive to its action, invariably leads to persistent functional disorder of the nervous system, as well as to disturbance of digestion, which rapidly subsides when it is discontinued. No doubt the latter is often occasioned by the addition of too much milk and sugar, which favors the process of fermentation. Whether or not the general nervous symptoms are to be considered secondary to the disturbance of digestion, further investigation will determine. Some physicians believe that coffee without the customary milk and sugar never disturbs the gastric function. While this assertion is often substantiated by clinical observation, it must not be accepted without reserve, for digestive trouble frequently occurs also in those who indulge excessively in coffee, without the addition of either milk or sugar. In some instances, it is possibly aggravated by coffee of an inferior quality or by various adulterants. Leven[2] believes that the action of sugar and that of coffee are antagonistic. He says: "Coffee produces anæmia of the gastric mucous membrane and diminishes its secretion; if this be often repeated it terminates in a hyperæmia, a congestion which in itself is the cause of the dyspepsia. Sugar, on the contrary, excites the gastric secretion, hence it is necessary to sweeten the coffee." This theory, however, has found no support.

Many or all neurotic individuals seem to be more or less susceptible to the influence of coffee, particularly in regard to its effects on the nervous system, and it usually aggravates any existing hyperæmia in the cerebral circulation. I have seen quite a number of persons in whom coffee produces paroxysmal sneezing and coryza, and others in whom pruritus, either local or general, becomes a pronounced and troublesome symptom. I can recall several cases of pneumonia and typhoid fever, in which caffeine had been taken every two or three hours as a cardiac stimulant. During its administration the patients suffered from insomnia and restlessness. As soon as its use was discontinued, these symptoms promptly disappeared.

Among others, Dr. Norman Bridge,[3] of Chicago, has observed that coffee-drinking is a frequent cause of disease, and he reports in detail the histories of seven cases in which many obscure symptoms were present. All recovered when they dispensed with the use of coffee. Although I have abundant records at my disposal which will more fully illustrate the views herein expressed, nothing will be gained by a lengthy report of corroborative cases. In several patients, I have been able to trace to the daily use of coffee the otherwise unexplained cause of vertigo, either through its direct action on the vascular system, or indirectly through disturbance of gastric digestion.

The wakefulness and flow of thought produced by coffee are rather commonplace knowledge. Thus, many trained nurses are unable to do night duty without partaking of several cups of coffee during the night, and I have noticed that a large number of them use either coffee or tea excessively; also many nervous literary men and women, and business men under high pressure, continually resort to the coffee-cup for cerebral stimulation and a renewal of their flagging energy. The abuse of coffee in this manner insidiously if not rapidly leads to various degrees of exhaustion of the cerebro-spinal centres. This fact cannot be stated too emphatically, especially regarding those who react readily to this form of stimulation.

The nervous system of children is peculiarly susceptible to the effects of coffee, and its use should never be permitted. It produces a certain intellectual precocity through overstimulation of the cerebral cortex, as well as other functional disturbances. While it is customary to hear the parents of nervous children among the poor say with pride that their children "eat and drink everything," it is not unusual among the well-to-do to have them admit that they give their children both coffee and tea. I have often seen "night terrors," insomnia, and tremulousness disappear after the withdrawal of coffee from the dietary. Guelliot[4] has observed several cases of arrested physical development, particularly of the sexual organs in male children, as a result of the excessive use of coffee. Several years ago, I attended a healthy boy six years of age, who suffered from acute coffee poisoning. When I saw him at 10 P.M., in one of the hotels in

[1] New York Medical Journal, vol. li., p. 459.

[2] Soc. Biolog., 9 Avril, 1881.

[3] Trans. Assoc. Am. Phys., vol. viii., 1893.

[4] Union méd. du nord-est, 1885.

Saratoga, he was in a condition of active delirium, with widely dilated pupils, tremor in the facial muscles and extremities, and severe tachycardia, the pulse rate being 200 beats a minute. Visual and aural hallucinations were present at intervals for five or six hours. He had entered the barroom of the hotel late that afternoon, and taking a handful of roasted coffee beans from the counter, had eaten about a half-ounce during the evening. He recovered completely at the end of a week. Rugh[1] has reported a case of coffee poisoning in a travelling salesman thirty years of age, who, for three weeks, drank from ten to twelve cupfuls of strong, black coffee daily. This resulted in a condition resembling delirium tremens. He recovered after suitable treatment. Cases of acute coffee poisoning have also been reported by Curschman,[2] Müller,[3] and others.

There is a distinct type of cases of rather frequent occurrence, particularly among the poorer class of people, but by no means strictly limited to them, which manifests itself in a form of functional nervous disorder, to which the elastic term "neurasthenia" in its broadest significance may be aptly applied, and which is due to the excessive use of coffee. After carefully investigating and treating several hundred of these patients, I feel justified in calling your attention to a common group of symptoms, most frequently observed in those addicted to the excessive use of coffee, constituting a condition that should best be designated as the "coffee habit," or "chronic coffeeism."

As a large proportion of the patients who consult the neurologist complain of "nervousness," it is evident that abundant opportunity is thus afforded for the study of such cases. I have seen victims of the coffee-habit among commercial travellers, brokers, merchants, actors, writers, and men connected with the news departments of the daily papers. In fact, they are strikingly frequent among those who are working under high pressure, and whose occupation requires a great deal of talking or mental activity. In order to produce the desired stimulation, they find it necessary continually to increase the dosage, just like those who have the "alcohol habit" or the "opium habit." Their general health becomes much impaired, and the functional activity of every organ may be affected. They usually complain of the following symptoms, which are more or less pronounced, and in varying combination: general headache and "nervousness"; apprehension in regard to some unknown impending trouble; mental depression and irritability; insomnia or restless sleep; "bad dreams"; sudden "starting" in sleep and awaking in profuse perspiration; occasional or frequent vertigo; general tremulousness and diminished muscular power; precordial oppression; cardiac palpitation; loss of appetite; frequent eructation of gas, and constipation. The symptom complex most commonly noted is: general nervousness; tremor; vertigo; restless sleep; cardiac palpitation; eructation of gas, and constipation. On examination we usually find a coated and tremulous tongue; tremor in the eyelids while standing with closed eyes; in some, the pupils are slightly dilated, but react quickly to light; tremor in both outstretched hands; rapid pulse, of low tension and frequently irregular, ranging from 90 to 130; exaggerated reflexes, and more or less increased reflex irritability. Tachycardia or bradycardia may also be present.

It must be admitted that this entire series of neurasthenic symptoms may result from other causes, such as the excessive use of alcohol, tea or cocoa, or from a combination of several factors. As a general rule, it is most frequently mistaken for chronic alcoholic toxæmia. It is not difficult to determine by a process of exclusion, however, that the condition in question is beyond any doubt attributable to excessive coffee drinking. Very often some of these patients are intemperate in other directions, or they may also be addicted to the use of alcohol. In my experience, the majority of those who suffer from the results of the "coffee habit," drink alcoholic or malt liquors either only occasionally or not at all, being satisfied with the cerebral stimulation produced by the coffee. It is not unusual for many of them to drink from six to eight cupfuls of coffee daily, while some have been known to drink from twelve to fourteen cupfuls in as many hours. In some, symptoms of chronic poisoning may result from three or four cupfuls daily. Such persons do not take suitable or sufficient food, and as coffee possesses but little nutritive value, they ultimately show unmistakable evidence of malnutrition in addition to their other symptoms.

In this connection, it is interesting to mention that physiological experiment has shown[1] that after substituting infusion of coffee for water, inanition became more marked in those animals fed only upon hydrocarbons, while in those fed exclusively upon meat, the malnutrition was not so pronounced. This fact may explain the loss of weight among the poor patients of this class, whose dietary consists principally of carbonaceous food.

There is a peculiar difference between the symptoms of acute and chronic coffee poisoning. In the former, when coffee is taken in large doses by persons unaccustomed to its use, it produces excitability to the degree of delirium, etc. In the latter, which is of greater importance on account of its more frequent occurrence, the toxæmia manifests itself as a depressive form of neurasthenia. In brief, the symptoms of chronic coffeeism are indicative of interference with the nutrition of the cells of the cerebro-spinal system resulting from overstimulation and auto-toxæmia, and correspond very closely with the symptoms of chronic alcoholism, for which it is so often mistaken.

Age, sex, temperament, constitution, and occupation, which occasion individual susceptibility, must be considered prominent predisposing factors in this disease. For obvious reasons, women are more addicted to the coffee habit than men.

Although the effects of the abuse of coffee have been known since 1705,[2] and have been mentioned from time to time during the nineteenth century by several French and German observers, the importance of the subject has never been adequately realized in this country. Errors in diagnosis frequently result from the failure to recognize such a potent element as the abuse of coffee as a factor in the causation of neurasthenia and seemingly obscure nervous phenomena. It can be safely said that those who will look into the matter will no doubt discover a surprisingly large number of such patients.

In a classical article, entitled "Du caféisme chronique," which is deserving of careful study, Guelliot[3] reports at length the histories of seventeen patients, twelve females and five males, who had been in the habit of drinking from three to sixteen cupfuls of coffee daily. The digestive function was the first attacked. At times there was epigastric pain radiating to the dorsal region. It was of the same character as the other neuralgias to which these patients are subject. At other times there was vertigo among other symptoms. The pulse was slow, soft, and compress-

[1] Med. and Surg. Reporter, Philadelphia, 1896, lxxv., 549.
[2] "Ein Fall von Kaffee-Intoxication." Deutsch. Klin., 1873, p. 377.
[3] Therap. Monatsheft, 1890.

[1] Guimares: Arch. de physiologie, 1883, t. i., p. 312.
[2] "Le traité des aliments" de Louis Lemery, 2 ed., Paris, 1705.
[3] Union médicale du nord-est, 1885.

ible. The tremor disappeared for a time after a dose of coffee just as in chronic alcoholism. He also speaks of sexual impotence in the male, and profuse leucorrhœa in women as prominent symptoms.

Mendel[1] has likewise called attention to the functional disturbance of the nervous system produced by the excessive use of coffee, and he has reached the positive conviction that coffee, when used excessively for a long time, produces a characteristic clinical picture with a definite symptom complex similar to that herein mentioned, but of the most pronounced character in his cases. He concludes that the chronic misuse of coffee produces its injurious effects in the same manner as alcoholism and morphinism, and he graphically describes a class of workingwomen in one of the industrial districts in Germany, where they consume large quantities of coffee daily. "At every meal, from early morning until late at night, the workingwoman drinks her coffee, which always stands ready on the stove. The coffee energizes them to work, stills their hunger, cheers them in misfortune; in short, what the whiskey flask is to the laborer, the coffee-pot is to these women."

The same condition has also been observed in France under like circumstances. Gilles de la Tourette and Gasne[2] have reported two cases, and also call attention to the possibility of mistaking it for alcoholism. Viaud[3] has observed that "all the large consumers of coffee have a slow pulse, from 40 to 60 beats a minute; a few have gastric oppression, and others have some pyrosis, but they complain only of the head and not of the stomach. Vertigo, tinnitus, blurring of vision, and sensation of falling are the principal symptoms." He has come to the conclusion that in all the cases of stomachal vertigo (the so-called vertigo a stomacho læso of Trousseau) there has been abuse of coffee, and asserts that he has never observed this form of vertigo in those who abstained from its use. In only a few instances that have come under my observation has bradycardia been present. While vertigo has been very commonly complained of, it has rarely been pronounced. Combemale,[4] in reporting a case and discussing the subject of "caféisme chronique," expresses the view that while the caffeone contained in coffee may add to the excitation, like the essences in certain alcoholic preparations, it is the caffeine which produces the "caféisme chronique," just as chronic alcoholism is the result of alcohol.

The essences, such as caffeone and absinthe, etc., give only a special color to the intoxication. This theory, however, has not been definitely substantiated. At any rate, it is at present practically immaterial whether the toxæmia is due to the caffeine or the caffeone contained in the deservedly popular beverage known as coffee.

In the treatment of these patients, I do not recommend in every case immediate and total abstinence. As a general rule, their allowance should at once be limited to one cup of coffee in the morning. If necessary, its strength should be gradually reduced or its use absolutely prohibited. The customary stimulant being suddenly withdrawn, if careful instructions are not given, the patient will soon find a substitute in tea or cocoa, or possibly alcohol. An infusion of cacao-nibs in moderate quantity frequently proves acceptable in place of coffee. There are many preparations on the market under various names, and generally advertised as "substitutes for coffee." They are known to contain parched corn, peas, beans, and corncobs, as well as sweet potatoes cut into small pieces, dried and parched. Chicory is commonly used mixed with true coffee. The manufacturers of more recently vaunted substitutes claim that their special preparations are made of cereals. I have long since refrained from recommending any of them, as their continued use soon leads to disturbance of digestion. While cocoa possesses considerable nutritive value, its principal alkaloid is theobromine, which is almost identical with caffeine in its chemical and physiological effects. With but slight qualifications, the same may be said of tea and its alkaloid theine. Hence the use of cocoa and tea must also be restricted or forbidden. Suitable hydriatric treatment, and careful attention to the diet and excretions, should be systematically carried out. In some cases it may be necessary to institute a "rest cure."

As a sedative to the nervous system, and also temporarily to replace the accustomed stimulation, it has been my routine practice to prescribe the following mixture to be taken in water three times a day. Sodium bromide, gr. xv.; liq. potass. arsenit., ♏ ii.; tinct. gentian. comp., ʒ ss.; ext. kola fld., ♏ xv. At the end of five or six weeks the bromide, etc., should be discontinued, and tonic pills containing arsenic, quinine, and strychnine, or some similar combination taken daily for several months. Under the foregoing plan of treatment, faithfully followed, most of these patients will completely recover within three to six months.

56 East Fifty-eighth Street.

[1] Berl. klin. Woch., October 7, 1889.
[2] Soc. méd. des hôpitaux, 12 Juillet, 1895.
[3] Tribune méd., 1897, p. 928.
[4] Bullet. soc. centr. de méd. du dept. du nord, Lille, 1900, No. 3.

AN IMPROVED METHOD OF PERFORMING SUPRAPUBIC CYSTOTOMY.[1]

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The suggested improvement in the technique of suprapubic cystotomy refers to the detail of drainage. It consists in utilizing for the urinary bladder the principle that has proved so successful in the creation of a permanent gastric fistula—usually known as Kader's operation—which in simplicity of application and effective results must be considered the standard operation of the present day.

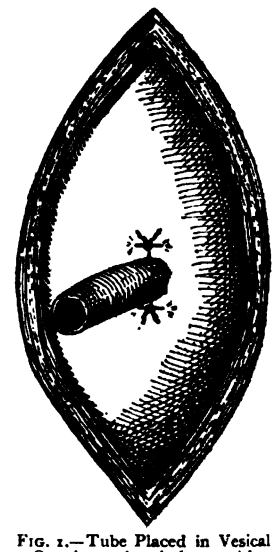

Fig. 1.—Tube Placed in Vesical Opening. A stitch on either side diminishes the size of the cut.

A tube is placed in the stomach opening, and the incision, if necessary, is reduced to a size that permits of a snug fit. A fold of stomach wall is now brought around the tube by passing one or more of Lembert sutures on either side of the tube. These sutures having been tied, a second set is applied in like manner, increasing the depth of the burial of the tube in the stomach wall. A catgut stitch is passed through the stomach wall and the tube, effectually securing the latter in place. The stomach is finally anchored to the peritoneum and abdominal wall.

After some days a permanent sinus is formed. It hugs the tube closely, preventing escape of gastric contents while it is *in situ;* when the tube is removed,

[1] Read before the Section on Genito-Urinary Diseases of the New York Academy of Medicine, October 17, 1900.

it takes on the function of a valve, from the inversion of the cone-shaped area of the stomach wall.

This principle has also been most satisfactorily applied to drainage of the gall bladder. The writer also hopes eventually to report a similar field of usefulness for it in certain procedures on the intestine.

In determining to apply this operation to the urinary bladder, the writer hoped to attain a threefold purpose.

I. Effective drainage of the bladder without leakage.

II. Rapid closure of the fistula on discontinuance of the drainage.

III. The creation of a permanent sinus which should allow of permanent but periodical catheterization of the bladder, and in the intervals, owing to its valve action, prevent escape of urine, and do away with the discomfort of wearing a tube or dressing.

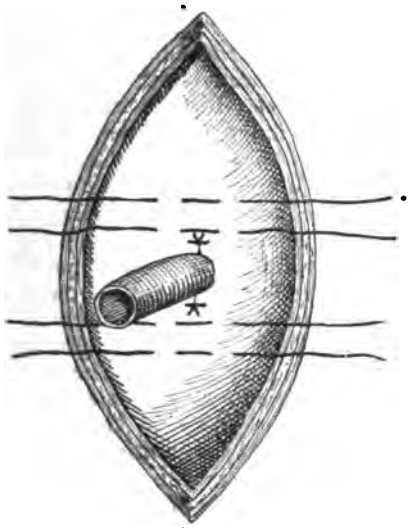

FIG. 2.—The First Row of Inversion Sutures in Place, Ready to be Tied.

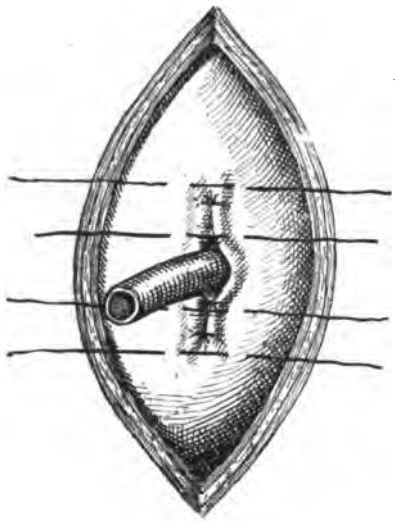

FIG. 3.—The First Row of Inversion Sutures has been Tied; second row in place, ready to be tied.

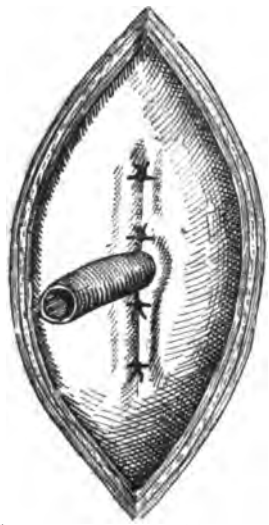

FIG. 4.—Second Row Tied. Operation completed.

There could have been no question about obtaining these results, viewed from the success of the procedure on the other hollow organs mentioned, provided we had the same conditions to work on. The weak point in this operation, when applied to the urinary bladder, is found in the absence of peritoneum, which, owing to its adhesive qualities, is the main element of success in the gastrostomy.

So far as one can speak from a limited number of cases, the first two expectations have been amply justified by practical experience. The drainage secured is absolutely perfect, the wound healing consequently most satisfactory.

Dr. P. R. Bolton, attending surgeon to the New York Hospital, honored me by making trial of this device with most gratifying results. Suprapubic cystotomy for stone in an adult male, and suture of bladder by inversion around the drainage tube, were performed, with absolutely no leakage. On the third day the tube accidentally came out, and remained out some hours; during this time there was no leakage. The tube was removed on the fourth day, and from that time on, not a drop of urine escaped from the opening. The patient was up on the fifth day, and discharged on the seventh. In this case the closure of the bladder might well be called instantaneous.

Since this communication was read, several gentlemen have kindly tried this method, and from their reports to the writer the expectations entertained in regard to perfect drainage without leakage and speedy closure after withdrawal of the tube seem to have been justified. Dr. L. Bolton Bangs reports that he drained a bladder for fourteen days without leakage. On taking out the tube the closure was so prompt that there was only enough escape of urine to moisten slightly the dressing for a day or two.

With regard to the third and most important point the writer hesitates as yet to formulate an opinion, as he has only twice performed the operation and the after-care of these cases passed from his control, so that the test has not been a fair one. He believes that the desired result can be obtained, though probably not without some rather greater elaboration of the present operative technique. Could the fistulous walls be lined with serous membrane there should not be the slightest difficulty in accomplishing the desired result. In one of his operations the writer made a tentative effort to drag the peritoneal reflection farther downward over the bladder, in which case the fistula would have been established through this fold, but the attempt was unsuccessful.

Another possibility that suggested itself was the turning down of a peritoneal flap from the middle line over the bladder. If the resultant defect could be satisfactorily repaired this step might be quite satisfactory.

Undoubtedly the most desirable operation technically would be to reproduce the actual conditions of the gastrostomy, that is, to perform abdominal section, bring the bladder into the wound, and establish the fistula through tissues that insure success. Such a course adds a serious element of danger, and one has to determine the probable value of the results to be obtained as contrasted with the danger incurred.

If other less serious measures fail to accomplish the desired result, the writer feels that he shall eventually resort to this last method. He believes so strongly in the efficacy of the fistula thus established that he considers that if once established it is practically devoid of risk. The chief danger would consist in the possible infection of the abdomen during the manipulations incident to the operation. While realizing his responsibilities in this direction, the writer would be quite ready from his experience in abdominal surgery to accept them with considerable confidence as to the outcome. This opinion is influenced greatly by the writer's belief in the advantages of the operation, which he is inclined to take seriously.

The patient with a successful gastrostomy wears neither dressing nor tube. At appropriate intervals a catheter is passed by himself with perfect ease, and the stomach receives a considerable amount of fluid. On withdrawal of the tube there is no leakage, and none can be produced by any kind of exertion or posture. There can be no doubt, so the writer believes, that this condition, could it be reproduced in the urinary bladder, would be the ideal means of healing permanent obstruction to the urinary outflow which could

not be remedied by simple methods. If this ideal method could be established certainly much comfort could be given to patients who, by virtue of their condition or the danger of radical operations necessary for their relief, are condemned to drag out a most miserable existence.

As performed by the writer this operation consisted in snugly surrounding a tube of suitable calibre (32 F.) by an inverted cone of bladder wall (care being taken to secure a good denudation of the bladder), exactly as has been described for the stomach. The accompanying diagrams show the exact steps. The ends of the second row of sutures are left long, and are carried through the abdominal wall, which is closed

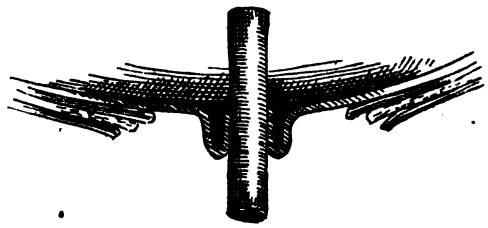

FIG. 5.—Result of Inversion as Seen from the Interior of the Bladder. When the tube is withdrawn, the falling together of the inverted vesical folds acts as an efficient valve.

snugly by sutures through the musculo-aponeurotic layer, only sufficient space being left for the exit of the tube.

The writer has had a special double tube made by Stohlmann, Pfarre & Co., which allows of convenient irrigation of the bladder without any disturbance or interruption of the drainage.

The drainage is effected by leading the tube into a receptacle which does not need to be filled with any fluid. No siphon arrangement, or in fact any other extraneous aid is required to obtain perfect drainage without the slightest leakage alongside of the tube.

In conclusion the writer would beg to say that he offers this procedure as a thoroughly efficient and simple method of drainage, also as the speediest method of securing closure of a fistula. Besides, he hopes by further efforts to give it a recognized position among the measures destined to relieve chronic urinary obstruction.

SOME REMARKS ON THE MODERN SURGICAL AND MEDICAL TREATMENT OF EPILEPSY.[1]

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EPILEPSY is generally held to be a disease of the cerebral cortex. Notwithstanding convulsions may be educed from the basal ganglia and even from the spinal cord itself, such phenomena lack many of the essentials of true epilepsy. Epilepsy is a complex sensorimotor phenomenon, an intricate reflex symptom complex.

The exact balance is not yet struck as regards the relative importance of the immediate excitant in epilepsy and that of the hereditary or acquired predisposition of the disease. However great the immediate provocation of a convulsion may appear in some cases, in the vast majority the far greater rôle is played by the predisposition. Before the problem of how much is due to predisposition is solved, an immense amount of detailed study must be done upon general or cell physiology and cell chemistry, to say nothing of the vast unknown domain that lies beyond in the genesis of psycho-motor phenomena. A great number of able investigators have been working in this fruitful field of general or cell physiology, whose sole pioneer long ago was the master physiologist, Johannus Muller. It is, therefore, evident that to-day's investigations upon the nature of the mental and nervous diseases need to be along all correlated lines of scientific investigation.

The studies by the newer methods upon the epileptic cortex seem to be paving the way, slowly but surely, to the establishment of idiopathic epilepsy in the category of the organic brain lesions, with a demonstrable substratum. During the past four years Dr. Prout and myself have been engaged in the study of status epilepticus. We have carefully examined some forty-five epileptics in about one hundred and fifty different status periods; thirteen selected cases have come to autopsy and have been under careful histopathological study.[1] In these thirteen cases uniform histological changes were found as follows: A degeneration of the nucleus of the second or so-called sensory layer; further, a willingness for the nucleus to suffer extrusion from the nerve cell; a chromatolysis of the whole cortex, especially in the motor region; phagocytosis of the constitutent nervous elements by infiltrating leucocytes, and last of all, in the most progressive cases, a nodular or disseminated sclerosis, new formed under what is usually termed degenerative repair, a proliferation of the neuroglia. The cortical sclerosis was unevenly distributed and was probably the last and permanent set scene of this disease, played in the gray mantle of the epileptic brain.

When we take into account that to jeopardize the cell nucleus is to endanger the life of the cell, that the nucleus presides over cell metabolism and energy, we see how very vital degenerative lesions of this cell element may be to the integrity of the cerebral cortex.

If these lesions should be found to be constant, to what extent would they solve the epilepsy problem? They would prove only that epilepsy is accompanied and followed by a definite organic lesion of a marked and widely degenerative nature. The lesions are probably both a cause and an effect of the disease. We would know that the nervous storm had occurred and left a track of destruction, but our knowledge of the exciter of the storm and the degree of resistance it had met from the tissues would be but little or not at all enriched. While the dawn of light in the domain of the etiopathology of epilepsy enchants but a few votaries, the daily problems of empirical treatment of epilepsy are of interest to all, and demand our close attention and study.

Surgical Treatment.—At the outset of the consideration of the surgical treatment of epilepsy, I wish to re-emphasize the importance of careful medical treatment before and after trephining. Cases treated surgically need to be under the physician's care, except for the time they may be in the operating-room.

The rules which govern the selection of cases for trephining need to be more restrictive than at present conservative medicine demands. If this were done, a much better prognosis for recovery would obtain for the traumatic cases than the present four per cent. From the class of those heretofore supposed to be operable, I would urge that iodiopathic epileptics in whom the seizures have a definite form of invasion be withdrawn. True or essential epilepsy frequently takes the Jacksonian form in point of muscular involvement in seizures. Many traumatics probably owe the focalization of their convulsions as little to trauma as the true idiopathics with Jacksonian convulsions. The brain, as a whole, in such cases is epileptogenic, one zone is only a little more excitable

[1] Read before the Buffalo Academy of Medicine, November 13, 1900.

[1] Abstracts of the clinical and pathological work were presented at the New York Neurological Society October 2d and will soon be published in full.

than another. Much disappointment has been experienced by surgeons operating upon these idiopathics disguised as Jacksonian epilepsy.

In Jacksonian epilepsy with well-marked cranial trauma, when but little or no neurotic family history is present, we may trephine with advantage within two years after the injury and the onset of the epilepsy. In such cases we can expect excellent chances of recovery, providing post-operative treatment is persistently followed. According to the prominence of the convulsive tendency or habit, the time between the establishment of the epilepsy and the performance of a successful operation must be lessened.

I feel that in the vast majority of cases in which cranial injury is not boldly in evidence, the trauma could not have been a material exciter to the epilepsy. Almost all epileptics receive frightful falls, contusions, and lacerations of the scalp in almost daily attacks of their disease, covering a number of years, and yet the finding of intracranial injury, hemorrhage, and contusions of brain substance at autopsy as a result of the epileptic accidents are exceedingly rare.

It is a surprising fact that traumatic epileptics have such neurotic family histories; often they are quite the equal of the idiopathic variety. This fact should not be lost sight of, as it often materially changes the prognosis of ultimate recovery. A neurotic history in Jacksonian epilepsy tends to prove to us that in all epilepsies, from whatever initiative, the predisposition is paramount. An illustration of the neglect to take into account the bad family history in traumatic cases may be cited briefly in one case which came under my notice recently. The patient was trephined for an indefinite history of cranial injury; the surgeon found nothing especially wrong on trephining; the definite order of muscular invasion which largely induced the operation continued after trephining as before, just as it always does after operation on idiopathic epilepsy. To make the prognosis still worse, the patient was allowed to go without special post-operative treatment. The surgeon advised operation without a single inquiry into the family history, which was as follows: The mother died of apoplexy and epileptic convulsions; a paternal uncle died epileptic and insane; one of the patient's sisters died in infantile convulsions; a brother had a laryngeal tic, and the patient himself had infantile convulsions, independent of dentition. This single illustration is but one of many that have come under my own observation.

Many cures by trephining are reported successful too soon after operating; not a few surgeons still report cures by trephining after but a few weeks' or months' freedom from seizures. A few months ago the illustratious Van Gehuchten reported a cure from trephining after the patient had had an immunity from seizures for but five months. He called the cure permanent. The physician has long since learned his lesson in this regard, and now waits at least several years before reporting a cure, and in many instances he joins the extremists and calls all cessations from attacks, remissions, and warns the patient of a possible return of the disease in thirty or forty years.

In advising operation by trephining, we should remember that a fairly large percentage of those trephined are not only not benefited, but are actually made worse by operation. Many of such have been reported recently both in this country and abroad. This seems to be due in part to the formation of cicatrices, adhesions between membrane and cortex, or other irritation of the cerebral cortex. Unfortunately, no known method is yet entirely successful in preventing a re-formation of old adhesions. Kocher frequently reoperates for this condition and post-operative intracranial pressure.

Operating in epilepsy for the relief of intracranial pressure as a primary cause of the convulsions is no longer practised. The extra pressure is a result of the convulsion and not a cause. Notwithstanding this, Kocher, who has done twelve operations in carefully selected cases of late, has secured six radical cures. In addition to other precautions, he arranges for an after cerebral and cranial drainage. It is logical to expect an increase of intracranial pressure after operation, and recent observations and statistics prove the theory. Kocher's results were, nevertheless, best in the cases showing adhesions between the dura and pia, and with him the more radical the interference the better were the results. Probably we can attribute much of his success to the fact that he did not neglect a post-operative bromide treatment, and that he selected cases largely with an absent neurotic history.

Many idiopathic epileptics in whom Jacksonian seizures predominate are proving themselves to-day to be due to infantile cerebral palsies which were previously overlooked. When great atrophy and deformity of the limbs from these cerebral lesions are in evidence, they are detected by the novice, but the most expert frequently fail to detect the slighter symptoms of cerebral palsies in children. The frequent inability to detect these early cerebral lesions led Freud to hazard the statement that a majority of idiopathic epileptics with Jacksonian phenomena have had infantile cerebral palsy once, but years later no symptom of the palsy exists except the epilepsy. I may say, in passing, that careful attention to the reflexes on different days and different times during the same day, and close study of the associated and dissociated movements, will give us valuable aid in diagnosing an early palsy in adult epileptics.

A paresis or a weakening in parts first and most convulsed—a symptom upon which many surgeons advise operation—should lead us to try to exclude infantile cerebral palsy first. It was in just such cases that exhaustion paralysis or paresis was first observed nearly a century ago. It is needless for me to say that trephining in the infantile cerebral palsy epileptics can do no good.

In regard to the operation of trephining itself, it is generally conceded that large patent openings should be made in trephining, no attempt being made to secure any bony occlusion; this should be done both for the thoroughness of operation and largely to prevent a possible increase of intracranial pressure and meningeal adhesions. The large openings are also advantageous in focalizing the area wanted, as we must make allowance for individual variation in motor areas. The individual variation in one of my cases, recently under operation, required two large trephinings to strike the area wanted, although Ferrier's charts were used.

As to tumors producing Jacksonian epilepsy, present-day statistics show that but two per cent. of them are ever operable even for the relief of other possibly more dangerous symptoms.

To summarize the present status of trephining:

1. Idiopathic epileptics with typical grand-mal seizures should never be trephined.

2. Idiopathics in whom seizures are of the Jacksonian type should be trephined only when infantile cerebral palsies can be excluded, and when the family and personal degeneracy is at a minimum; if operation is determined upon in such cases, a very thorough removal of the epileptogenic area should be made; even then but a fraction of one per cent. recover from their epilepsy.

3. Traumatic epileptics may be trephined when the injury is definitely proven and stands in direct causal relation and has existed not more than two years. The prognosis will then largely rest upon the degree of the neurotic predisposition present. The earlier

trephin...g is resorted to after convulsions begin, the better the prognosis.

If these rules are followed, many less so-called traumatic cases will be trephined, but the result will far exceed four per cent. of recoveries. All epileptics trephined for whatever cause must be given post-operative bromide treatment for years.

Medical Treatment.—It probably will not be necessary for me to say that the perfunctory administration of any specific for the cure of epilepsy is no longer considered good practice. The entire living regimen of each patient must be specified, including vegetative, hygienic, and psychic life. All disordered functional processes of the body must be corrected, and internal and external cleanliness must be maintained. The work, education, and play of the epileptic are legitimate tools for regulating his disease. In short, the whole life of the epileptic must be re-established; the broader, the more comprehensive, and the more detailed the regulations shall be, the greater will be the success with the individual case. Many epileptics are life-long martyrs to their disease, and they bespeak our kindest patience while learning the new life of self-denial.

It is not the single drug, nor any of its possible combinations; it is not the dietary alone, nor is it the out-of-door country life that may be prescribed for the epileptic, but it is the combination of them all, unremittingly carried out for years, that ameliorates the epileptic state.

Without doubt, the greatest single drug in the treatments of epilepsy is some bromide salt, and in this short paper I shall largely confine myself to remarks on this drug. There are a number of different drugs used in combination with the bromides, which have received favorable report of late, but I feel that in most instances the potent agent is the bromide, and its action is often confused by using other drugs in combination. If they are used at all, I believe they should be administered separately; and indefinite and ineffectual compounds should be discouraged, as has been done elsewhere in general medicine.

Since the introduction of the bromide salts in 1851 by Locock and McDonnell, their use in the treatment of epilepsy has had a varying fortune. Some maintain that they should be used only after all other remedies have been tried, and others claim that they are really the only remedies we have for the disease. Between these two extremes of opinion we have varying views. Undoubtedly the perfunctory administration of bromides has been productive of great harm. The train of their evil effects is too well known for me to detail them; instead, I purpose to give some personal experience with the bromide salts.

It is unfortunate that epileptics and their relatives expect physicians to give medicines at once which will lessen the frequency and severity of the spasms, because not enough attention can be paid to a careful case study of the digestive tract and its tolerance of the bromides. If the patients are anæmic and in poor physique, they must be built up while bromides are administered. Iron tonics and cod-liver oil should be given to epileptics, either to correct existing malnutrition or forestall the sedative effects of the bromides. In this adjuvant treatment, a peptonized manganese of iron and hydroleine are very good. I hold the giving of tonics in addition to the bromides as important as the diet and the general living regimen. The bromides should be given as early in the disease as possible. I use the well-known bromide formula; made with simple elixir, it contains grs. v. each of potassium, sodium, and ammonium bromide to the teasponful. This preparation is given because it is palatable and contains the dynamical effects of grs. xv. of bromide to the drachm, an easy and convenient unit to work upon in further bromide treatment. The patient should begin on one drachm a day at the outset, given night or morning according to whichever end of the day the seizures occur most frequently. This should be kept up three or four days, until the sedative power of the single dose can be determined, and then successive drachms may be added as thought necessary, until the seizures cease or 480 grs. or ℥ i. of the salt is taken. The giving of bromides of late has been in too small doses; the amount should be sufficient to stop the seizures, or it is better not to give the bromides at all. The same care and attention should be exercised in giving bromides as though in the different cases we were handling a new drug each time.

Every possible precaution toward the prevention of bromide intoxication must be taken. Unless we are prepared to give our patient every attention, bromides should never be given; their false or careless administration is disastrous to the patient. The epileptic organism must be kept in the highest possible functionating state. Hot and cold baths, massage, and electricity should be given. If the patient has a good physique, a prolonged hot bath each week should be given on retiring as a general sedative and to promote diaphoresis. Patients taking bromides should take a cold shower bath and a friction rub every morning on rising. I regard these cold baths in the morning as vital to the maintenance of the peripheral circulation when bromism presents its index.

The bowels must be watched, the diet must be prescribed; high rectal saline douches should be given once or twice each week. The mouth must be kept scrupulously clean; internal antiseptics should be given constantly to some, and to others at stated intervals. If the face shows the bromism, cloths wrung out of hot water may be applied to the face to relax the tissues and aid the circulation in re-establishing glandular activity. This skin treatment should be followed nightly for fifteen to twenty minutes; the last moist-heat application should be a hot saturated solution of boracic acid, and finally massage and sulphur or zinc ointment should be applied to the acne (a careful soaping of the face before moist heat is applied is often necessary). Acne in the pustular stage should be opened before moist-heat treatment is used. I have never seen a case of acute or chronic bromism of the skin which would not, to a great extent, yield to this treatment, when the other factors in bodily hygiene were faithfully looked after. I regard it as absurd to look to Fowler's solution of arsenic to remove any great amount of bromide intoxication.

If chronic bromism appears, small repeated doses of saline cathartics should be given every other night for a week; milk and vegetable diet instituted; Russian or cabinet baths ordered, followed by diaphoretics and twenty-four to thirty-six hours in bed. If this does not lessen the bromism, we should gradually reduce the bromides, or they may be entirely withdrawn for two or three days under close watch for paroxysmal syncope.[1] Usually no attacks will occur in a bromized epileptic if but three or four days' freedom from bromides be permitted.

Once the seizures having been stopped by large doses of bromide, the work in treating the epilepsy has only begun. The high dosage must be maintained for as long a time as possible without intoxication. Only so much bromide is effective as the tissues will absorb and hold. The longer time the dosage can be maintained without bromism the better. Usually the patient is left to himself as soon as the high dosage has

[1] The seizures or evidence of returning epilepsy after bromide treatment, are peculiar in so far as their first indication or manifestation is a form of syncope or simple loss of consciousness, resembling cardiac syncope more than the absences or vertigos of petit-mal epilepsies.

stopped the convulsions. The patient and relatives (only too often the physician) reason: the seizures have ceased, the medicines have been adjusted, and the laws of hygiene need not be so strictly enforced. From such laxity in treatment we can expect bromide intoxication to follow swiftly. The seizures are sure to occur more frequently than before, the toxicity seeming to aid the frequency of seizures once reassumed.

The medical attendant may only realize his mistake when he learns that the patient had changed physicians and the bromides had been stopped. Cases in which the care of administering bromide is neglected, form by far the greater part of those said to stand the bromides poorly. While establishing the high dosage for any particular case, the physician should see the patient two or three times each week; every day is better. At the end of a month or six weeks, after the individual regimen is thoroughly established, the patient may go two or three months without a consultation. Of late, when cases will not stand the bromide salts in high dosage, because of the resultant toxicity developed, I give a ten-per-cent. solution of bromine made up with oleum sesami. This formula is known as bromipin. This emulsion of bromine I have found both highly nutritive and sedative.

Emulsion of bromine:

℞ Gum. acaciæ gran ..... ʒ vi.
Olei sesami ..... ʒ viij.
Syr. simplicis ..... ʒ ij.
Aquæ ..... ʒ vi.
Ol. gaultheriæ ..... ♏ lx.
M. fiat emulsio. Adde:
Bromi puri ..... gr. dcccclx.
S. ʒ ss. night and morning, increasing as directed.

Or it may be combined in the emulsion with potassium bromide in order that the pure bromine will not be lost by fuming, the vegetable oil being substituted by cod-liver oil.

Emulsion of bromine, modified:

℞ Gum. acaciæ gran ..... ʒ ij.
Ol. morrhuæ ..... ʒ viij.
Syr. simplic ..... ʒ ij.
Aquæ ..... ʒ vi.
Ol. gaultheriæ ..... ♏ lx.
M. ft. emulsio. Adde:
Bromi puri ..... gr. dcccclx.
Potass. bromidi ..... gr. cccclxxx.
S. ʒ ss. night and morning, and increase as directed.

Bromine given in this manner is less irritating to the intestinal tract, and is not constipating, is markedly less toxic, and seems to be much more lasting in its effects. It should be given a more extensive trial, especially when the single or polybromic mixture fails. In making the bromine preparation, the druggist needs to be quick in adding the bromine to prevent loss from fuming. In giving bromine we should consider gr. ii. by weight of bromine as equal to gr. i. of bromide salts from a therapeutic standpoint. Not infrequently after the bromide dosage has been adjusted to the seizure level, epileptics will suddenly surprise the physician by having two or three seizures just as the second phase of treatment is begun. The explanation is simply this: The patient from being a passive agent, from living a sedentary life, is suddenly placed on active out-of-door life, for the establishment of a real and permanent cure if possible. The patient's bodily activity increases the elimination of waste products, and the bromide salts are also eliminated more rapidly, consequently the seizures recur. Therefore we should add gr. xv.–xxx. to the dose in changing the patient from a sedentary to an active out-of-door life, and then readjust again as necessary. These large doses of bromides should be continued for several weeks after the seizures stop; then week by week the bromides should be reduced gr. xv. per week until the seizure level is regained, and that dosage allowed to remain to suppress the convulsions. Then, and not until then, can we consider our patient free from the active phase of his treatment. Arrangements may now be made for daily exercise, schooling, manual training, and other occupations of life, preferably in the country and at agricultural pursuits. Physical activity, at least several hours daily, should be prescribed and carried out faithfully.

Some illustrative cases, under high dosage of bromides, may be cited here. The cases were either those that had not been helped by other medication, or those in which bromides could not be given to the point of desired therapeutic effect, without a rapid and dangerous toxicity developing. The precautions in giving the bromides enumerated in this paper had never before been undertaken.

Case I.—Girl, seventeen years old; idiopathic epileptic; ordinary bromide medication had been often tried, but did not influence the seizures. She had on an average two hundred and fifty grand-mal and petit-mal attacks per month. Bromides were given according to the methods stated in this paper. The seizures were not modified until gr. cc. daily were taken; they then occurred forty times per month; the next month on gr. ccc. they numbered but four attacks, and under ʒ i. daily the attacks ceased altogether. The patient has had only five slight losses of consciousness for the last eighteen months. She is now taking ʒ ss. daily, and is in excellent bodily and mental health, has grown six inches taller in two years, and gained fifteen pounds in weight; although bromides are counted unhygienic, the seizures in this case must have been very detrimental to growth and development. Menstruation has now become regular for the first time since the epilepsy began at fourteen years of age.

Case II.—Traumatic epileptic; trephined. Epilepsy continued and all drugs, including ordinary doses of bromides, failed. Patient had twelve to fourteen grand-mal seizures per month. Bromides were gradually given until gr. cclxxx. per day were taken. The seizures ceased entirely, and have not shown themselves for six months. The patient is improving mentally and physically, is practically a new man. He takes gr. cxx. daily and shows absolutely no bromide intoxication, not even a facial acne.

Case III.—Man, twenty-six years old; an idiopathic epileptic with psychical seizures consisting of but momentary losses of consciousness, never in convulsions. Epileptic for twenty years; had never found a remedy that could affect the regular periodicity of the psychical series until placed on bromides in high dosage. He is now on gr. clx. daily, and has had no attacks whatever for over four months. There has been a very remarkable improvement physically and mentally; slight facial acne and general bromic toxicity occurred two or three times, but were easily corrected by care. No one would know by his facial or general appearance that this patient had ever taken or was now taking bromides.

I have reserved to the last to speak of what I regard as without doubt the greatest adjuvant to the bromides discovered in recent years. It is a method I am now using successfully on several epileptic patients, and which is known technically as hypochlorization or salt starvation. This method was brought forward by Toulouse last year, who reported a series of very successful trials, and more recently several continental physicians have reported favorably. Its rationale is simply that bromine can substitute chlorine in the tissues. Experiments upon dogs and cats, fed for ten days upon bromine, showed that more bromine could be procured from their remains than chlorine. In the kidneys and bone marrow, the proportion was two to one. Bromine is not a foreign substance, but a true

mineral constituent of the body; when discontinued it is replaced by alimentary chlorine, and requires about four months for its complete elimination. It is, therefore, evident that bromine may partly replace chlorine chemically and physiologically as well. Experiments upon animals show that in the gastric juice the chlorhydric acid is replaced by bromhydric acid. Thus it is seen that we have a good basis for the clinical fact that, when an epileptic is under salt starvation, the bromides are more greedily absorbed in the tissues. We can at once see how very important this method is in the treatment of epilepsy. Having established the fact theoretically, how can we carry it into practical effect? Nearly all epileptics are very fond of salt, and eat large quantities of it; I know of several patients who formerly consumed two ounces Troy per day, before the hypochlorization treatment. It is difficult to get many of them to undergo voluntary deprivation of salt, therefore a semi-starvation of salt is about all that can be expected from them. One of the best and easiest ways of carrying out this adjuvant of the bromides is the establishment of a milk diet with occasional removal to a mild salt diet. For a long time it has been known that milk is the epileptic diet par excellence, and assists in lessening the formation of toxalbumins in the alimentary tract; but a part of its value lies in the salt deprivation. To aid the carrying out of the salt-starvation treatment, I have modified Toulouse's daily dietary, so as to give the following:

Breakfast: Milk, one pint.

Lunch: Two soft-boiled eggs, farina, milk and sugar, coffee; or muffins made of eggs, farina, milk, and sugar, and coffee.

Dinner: Bouillon unsalted or chicken broth with a little rice; boiled beef unsalted or roast beef unsalted; potatoes.

Supper: Porridge made with farina, sugar, boiling milk; or milk and rice.

Gr. xx.–xxx. of table salt should be given the patient daily to use on food as desired, as this is the essential physiological amount to maintain health.

By this method we can reduce the usual amount of bromides one-half, and still get the same therapeutic result; again, we lessen the chance of bromide poisoning one-half. The economy of this method is obvious both in epilepsy and other diseases in which sedation is needed over a long period of time; sufficient has been proven from a clinical point to warrant us in giving this method extended trial in connection with the bromide treatment in epilepsy.

In conclusion I would summarize the present-day medical treatment by the bromides:

1. By a combination of diet, regular occupation, and personal hygiene, the bromides give the best results in treating idiopathic epilepsy.

2. The bromides, singly or combined, still remain our chief sedative for the epileptic state—in the young epileptic, to secure a possible entire suppression of attacks and ultimate cure of the disease; in the adult, an amelioration of frequent paroxysms and comparative physical and mental comfort.

3. The bromides to be effective in chronic and long-standing cases must be given in large daily doses to suppress convulsions, from gr. ccc.–cd. if necessary. They should be given gradually to find the sedative level, at which level it is the physician's principal duty to maintain them with physical and mental comfort to his patient.

4. Hot and cold baths, high enemas, alimentary antisepsis, and massage are absolutely essential to successful bromide medication.

5. Bromine is a worthy substitute for the bromides in many cases in which the latter are contraindicated or cannot be given in high dosage.

6. Salt starvation or semi-salt starvation is a great adjuvant to the bromide treatment, and should be thoroughly tried in all cases in which bromides or bromine are apparently contraindicated before they are discarded.

REPORT OF A CASE OF PRIMARY GLIOMA OF THE OPTIC NERVE.[1]

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History.—The patient was a girl baby two and one-half years of age, apparently healthy and well nourished. There was no family history of malignant growths, and, so far as could be made out, no specific history. The right eye began to "turn in" a few months after birth, and exophthalmus began about one year later and increased gradually until the lids could not be closed over the globe. At the time of operation the eye was turned strongly inward and upward so that the cornea was half covered by the internal canthus. There had been but little if any pain. The child was under observation for several months, and when first seen nothing could be felt in the orbit at any point, even with the patient under an anæsthetic. Pressure upon the globe directly backward met with resistance. The child appeared to have but little if any vision. The pupil appeared normal in size, but reacted sluggishly. The fundus showed the remnants of an old papillitis. The eye could be turned almost to the median line outward, but scarcely at all downward. One week before operation upon palpating the orbit I felt a small resistant body the size of the end of the little finger on the temporal side of the globe.

Diagnosis.—As the tumor had grown very slowly and there had been no pain, it was thought to be benign, to be within the muscle funnel and pressing upon the nerve.

Operation.—The patient was sent to the California Eye and Ear Hospital, where I operated with the assistance of Dr. L. C. Deane and in the presence of Dr. Callandreau, the family physician, Dr. Hulen, Dr. Schloss, and Dr. Cohen. The external canthus was laid open widely and an attempt made to dissect out the tumor and leave the eye. This was impossible, however, as the resistant body I had felt was found to be the nerve turned out in the form of a loop (as shown in Fig. 1), and as the sheath was followed back it was found to enclose the tumor, which lay across the middle of the orbit. More or less of the side and back of the tumor were bound by connective tissue to the posterior nasal wall of the orbit, and the nerve seemed pinched off at the foramen. The patient made a good recovery, and since the operation seven months ago has been in excellent health.

The Tumor.—As shown in Fig. 1, the tumor is confined within the sheath of the optic nerve and has been removed close to the optic foramen. Microscopical section shows the nerve tissue to be entirely destroyed and its place taken by the glia cells (as appears in Fig. 2). These facts strongly suggest that some of the cells may have passed into the nerve within the cranium. This is also the opinion entertained by the pathologists who have made sections of this tumor, Drs. Pillsbury, Montgomery, and Canny; they also agree in regarding the tumor as a pure glioma of the nerve.

Prognosis.—What prognosis are we to give this patient? Is such a neoplasm, springing from the neuroglia of the nerve, benign or malignant?

[1] Read before the San Francisco Society of Eye, Ear, Nose and Throat Surgeons, June 21, 1900.

As these cases are rare, not many of us can base a prognosis on their personal experience and observation, but must go to the literature upon the subject. Here one finds a great amount of confusion and conflicting opinion, as the question is considered by the general pathologist or the ophthalmologist.

In order that we may better understand the question presented, it might be well to make the following general statements:

First. Let us understand from the outset that by the term malignant is meant "a constant tendency to local relapse and to the development of metastases."

Second. In the generally accepted classification of tumors but two forms are malignant, the sarcoma and the carcinoma.

Third. As to the special classification of optic-nerve growths the following is the clearest:

(*a*) Those springing from the dural sheath are sarcomata.

(*b*) Those springing from the pial sheath are endotheliomata.

(*c*) Those springing from the neuroglia are gliomata.

It will be seen in both the general and special classification that true glioma is indicated to be a benign tumor. There is but one exception to this rule, viz., glioma of the retina, which is very malignant.

Taking, then, the subject of glioma of the optic nerve and looking into the literature upon the subject we find that Stengel regards glioma of other parts than the retina as essentially benign, and says it is dangerous mainly on account of the pressure it exerts, after the manner of a fibroma; that sarcomatous transformation is exceedingly rare. In his "Maladies des Yeux" Meyer states that tumors of the optic nerve are rare, but he considers three principal forms: myxoma, glioma, and glio-sarcoma. He considers the first two benign. Charles K. Mills, in his "Diseases of the Nervous System," says gliomata develop from the neuroglia of the brain tissue, while the majority of brain neoplasms originate in the membranes, vessels, and glands. The hard varieties are closely allied to fibromata. According to the preponderance of their

FIG. 1.

constituent tissues, sarcomata are classified as fibro-sarcoma, glio-sarcoma, etc. Here again glioma is implied to be benign and to be malignant only when sarcomatous tissue is present. J. Schobl, in his article in Norris and Oliver's system, states that primary tumors of the optic nerve are extraordinarily rare; but nothing is said about the prognosis of such cases, nor about how they are to be regarded. It would appear, however, that not many primary gliomata of the optic nerve have been reported. In *The Lancet* of October, 1898, Buller and Marshall report a case of glioma of the optic nerve. They collected one hundred and thirty cases of optic-nerve growths. Although they favored classing all such growths as malignant, in not one of the cases reported was there a local relapse or the development of metastases. Hence it would appear that this is an incorrect position to take. Virchow says diffuse hyperplasia of the neuroglia produces hypertrophy of the organs concerned, while circumscribed hyperplasia forms gliomata.

Neuroglia is found in the brain, medulla, retina, acoustic and other cranial nerves, and the suprarenal glands. Gliomata are found wherever neuroglia is present normally, and it appears from the authorities

FIG. 2.

quoted that it is a benign tumor, except when found in the retina.

From both the general and special classifications of tumors one finds that when they spring from the sheaths of the optic nerve they are likely to be malignant, while those springing from the neuroglia should be classed as benign.

It would appear, then, that true glioma, in all other parts than the retina, is essentially benign, in the opinion of nearly all pathologists, and that primary glioma of the optic nerve, springing from the neuroglia as it does, should be regarded in the same light as glioma affecting the brain, cord, and cranial nerves, where it is conceded to be a benign tumor, *i.e.*, a circumscribed hyperplasia of the neuroglia. It is to be considered dangerous only on account of the pressure it exerts.

I find two opinions, however, which imply that such growth of the optic nerve might be considered malignant, viz.: Senn says that sarcoma of the neuroglia of the central nervous system is called glioma—it is the most frequent of all brain tumors, is very vascular—a soft tumor with slow growth, and with a more benign course than sarcoma. This is an exceedingly general statement by Senn and a classification peculiarly his own.

In speaking generally of orbital growths, Knapp says tumors of moderate malignancy, fibro-sarcoma and epithelioma, also those of great malignancy, as glioma and small round-celled sarcoma, furnish a justifiable indication for the removal of all contents of the socket. This statement also is a very general one, and though he implies that primary glioma of the optic nerve is to be classed as malignant, I believe the statement is intended to cover such gliomata as extend from the retina.

Our case, then—a primary glioma of the optic nerve—would seem to carry a good prognosis. If the tumor is of the nature of a fibroma, as seems conceded, it is probable that the few cells which may remain within the sheath of the nerve beyond the optic foramen may undergo degeneration and absorption, as the small remnant of any other benign tumor would, under like

circumstances. In the light of the foregoing opinions the tumor is certainly not to be considered as a truly malignant one.

Discussion.—In the discussion which followed the reading of this paper Dr. V. H. Hulen said he had seen the patient before the operation, and, considering the nature of the tumor and its occurring in a child, he believed the prognosis absolutely bad; that probably within a short time, perhaps a year or two, it would prove fatal. He had seen a number of such specimens, but the one presented was the finest one. He wished to know how it was mounted.

Dr. L. C. Deane, who was present at the operation, considered the case an exceedingly unusual one, and wished to say that in the description the writer had failed to mention that when reaching back to divide the nerve he had found it already parted, as he has said, pinched off at the foramen. This being the case, Dr. Deane believed the tumor cells must have extended into the cranial cavity and that we probably must expect a future development in the brain.

Dr. Robert D. Cohen, on the contrary, believed that in the absence of personal experience in a case so rare as the one shown, we should be guided in forming a prognosis only by those who have had such experience, and in this light he believed that the writer was correct in refusing to consider the prognosis entirely unfavorable. The fact that, clinically, retinal glioma is a malignant growth, whereas, according to the majority of reports, primary glioma of the optic nerve is benign, corresponds to the well-recognized fact that histologically the two types are dissimilar. As to the benign character of optic-nerve growths in general he referred to Vossius, of Giessen, who goes so far as to say that recurrence is rare even after incomplete extirpation.

Dr. Hulen considered, however, that although the data and opinions submitted by the writer raised several questions, the prognosis must necessarily be considered bad, if we are to judge from the description given that some part of the growth had extended into the cranial cavity.

The writer, however, believes that, as these tumors are exceedingly rare, we must base our opinions upon the experience of those who have seen such cases. According to the classification of pathologists, this tumor, springing from the neuroglia of the nerve as it does, is to be classed as a pure glioma. It should, then, be regarded in the same light as glioma affecting the brain, cord, and cranial nerves, where it is conceded to be a benign tumor, more of a fibroma type than of a malignant type. Considering the opinions presented, the tumor certainly did not impress him as a malignant one, and though of course it might possibly continue to enlarge within the cranium, he did not believe it would do so in more than a circumscribed manner.

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Dr. R. Harvey Reed, formerly of Columbus, Ohio, has been elected a member of the Montana State Legislature.

THE CHOICE OF SUTURE FOR THE PATELLA.

By EDWIN M. COX, M.D.,
New York.

The consensus of opinion among surgeons of the present day is that the best treatment for fracture of the patella is by operation and suture, but in expressing this opinion the reservation is usually made that other forms of treatment involve a smaller proportion of accidents of all kinds, unless the operator is one who is thoroughly accustomed to the routine practice of aseptic precautions, and is able to command practically perfect facilities for operative work. There are some differences of opinion as to the details of the operation, such as regard the method of washing out the joint, but the majority of writers agree in recommending the use of silver wire for suture material in the fractured bone. While some of the arguments advanced in favor of this suture are no doubt valid, certain others, it seems to me, are founded on fallacious views. It is certainly true that silver wire is strong and easily made sterile, and that properly placed in the fractured patella it will hold the fragments together, and it is also true that many cases have been operated upon with good results after the use of this kind of suture. However, the entire non-absorbability of the wire is a decided objection to its use, and in spite of the fact that many patients have been thus operated upon and are now carrying the wire without any evidences of irritation, we cannot possibly be certain that all will continue to do so indefinitely, and until we are certain that no patient will need to have the sutures removed and possibly a scraping operation done for localized caries, we must admit that the principle of using silver wire is defective, though the practice is apparently attended with much success. The fragments in an average case of fracture of the patella do not require to be held together with great firmness, and a forcible tying of metallic sutures to some extent defeats its own purpose. Those who recommend that wire sutures in this bone be drawn tight, twisted, thus increasing the tension, and the ends then hammered down, seem to consider that living bone behaves like an inanimate solid substance and can be treated much as a carpenter would treat a block of hard wood. This is a decidedly fallacious view, for living bone is an exceedingly vascular structure, and needs a large amount of blood for its physiological functions, which, when disturbed, speedily show pathological effects in the bone. A wire suture drawn tight in bone can cause a local pressure necrosis and absorption until the tension is relieved just as certainly as in soft tissues, and the well-known promptness with which tight sutures of all kinds cut through soft tissues needs no comment. It is a mistake to suppose that great tension is required to hold a fractured patella properly in place, because when once the fragments are in position and the splint is carefully applied, the fragments will not be pulled apart by the quadriceps extensor, which is not acting at all unless voluntary efforts are made to raise the foot, and these efforts need not occur. Silver wire is objectionable in the patella, as elsewhere in the body, because it is non-absorbable and may cause trouble; because it induces the operator to exert undue tension when the sutures are tied, and causes him to rely too much on mere strength in the suture; and because absorbable sutures are available, to which these objections are not applicable. The idea of the operation of suturing the patella should be to hold the fragments in apposition until natural processes of healing can begin, and also to prevent displacement when the dressing is applied at the operation. Movements, violent enough to break a good catgut suture, should not be allowed to

occur after the suturing has been done. At the end of twelve or fourteen days, when the first change of dressing is usually made and moderate lateral massage begun, there is practically no danger of separating the fragments so long as flexion is avoided and the leg is supported at the heel. The three following cases, one of them previously reported among several others,[1] will illustrate the results after the use of catgut sutures, in the first of which the material was prepared by the ether-alcohol-bichloride-of-mercury method, and in the others by the formalin method.

CASE I.—Boy, aged about fifteen years, fell five stories and apparently struck on one knee. He was brought to Roosevelt Hospital with a compound comminuted fracture of one patella, a simple fracture of the femur on the same side, and a simple fracture of the tibia and fibula on the other side. There were no other injuries; the general condition was good. I operated the same evening, opened the knee joint by a free transverse incision, washed it out with hot surgical salt solution, removed several fragments of the shattered patella, and sutured those remaining, with moderately heavy catgut. The plaster-of-Paris dressing was removed at the end of two weeks, and very moderate massage begun, laterally. Recovery was uninterrupted, and at the end of nine months, at which time the patient was seen for the last time, the movements and functions of the knee joint were normal and perfect in every particular. Callus had almost obliterated any palpable traces of fracture in the patella. This boy had walked out of the hospital at the end of ten weeks.

CASE II.—A priest, aged thirty-eight years, was brought to St. Francis Hospital on June 20, 1899. Six days previously he had sustained a simple transverse fracture of the left patella in the usual way by indirect violence. The joint was much distended. I operated the next day by transverse incision, and cleared the joint of the clots with the usual hot salt solution. The cleanly divided fragments were united by two formalin-catgut sutures of moderate size, used double. The flap of the aponeurosis covering the front of the bone had fallen between the fragments and was so tightly adherent to the fractured surface of the upper one that it had to be scraped off. The plaster-of-Paris dressing was changed in two weeks and very moderate lateral massage commenced. This was from time to time increased in extent and variety in spite of the timidity of the patient, and improvement progressed rapidly. He was last seen fourteen months after operation, when his joint was found absolutely normal in every respect. A slight notch can be felt in one edge of the patella; otherwise it is exactly like its fellow.

CASE III.—Woman, aged about thirty years. Operated upon by me at St. Francis Hospital June 21, 1899, for simple fracture of the patella sustained four days before. The conditions were almost exactly those of the previous case, and the treatment was exactly the same. Recovery was even more prompt than in Case II. and at the end of eight weeks she walked home and returned only once or twice to exhibit herself. When last seen, about twelve weeks after operation, the functions and movements of the joint were almost perfect, and the patella, as far as palpation showed, was as if it had never been fractured.

These cases are only illustrative and naturally have not the value of a large amount of statistical evidence, but such results certainly show that the absorbable suture can be used successfully for holding the fragments of a broken patella, and it can hardly be denied that, other things being equal, an absorbable suture has advantages over one which is metallic. On these cases the catgut used was not hardened in any way in order to delay absorption, and such a precaution does not seem necessary, though there would be no objection to its employment. A matter of great importance is the application of the plaster-of-Paris splint during the first few weeks, so that moderate pressure shall be exerted above the patella. During the changing of the dressing great care should be exercised to prevent accidental strains reaching the sutured bone. It is best to support the leg from the heel, and to make the patient keep his body quiet at the time when the dressing is being done.

[1] Annals of Surgery, December, 1895.

Two Cases of Hysterical Hiccough Cured by Etherization.—Alfred Poastena describes two cases, the first that of a young married woman of neurotic taint and history, who had hiccoughed for three months as a result of a mental shock. None of the usual remedies having given relief, the writer gave the patient ether for about three minutes, which brought about a complete cure. The second patient was a young girl, also of neurotic family and personal history, who had hiccoughed for twenty days. Etherization caused an immediate cure. The writer believes the result to be due, not to suggestion, but to the action of the ether, which removes the brain from the influence of a fixed idea.—*Gl' Incurabile*, October 1 and 15, 1900.

The Treatment of Phagedæna.—C. F. Marshall gives a résumé of three cases reported in *La France Médicale*, April 14, 1899, by Jullien, who pins his faith on injections of calomel. In the first two cases the condition became worse after the calomel injections; in the third case a cure took place, but probably occurred in spite of the treatment. Marshall urges that mercury is a dangerous remedy to use in all conditions of phagedæna. He believes that as in these cases there is a secondary local infection caused by pyogenic cocci, this ought to be treated primarily, mercury being held in reserve till after the sore has healed, and used even then only in case of the appearance of secondary syphilis. The treatment, then, must consist first in the energetic local disinfection of the sore, which is best attained by the warm antiseptic bath. The writer prefers iodine in the form of a glycerin solution of iodine in iodide of sodium. The strength should be about 1:5,000. In the intervals between the baths the sore should be powdered with some non-irritating powder, such as airol or calomel and zinc. The local treatment must be combined with good feeding, port wine or burgundy, and tonics such as quinine. To treat a case of phagedæna with large doses of mercury is simply to add another poison to the system. The primary affection is essentially pyogenic and not syphilitic, though such sores usually occur in connection with syphilis.—*Treatment*, November, 1900.

The Mortality and Morbidity of Physicians.—Alfred Moeglich has collected a series of statistics which give results sufficiently discouraging to the medical practitioner who aspires to reach the scriptural age of threescore and ten. Of all the professions, medicine offers its devotees the least promise of a ripe old age; the average time of death varying from fifty-two to fifty-six years, according to different authorities; while for the clergy, for example, it is ten years later. The combination of pedagogy with medicine appears to be particularly fatal, for one set of figures in which the normal death rate is represented by 100 gives 111 as the factor for physicians, and 113.8 for medical instructors. Of the causes of death infectious diseases rank highest and, among these, typhoid fever occupies so prominent a place as almost to entitle it to char-

acterization as an occupation disease. Tuberculosis comes next, the death rate from this cause among physicians being almost double that of the clergy. Altogether it is rather a melancholy fact to realize that the men whose life work it is to teach others how to keep their health or to regain it if lost, should themselves be unable to profit by their own knowledge and should be so completely at the mercy of the great bodily and mental stress to which their calling subjects them.—*Deutsche Aerzte-Zeitung*, November 15, 1900.

Reptilian Delusions.—W. v. Bechterew describes several instances in which the patient was possessed of the singular delusion of having swallowed some reptile which had taken up a permanent habitation in his interior and was causing its host unbearable pain and anxiety through its movements. When the parasite in question is supposed to be a snake the usual theory is that the patient, who is most often of the lower classes, swallowed the animal while asleep out of doors, the details of the awakening with the sensation of the descent of the cold clammy body being given with graphic distinctness. When the invader is thought to be a frog or lizard the explanation is more simple, for it is a matter of common belief among country folk that the spawn of these animals, swallowed in the drinking-water, undergoes its cycle of development in the stomach, and is sometimes even secretly administered in this way with malicious intent. The bearer of such an amphibian invader complains of the pain and disturbance its movements produce, or of its gnawing away at his vitals, or even annoying him by the emission of characteristic croaks or hissings at untoward moments. The delusion rests on the unconscious exaggeration of normal or slightly increased gastric sensations in predisposed persons of hysterical temperament.—*Centralblatt f. Nervenheilkunde und Psychiatrie*, November 19, 1900.

The Use and Place of Caustics in the Treatment of Malignant Diseases.—S. B. McGavran believes that caustics should not be used in the treatment of cancer of the breast, uterus, tongue, tonsils, eyelids, orbit, penis, scrotum, and rectum. Cancer of the lip should be treated by early excision. But epithelial cancer of the nose, cheek, forehead, and neck can be cured by the timely use of caustic agents judiciously and properly applied. Weak caustics, as nitrate of silver and mineral acids, should never be employed. Caustic potash, cloride of zinc, and arsenious acid are the three agents that have given the best results. Cases must be treated energetically. During the application of the caustic a hypodermic of morphine should be given every five or six hours if there is much pain. Some patients say the treatment is painless.—*The Columbus Medical Journal*, November, 1900.

The Action on Heart and Respiration of the Distillate from Tea and Coffee.—C. Binz made numerous experiments on a healthy adult and on dogs, and finds that the stimulating properties of tea and coffee, as they are usually prepared, depend partly on the caffeine and partly on the volatile substances present, the caffeine contributing the major share of the physiological effect. It was found that these volatile bodies when obtained by distillation and free from caffeine produced a well-marked increase in the respiratory capacity, which effect was especially great if no food had been taken for several hours previously. This stimulation was of only short duration, and was due to an increase in frequency and not of depth of the respirations, while at the same time slight muscular unrest and psychical excitement were produced. The pulse rate was not altered.—*Centralblatt für innere Medicin*, November 24, 1900.

Pretuberculous Splenomegaly.—Gabriele Tedeschi has observed a number of prisoners, who at the beginning of their term were in good health, but later developed enlargement of the spleen, as well as others who, having splenomegaly, became tuberculous later. The author does not believe that either prison diet or hygiene is at fault, but thinks that the close association of persons whose lives are such as to prevent resistance to infection, together with the prevalence of tuberculosis in prisons and its contagiousness, account for its frequency. Experiments with Koch's tuberculin have convinced him that the splenic enlargement is, in these cases, a primary tuberculous manifestation, leading later to a well-defined clinical form of tuberculosis. These results have been reached by the use of Koch's first, not his latest, tuberculin.—*La Riforma Medica*, November 15 and 16, 1900.

Pregnancy and Tuberculosis.—Samuel Bernheim believes that even in predisposed individuals pregnancy does not necessarily excite tuberculosis. The danger is greater if the patient be very young. If the tuberculous lesions are extensive, as in miliary tuberculosis, death is almost inevitable. Multiple pregnancies are disastrous in predisposed subjects. The lying-in period is specially fraught with danger for consumptives, and the physician must be constantly on the watch. Nursing must be forbidden, as it is too great a tax upon the strength. In any case in which tuberculosis is aggravated in the early weeks of pregnancy, the physician is justified in inducing abortion. The influence of paternal tuberculosis on the course of pregnancy is *nil*. Immediately after labor, measures must be taken to protect the new-born infant from contagion, and to place it in hygienic surroundings.—*L'Union Médicale du Canada*, November, 1900.

A Case of Double Intra-Ligamentous Cyst.—C. Jeff. Miller describes a case, and says that as a working-rule it may be safely stated that in many cases where intra-ligamentary growths are suspected, it will be best first to secure the uterine artery or arteries through the vaginal vault before opening the abdomen. If cysts of considerable size are found occupying both broad ligaments and intimately connected with surrounding structures, hysterectomy as a routine measure will yield the most satisfactory results. If sepsis is present, *e.g.*, badly adherent pus tubes, or an infected cyst sac, drainage is of utmost importance, and is best obtained per vaginam by removing the uterus, unless very good reasons exist for retaining that organ. Drainage is oftener indicated than in other pelvic conditions, owing to the extensive raw surfaces produced during the enucleation of the growth and the notable tendency of these growths to become infected.—*New Orleans Medical and Surgical Journal*, November, 1900.

The Practitioner's Duty in the Treatment of Acute Intestinal Obstruction.—A. Ernest Maylard discusses the diagnosis of this often puzzling disease. One thing is certain—when the group of symptoms known as "peritonism" is present, the abdomen must be opened. It is of course proper for the practitioner to endeavor to discover the true cause of the peritonism which is doubtful and obscure, but if any such endeavor is to entail delay, or a waiting for the manifestation of more pronounced and distinctive symptoms, then the attempt will not only be possibly useless but harmful. Every hour lost in attempts to find the cause when the condition itself is known to be critical tends only to lessen the chances of effectual treatment by early operative intervention. Most surgeons will be obliged to confess that in their experience in the majority of cases of acute intestinal obstruction, the true cause is not discovered until after the abdomen is opened.—*The Practitioner*, November, 1900.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE DUTY OF THE STATE IN THE CARE OF THE INSANE.

SINCE insanity has come to be looked upon as a form of disease and not as a dispensation from an unknowable power, the questions of its prevention and cure have received earnest and increasingly successful attention. In order to apply intelligently the principles of prophylaxis it is essential to have a knowledge of the etiological factors. Heredity is probably the most important of these, while alcoholism and syphilis come next, together with other intoxications and infections. To these influences, it is worth emphasizing, is attributable a large share in the causation not alone of insanity but of other grave diseases of the nervous system as well. It is well known, and if it is not a little investigation will soon show, that alcohol is, besides, responsible for not a small proportion of crimes committed. The same evil results may be brought about by excessive or habitual indulgence in other drugs, such as morphine, cocaine, chloral, ether, etc.

In view of all the circumstances, therefore, the State falls under certain obligations, as well to the unfortunate victims of a disease destructive of responsibility and to their families, as to society at large. Some phases of this complex subject are discussed at considerable length by Prof. Emil Kraepelin, of Heidelberg, in an interesting communication translated by Dr. Stewart Paton and published in the *American Journal of Insanity* for October, 1900, p. 235. It becomes one of the duties of the State to control by proper restriction the sale of all such dangerous substances as have been mentioned, and also to exercise supervision over those addicted to their excessive or habitual use; as well as to take the necessary steps to prevent the dissemination of syphilis and other infectious diseases. Great good can be accomplished further by improving constantly the provisions for the care of the insane; by intelligent classification, nursing, and treatment; by legal control of their reception, detention, and discharge, as well as supervision of their management. In this way not only the interests of the patient but also those of science would be best subserved. These principles are applicable in a general way both to public and to private institutions, and the necessity for their observance in the latter cannot be gainsaid.

It is pointed out that, as a rule to which there are few exceptions, the insane patient is better off, with regard to both his own welfare and that of others, in a properly conducted special hospital than in his own home or elsewhere. By proper restraint of the insane, further, the baneful influence of heredity would in some degree be minimized, as the patient would be prevented from propagating his kind. The reception, as distinguished from the detention, of patients in hospitals for the insane should be simplified to the greatest possible degree consistent with security. Insane criminals should receive treatment demanded by their disease, and with which punishment for their offences should have nothing to do.

A sharp distinction is made between the psychiatric clinic and the hospital for the insane, to the former of which only it is believed a professor of psychiatry should be assigned, while the latter must be under the control of a medical director not engaged in teaching. In the selection and promotion of physicians in hospitals for the insane it is thought that preference should be given to the ablest and most industrious men rather than to those of longest service merely. A plea, finally, is made that these physicians should be adequately remunerated by reason of the difficult, thankless, and responsible task imposed upon them.

OPIUM TAKING IN ASIATIC COUNTRIES.

THE rabid opponents of the habit of taking narcotics wax especially warm when discussing the evil effects that opium taking exerts upon the native population of India. In connection with this subject Dr. H. M. Dawbarn, professor of surgery, New York Polyclinic School, and surgeon to the City Hospital, contributes to the *Therapeutic Gazette*, November 15th, an extremely readable paper. The article in question treats of an evening spent at the Authors' Club, New York, in the company of Rudyard Kipling, and gives some of that distinguished writer's views on the use of opium in India. It may be urged that Kipling has no special qualifications to pose as an authority, but when his wonderful powers of observation are considered and when the fact is also taken into account that for many years he lived in the midst of the native population of India, it must be admitted that his expression of opinion is at least worth pondering on. Dr. Dawbarn was naturally somewhat surprised that the author of "The Gate of a Hundred Sorrows" and the "Building of the Bridge" did not denounce in scathing terms the rapacity of those in high government positions who are responsible for the general usage of the deadly drug throughout the Indian continent. On the contrary, Kipling defended the action of the authorities in promoting the production and sale of opium, and averred that it was in most instances the friend, and in certain ways the mainstay, of millions there among the natives. He said that there was an admitted difference between races in their reaction to its habitual use. A native takes it increasingly up to a certain point, and does not then, as a rule, go beyond this for the rest of his life, in the

same way as the great majority of white men use tobacco. But the white habitué of opium generally does not stop. He steadily increases his dosage until a wrecked life is the result. Kipling further went on to claim as an indisputable fact that in India the native regular eaters of opium were strengthened thereby for arduous labors; and, more important and striking as a statement, he asserted that these men were comparatively free from the fever of the country—a severe and prostrating form of malaria. He also ventured the opinion that opium was effective in treating the fever. Although, of course, Kipling's evidence cannot be regarded as that of an expert, it curiously agrees with the conclusions reached by the most eminent medical members of the British Opium Commission of 1893. Sir William Moore, a witness before the commission, said that "if taken in sufficient quantity, opium is deleterious, but this is not the use but the abuse of the drug. Opium enables people to do with less food than they would otherwise require. The same might be said of tea. The consumption of crude opium is certainly injurious, as it lessens both the secretions and movements of the stomach." As to the incidence of opium smoking on the death rate he quoted statistics of an insurance office to show that the habit did not increase the number of claims advanced by the survivors of insurers. The most interesting point brought forward in Dr. Dawbarn's comments on Kipling's views is as to whether opium has a beneficial effect on aborting or checking malarial fever. It appears that the late Alonzo Clark believed that a combination of opium and quinine was much more likely to cure malarial fever than quinine alone. Dr. William F. Arnold, surgeon of the United States navy at New Chwang, China, during the Chino-Japanese war, observed the prophylactic properties of opium in malaria, of which it is said the Chinese themselves are well aware. Prof. William H. Thomson, of New York, has called attention to his experience with certain ugly cases of continued fever of irregular type in soldiers of our army returned from Cuba and seen by him in his service in Roosevelt Hospital. These patients were not cured by either quinine given in large doses, or the use of Warburg's tincture, or by other customary remedies; but they recovered soon after being put upon the rather free use of paregoric with quinine in very moderate dosage. Dr. Dawbarn also points out that Sydenham recommended vinum opii as an effective remedy for malaria, which in his time was a common malady in Great Britain. Very many medical men who are practising or who have practised in India, have recorded views identical with the foregoing. A closer investigation of this phase of the matter might disclose truths which would be of infinite use in the treatment of intermittent fevers. No one will be found bold enough to dispute the assertion that the opium or morphine habit is degrading and debasing in nearly every instance when practised by a member of the white race, but "per contra" it would seem, judging from the mass of evidence, that the bad effects of opium taking among the people of the Far East has been exaggerated and not only does not invariably end disastrously, but is frequently poductive of good results. The reasons are probably to be sought for in the difference in temperament and constitution of the Asiatic races, as well as in the fact that by the use of the drug through several generations they have acquired a considerable degree of immunity to its harmful action. Opium is tolerated by them in the same way as are tobacco and alcohol by the Caucasian peoples, and when its consumption is not carried to excess it will not injuriously affect their health to a greater extent than will tobacco and alcohol when used injudiciously by the white man. Doubtless persons are better without opium in any form, as a rule, just as they are better without alcohol or tobacco; but conditions and circumstances alter cases, and there is, as Sam Slick wisely remarked, a great deal of human nature in man, who refuses to be made good after a pattern and cannot be induced to relinquish his "pleasant little vices" by prohibitory laws. The advocates of temperance lose ground by the intemperance of their language and by their well-meant but often indiscreet efforts to convert to their own opinions those who think otherwise. The London *Lancet*, October 27th, administers a well-deserved rebuke to those who endeavor to gain followers by advancing statements supported by no precise data, and declare that it would be better for all purposes if a paper which contains only the most general assertions were elucidated by verified details; lacking these, its value cannot be estimated or even recognized. Dr. Dawbarn is to be thanked for bringing forward Kipling's opinions on the use of opium in India, for however sceptical scientific men in this country may be with regard to their validity, nevertheless his remarks may arouse renewed interest in the question and tend to clear up the whole problem.

LIFE INSURANCE AND CARDIAC DISEASE.

Dr. F. G. Finley, assistant professor of medicine and associate professor of clinical medicine, McGill University, Montreal, treats of this subject instructively in a recent number of the *Montreal Medical Journal*. So great importance is not attached by many insurance companies to certain heart sounds as was formerly the case. The fact is now generally recognized that a cardiac murmur does not at all times betoken the existence of grave cardiac disease. Consequently a large number of insurance companies give much greater latitude to this class of clients and are willing to insure selected cases of cardiac disease, provided that certain conditions are complied with. Dr. Finley in his paper discusses various forms of heart affections from the prognosis point of view, and states that acute rheumatism is the most fruitful cause of damaged hearts, and is probably responsible for a third of such examples. Therefore, it is not surprising that insurance companies are extremely chary of accepting applicants who have recently suffered from the disease, particularly when it is remembered how often recurrence and fresh damage to the heart may ensue. Excessive indulgence in alcohol is looked upon as sufficient cause for rejection in the instance of the majority

of applicants, leading undoubtedly to hypertrophy and dilatation, often with degenerative changes in the heart. Sex also must be regarded as a factor of some importance in prognosis, women standing heart disease better than men, owing to their greater abstemiousness and less active lives. So far as station in life is concerned, the well-to-do are more favorably situated than those who have to live by the work of their hands. Writing of all forms of cardiac lesions, Dr. Finley says that after compensation has once definitely broken down, the tenure of life is insecure and uncertain. According to N. S. Davis, the average period of duration of life, after compensation began to fail, varied from 2.6 years in mitral regurgitation to 3.8 years in aortic stenosis, the figures for mitral stenosis and aortic regurgitation being between these extremes. Both Broadbent and Balfour place the average duration of aortic regurgitation, after signs of failing compensation have set in, at four years. With regard to the acceptance of cases for life insurance in which there is judged to be organic disease, much discrimination is required. The writer of the paper referred to declares that it is in valvular lesions that the chief problems in connection with life insurance lie. Serious lesions at the aortic valve are usually due to regurgitation, and the tendency to sudden death in this form of heart disease is in itself sufficient reason to reject all applicants with aortic regurgitation. Aortic stenosis is, except when occurring in advanced life, a rare disease, it being a common mistake to regard systolic murmurs in the aortic region as depending on stenosis. Lesions of the mitral valve are usually regarded as less serious than those of the aorta. There is little fear of these causing sudden death, and when such an accident does occur it is almost invariably preceded by a long period of failing. Whether mitral regurgitation or mitral stenosis is the more serious, is a question which has been by no means definitely settled in the opinion of experts. Osler is inclined to regard regurgitation as being almost as serious as stenosis. Oliver regards regurgitation as the more serious lesion, while N. S. Davis states that the average duration of compensation in regurgitation is 5.1 years and in stenosis 9.5 years. Dr. Finley thus sums up: "The class of cases which an insurance company is safest in accepting are those of mitral regurgitation and aortic direct murmurs in which secondary changes in the heart are slight or absent. Cardiac symptoms, particularly dyspnœa on exertion, should be excluded by the personal observation of the examiner, and as far as possible all cases excluded in which the lesion is likely to be progressive. Recurring rheumatic attacks exert a most unfavorable influence from further attacks of endocarditis or pericarditis. A station in life not involving manual labor and early adult life, at which period arterial sclerosis is unlikely to be present, are further elements which must be weighed in the acceptance of such cases." The present policy of life insurance companies in accepting the slighter forms of heart disease is an enlightened one. The fact must also be borne in mind that these companies protect themselves from incurring heavy pecuniary losses by limiting the insurance to a term of years, by adding an increased premium, or by a system of liens. Thus those persons who are subject to murmurs or cardiac lesions of a slight nature are able to avail themselves of the benefits of insurance, while at the same time the risks undertaken by the companies are reduced to a minimum.

THE PHILADELPHIA MEDICAL JOURNAL.

We regret to learn that Dr. George M. Gould has been discharged from the editorship of the *Philadelphia Medical Journal*, a periodical established by himself and some other Philadelphia gentlemen three years ago. The following editorial was written by him for the issue of his journal of December 29th, but was suppressed by some one who had more control over the editorial columns than the editor himself. We insert it here at Dr. Gould's request:

"A Personal Word from the Editor.—Just as the last forms are going to press, I learn that the present number of the *Philadelphia Medical Journal* will be the last (except as to the Original Article Department of the next issue) for which I shall have editorial responsibility. I am unable to set forth the reasons why the board of trustees no longer wish my services as editor. I am in complete ignorance what such reasons may be. I have heard of no criticism upon their part of my conduct of the journal, and my communication, handed to the board in session on December 8th, expressing my desire to be retained as editor, has not been answered.

"To the thousands of friends, to all subscribers, who may read these lines, I can only here express my most profound regret at the sudden separation. In the endeavor to aid in establishing a great independent medical journal, utterly free from publishers' influences, from commercial bias, and from what is, if possible, still worse, an unprofessional spirit within the profession, I have given my labor and my life, all too freely. What mistakes I may have made, I trust may be excused in the belief that they were due to a sincere desire to devote every line of the reading columns to the cause of professional truth and honor."

If those who ought to know the facts are correctly reported, Dr. Gould is no longer nominal editor of the *Philadelphia Medical Journal* (he seems never to have been editor in fact, since there was a higher authority, which could at will suppress his editorial utterances) because he failed to accomplish the impossible. Any one with a knowledge of the cost of paper and printing and possessing an elementary arithmetical training could have foretold from the beginning—and many did foretell—that the journal could not be made to pay its expenses at the price for which it was sold. Yet the trustees appear to have looked to their editor to win for the journal a circulation which would insure, not only that there should be no annual deficit, but that they should actually receive a fair return for their investment—just like any "sordid lay publisher." And speaking of "money-grubbing publishers," it is a curious fact that Dr. Gould has been discharged much more summarily by the medical men who constitute

three-fourths of the board of trustees of the *Philadelphia Medical Journal*, and who loudly proclaim that theirs is "a journal for the profession, of the profession, and by the profession," than he was some years ago by the lay publishers of the *Medical News*.

We have heard that Dr. Gould purposes establishing a new journal in which to continue his missionary efforts so suddenly arrested by his professional confrères, and we trust, in the interest of the gaiety of nations, that this rumor may prove to be true.

The new editor of the *Philadelphia Medical Journal* is Dr. James Hendrie Lloyd, who states in his salutatory that he has been from the beginning a frequent contributor to the editorial pages of the journal. Dr. Lloyd has also done creditable literary work over his own signature, being the author of two important treatises in the "Twentieth Century Practice," one on the "Diseases of Occupation," the other on "Diseases of the Cerebrospinal and Sympathetic Nerves." We wish him personally every success in his undertaking, but we fear his chance of making money for the trustees, when Dr. Gould has so signally failed, is very small.

TO BANISH THE MOSQUITO.

THE vastly increased importance to humanity, which the mosquito has assumed during the past year, renders all that pertains to this pest peculiarly interesting at the present time.

While it is not strictly new or novel, it is still noteworthy as being communicated to the State department in Washington by Consul Plumacher, of Maracaibo, that the ricinus communis or castor-oil plant is so distasteful to the insect that it will remain neither about premises where these trees are planted, nor in appartments where the cut branches, leaves, and seeds have been exposed.

Even in cold climates it is said that plants four or five feet in height can be raised from the castor seeds, and under favorable conditions will grow in great profusion. If the personal experience of Consul Plumacher in keeping his household free can be duplicated by each future experimenter, sleepful nights and freedom from malaria may still be within the grasp of all who dwell in regions where the tuneful piper loves to exercise his prerogatives.

The castor plant has already done much for man. If this boon is added, we can well afford to toast it in a large bumper of its own oil.

Arsenical Beer.—At a recent meeting of the American Chemical Society in Chicago one of the speakers charged that many brewers added to their beer an antiseptic preparation containing arsenic with a view of preventing further fermentation. In the discussion it was suggested that the national government undertake special analyses of beer and other brewed liquors in order to protect the consumer from poisoning by various adulterants and preservatives fraudulently used by the brewers.

News of the Week.

The New Jersey Training-School for Feeble-Minded Children has just received a bequest of $100,000 from the Maxham estate. The legacy will pay all the outstanding obligations of the institution and leave a cash balance of about $60,000.

An Isolating-Ward on Randall's Island.—It has been proposed by the board of health to establish a ward on Randall's Island to be used as an isolating-ward for the children suffering from diphtheria, scarlet fever, or other infectious diseases.

The Tsar's Physicians who were in attendance upon him during his recent attack of typhoid fever have been rewarded in various ways. Prof. Leo Popoff has been appointed body physician to the Tsar, Dr. Tichskonoff honorary physician to the imperial family, and upon Dr. Hirsch has been conferred the order of Alexander-Nevski.

Mortality from the Plague in India.—In the course of a speech at Calcutta on Christmas day, Lord Curzon of Kedleston, the Viceroy of India, said that since the appearance of the bubonic plague, in 1898, twenty-five thousand deaths from the disease have occurred in Mysore State.

Cure of Consumption by Splenic Vibrations.—An osteopath in a Western State announced at a recent meeting of his bone-suffering brethren that he had devised a new method of curing tuberculosis, and presumably other bacterial diseases. The method consists in shaking the spleen so as to dislodge a number of phagocytes, which seize upon the specific bacilli and devour them. What the patient does, while his spleen is being vibrated, is not stated.

The Cost of Public Baths.—A striking example of the extravagance prevailing in the conduct of our city government is furnished by the offer of a charitable organization to conduct the new public baths in Rivington Street for less than half of the sum asked for by the municipal authorities. The commissioner of charities asked for an appropriation of $52,000 to run the baths for a year; the board of estimate allowed him $35,000, and now the Association for Improving the Condition of the Poor offers to do the work for $17,500 and to furnish soap and towels, articles which the commissioner did not seem to regard as necessary accessories.

Mosquitos and Yellow Fever.—A despatch to *The Sun* from Havana states that a number of inoculation experiments have been made at Marianao, the subjects being American soldiers who voluntarily took the risks involved. Four cases are now under treatment, the patients all being soldiers who were bitten by mosquitos which had previously bitten persons suffering with yellow fever. The committee which is conducting the experiments has found that a mosquito, after having bitten a person affected by the disease, needs fifteen days before it is able to transmit it. If

it bites a non-immune in less than that time he will not develop the disease. The four cases under treatment developed the fever in about three days after being bitten. Five soldiers have been living and sleeping in infected clothes, beds, and bedclothes for twenty days and have not developed any symptoms. A dinner will be given to Dr. Finlay, the originator of the mosquito theory.

City Hospital.—At the annual meeting of the medical board of the City Hospital, the following officers were elected: *President*, Dr. Edward S. Peck; *Vice-President*, Dr. D. Hunter McAllpin, Jr.; *Secretary*, Dr. Charles L. Gibson; *Chairman of the Committee of Inspection*, Dr. Charles C. Ransom.

Rabies in Rochester.—The health authorities of Rochester, N. Y., state that an epidemic of rabies is prevailing in that city, and they characterize the situation as alarming. The reports of mad dogs in Rochester for the last two months have averaged one a day, and there are so many carcasses in the hands of the health authorities at the present time that it is impossible to make autopsies on all of them.

The Study of Insanity in New York State.—At a meeting of the New York Neurological Society held January 1, 1901, the following report was read and unanimously adopted: The committee of the New York Neurological Society, appointed at the request of the president of the New York Commission on Lunacy, to offer suggestions as to a scheme of scientific study of mental diseases in connection with the State hospitals for the insane, begs leave to report as follows: .1. It is to the interests of the State that original research work should be carried on in relation to insanity, in order that the science should be advanced, and better methods of prevention, treatment, and cure discovered. This is of direct interest to the tax-payer, upon whom falls the burden of the care of the insane. 2. There should be one central laboratory in the State, wherein the energies of the best scientific men in the various departments of medicine related to insanity should be devoted wholly and exclusively to the prosecution of original research. 3. Such a laboratory, combining the labors of well-qualified workers in general pathology, neuro-pathology, psychology, chemistry, anthropology, and other requisite branches, should be able to produce from year to year results which would be creditable to the State as a patron of science, as well as invaluable in advancing the knowledge of the methods of treatment and cure of mental disorders. 4. Each hospital for the insane should have upon its staff of medical officers one physician whose sole duty it should be to conduct ordinary autopsies and to carry on the routine duties of a clinico-pathological microscopist. 5. The central laboratory, or pathological institute, should be freely open to any qualified scientific men, for the prosecution of original research work, under the direction of the laboratory experts, preference always being given to the qualified men in the State hospitals. But systematic teaching of fundamental principles should not be required from any of the departments of the laboratory. The scientific men in charge of the various departments of the pathological institute should devote all their energies to original investigation, and not be taxed, hampered, or interfered with by medical men who are able to obtain instruction in fundamental principles elsewhere, without cost to the State. 6. The central laboratory for original research should be a part of a reception hospital for the insane, situated on Manhatten Island.

Gifts to Charitable Institutions.—The following bequests to charitable institutions in New York and vicinity were provided for in the will of the late Mr. Henry Villard: New York Infirmary for Women and Children, $10,000; the German Society of New York, $5,000; the Charity Organization Society, $2,500; the State Charities Aid Association, $2,500; the New York Society for the Prevention of Cruelty to Children, $2,500; New York Medical College and Hospital for Women, $5,000; the German Hospital and Dispensary, $10,000; Dobbs Ferry Hospital Association of Dobbs Ferry, N. Y., $5,000.

A National Leper Colony at Molokai.—The *Hawaiian Gazette* protests energetically against the proposal which has been made to establish a national leper colony on the island of Molokai to which all lepers in the United States may be sent to be taken care of by the government. *The Gazette* says it is time that the board of health, chamber of commerce, and other organizations, as well as private citizens, began to take active steps to let the people of the United States know that the Molokai leper settlement is not a national institution, but a local territorial one, maintained by local taxation, and that the residents of Hawaii resent the proposition to fasten upon Hawaii the perpetual stigma of leprosy.

A Discussion on Cinchona Barks.—At the regular meeting of the New York College of Pharmacy, 115 West Sixty-eighth Street, to be held on Tuesday evening, January 15th, the subject of "The Cinchona Barks of the New York Market" will be presented by Mr. J. H. Stallman, and discussed by Mr. Albert Plaut and others. Mr. Stallman will illustrate his remarks by an elaborate series of specimens, and the college collections of barks and herbarium specimens will be exhibited by Professor Rusby, the entire series of specimens constituting probably the most extensive cinchona collection ever brought together in this country.

The Maine State Hospital for the Insane at Augusta is now so crowded that the need of a new hospital is urgent. A site for a new hospital at Bangor was purchased eleven years ago, but the building, although completed, is not yet ready for occupancy, owing to the failure of the legislature to vote the necessary appropriation. It is hoped that the present legislature will provide a sum sufficient for the purpose and that some of the patients may be transferred from the Augusta hospital in April. The latter hospital, which was built to accommodate five hundred patients, has now over seven hundred and fifty pa-

tients. When the congestion is relieved by the opening of the Bangor hospital, the building at Augusta will be enlarged.

The Brooklyn Society for Neurology.—At the annual meeting of this society, held December 27, 1900, Dr. W. H. Haynes was elected president and Dr. B. Onuf secretary for the ensuing year.

The State Hospital for Consumptives.—The trustees of the proposed hospital have selected a second site for the institution at Raybrook, midway between Saranac Lake and Lake Placid and not far from the Lake Clear site, first chosen, which met with opposition. No action on the matter has been taken yet by the State board of health and the State forest preserve board, it being held that the price asked for the site ($10,000 for about five hundred acres) is too high. It is believed that the proposed Dannemora site has been definitely abandoned.

The Anti-Vaccinationists have been strangely silent during the present vaccination boom, but they have been aroused at last and have held a meeting in Brooklyn. The chief speaker advocated violent measures against the corps of vaccinators and boasted that he had treated thirty cases of smallpox (successfully, of course) which he had not reported to the health authorities. This example of law-breaking pleased the audience immensely, and the society immediately voted to consider "what steps can be taken to arrest the groundless smallpox scare raised by the board of health, and to arrest and punish the lawless and tyrannical conduct of said board in breaking into the houses of citizens and forcibly injecting into their blood the putrefying matter of a sore."

The Castor-oil Plant and Mosquitos.—The United States consul at Maracaibo, Mr. Plumacher, writes to the State department as follows concerning a remedy against mosquitos, which, he says, "consists in planting the castor-oil plant (*Ricinus communis*, or *Palma christi*) around the house and premises. In cold and temperate climates the castor-oil plant grows to a height of four or five feet; in these countries it becomes a tall tree and is perennial. It seems that the smell of the plant is disagreeable to mosquitos and other insects, and it is an acknowledged fact that where these plants grow few mosquitos are found. My personal experience bears this out."

The Army Veterinary Corps.—The Secretary of War has sent a protest to the committee on military affairs of the Senate against the amendment to the army bill creating a corps of veterinary surgeons. The secretary says he is not opposed to suitable recognition of veterinarians; and he has no serious objection to giving them military rank, although he does not think it is a wise course to give military rank to civilian employees. But he does object very strongly to the creation of a new corps with a colonel at the head reporting directly to the Secretary of War, and thus necessarily creating a new bureau in the war department and a body of officers who, communicating directly with the Secretary of War through their chief, are necessarily independent of the commanding officers of the cavalry regiments and the horse artillery organizations.

"The New York State Journal of Medicine" is the first of the new journals of the century to reach our table. It is to be published monthly by the New York State Medical Association and will take the place of the annual volume of transactions of that society. The first number presents a neat appearance. The original articles are on "The Successful Treatment of Ichthyosis Hystrix by the Electric Arc Light," by G. W. Goler; "The Relation of Migraine to Epilepsy," by Alvin A. Hubbell; and "Trichinosis," by H. C. Gardinier. It contains also the transactions of the latest meeting of the New York State Medical Association, together with the charter and the by-laws of the society.

Charter Revision.—Among the changes recommended by the commission appointed to revise the charter of Greater New York are some of medical interest. Among these the most important is that affecting the board of health. The commission recommends that the board be composed of one commissioner, to be selected by the mayor without restriction upon his choice, and of the police commissioner and the health officer of the port. The powers and duties of the health department are not materially changed. The commission also declares itself of the opinion that there should be no discrimination against medical men in this appointment, and that the absurd and insulting provision which prohibits the appointment of a physician as president of the board of health be rescinded. Another interesting change is one recommended in the matter of the board of public charities. It is that Bellevue and its subsidiary hospitals, viz., Fordham, Harlem, Gouverneur, and the Emergency Hospital, be placed under the administration of a board of seven trustees, the board to be so appointed that the term of office of one member of the board will expire each year. These trustees are to be appointed by the mayor, but to aid him in making his selection of trustees the amendment further provides that ten days previous to the date of appointment he shall call upon the presidents or other executive heads of the New York Association for Improving the Condition of the Poor, the Society of St. Vincent de Paul in New York, and the United Hebrew Charities of the City of New York to present a list of names not less than twice the number of trustees to be appointed. The mayor may, if he wishes, call upon other organizations or upon individuals to suggest names, or other organizations or individuals may suggest names if they see fit so to do, but the mayor is not obliged to appoint any of the persons recommended either by the societies named or by other organizations or individuals. This will bring Bellevue Hospital under the same system of management as that of private hospitals. This system of trustee management of city hospitals is already in force in Boston and Cincinnati. In the former city the trustees are appointed by the mayor, subject to the approval of the city council. In

Cincinnati one member is appointed by the governor, two are named by the superior court of Hamilton County, and two by the court of common pleas of Hamilton County. In both cases the appointments are made without regard to political considerations. If the plan is found by experience to work satisfactorily in the case of Bellevue, it will probably be extended so that all the city hospitals will eventually be managed under the trustee system, wholly independent of politics.

The Child Victims of Christian Scientists must be vaccinated or stay away from school, according to a recent decision of the supreme court of South Dakota. A certain man of high lineage in the sect refused to have his children vaccinated and insisted on sending them to school. The school board sent the poor things home again, and the father appealed to the courts. Here he was adjudged to have no case and now he is suffering from a thought that the will of a "scientist" is not yet the law of the land.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending January 5, 1901. December 28th.—Surgeon R. P. Crandall detached from the U.S.T.S. *Constellation*, upon reporting of relief, and to recruiting duty at Milwaukee, Wis., and then home to wait orders. Surgeon W. A. McClurg detached from the *Indiana* and ordered to the naval training-station, Newport, R. I. Assistant Surgeon J. M. Brister ordered to the *Independence*, January 13, 1901.

Volunteer Surgeons in the Spanish War.—Dr. Nelson M. Black, of 128 Wisconsin Street, Milwaukee, requests that all men who served in the late war as surgeons of State volunteer regiments communicate with him in regard to a bill which Congress will be asked to pass for their relief. These gentlemen were commissioned captains by authority of the act of April, 1898, calling into service volunteer armies. They were paid as first lieutenants in accordance with a decision of the comptroller of the currency. Notwithstanding this, Dr. Black says they are entitled to the pay of the rank, that of captain mounted, as is evidenced by the wording of the law of Congress and the opinion of the surgeon-general and adjutant-general in respect to the law which was passed giving the captains and assistant surgeons of the volunteers raised under the act of March 2, 1899, the pay of their rank.

College of Physicians of Philadelphia.—At a stated meeting held January 2d, Dr. John H. Gibbon read a paper entitled "A Report of a Case of Cholelithiasis with the Formation and Rupture of an Abscess of the Abdominal Wall." The condition simulated and was mistaken for appendicitis until operation disclosed its true nature and permitted the removal from the gall bladder of fifty-two light-colored gall stones of uniform size rather larger than peas. Dr. Frederick A. Packard and Dr. Robert G. Le Conte read a paper entitled "The Ascites of Cirrhosis of the Liver and its Surgical Treatment; with a Report of Two Cases." The operation consisted in irritation of the peritoneum for the purpose of establishing adhesions with the liver and the development of a collateral circulation. Both cases terminated fatally, and in one, in which post-mortem examination was made, it appeared that a collateral circulation had been established and there had been no recurrence of the effusion, although previously repeated tapping had been necessary. The election for officers resulted in the selection of the following: *President*, Dr. W. W. Keen; *Vice-President*, Dr. Horatio C. Wood; *Secretary*, Dr. Thomas R. Neilson; *Treasurer*, Dr. Richard H. Harte; *Honorary Librarian*, Dr. Frederick P. Henry.

The New Pharmacy Law.—With the new year the first general pharmacy law in New York State went into effect. Extraordinary powers are conferred by it on the State board of pharmacy, composed of the following members: Clarence O. Bigelow, George C. Diekman, and Sidney Faber, of New York; Dr. William Muir and Dr. Albert H. Brundage, of Brooklyn; Warren L. Brada, of Albany; Willis G. Gregory, George Reimann, and Robert K. Smither, of Buffalo; Byron M. Hyde, of Rochester; George H. Merritt, of Newburg; Charles B. Sears, of Auburn; J. C. Smith, of Plattsburg; Edgar M. Jewell, of Batavia, and Alfred M. Palmer, of Olean. Authority is given to the board to investigate all complaints as to the quality and strength of drugs and medicines and to prevent the sale of those that do not conform to the required standard. It has also the power to regulate the working-hours of drug clerks, which in cities with a population of one million or more must not exceed one hundred and thirty-six hours in two consecutive weeks. The board may also employ inspectors to inspect all pharmacies. The new law has a stringent provision requiring that a licensed pharmacist or druggist must have supervision of every shop where drugs, medicines, and poisons are sold. There must also be an annual registration of all drug stores, for which a fee of $2 will be exacted. Licenses may also be revoked for cause. The board is further required to examine all applicants for licenses or registration, and to issue two grades of licenses, to be known, respectively, as "Licensed Druggist" and "Licensed Pharmacist," and a certificate of "Registered Apprentice," except that in cities having a population of one million or more, a license for the grade of "Licensed Druggist" shall not be issued. It also has the right to investigate all alleged violations of the new law or any other law of the State regulating the dispensing or sale of drugs, medicines, or poisons, or the practice of pharmacy, and in its discretion to bring the matter before the proper prosecuting authorities or to bring action to recover penalties in such cases as may be proved.

Death of a Famous Army Nurse.—Mrs. Anna Morris Holstein, well known to Grand Army men all over the country for her devotion to the cause of the wounded during the Civil War, died suddenly on December 31st, at Red Hill, near Bridgeport, Pa., at the age of seventy-six years. From 1862 until the close

of the war, Mrs. Holstein was engaged in the hospital service, and after the battle of Gettysburg she was matron-in-chief of a hospital in which three thousand seriously wounded men were cared for. It was largely through her influence that Washington's headquarters at Valley Forge were purchased, restored, and made accessible to the people. Her husband was a soldier in the Civil War, and after serving the period of his enlistment, was her companion and aid in hospital work.

Dr. Charles S. Turnbull, of Philadelphia, has been appointed surgeon of the First Regiment, N. G. P., with the rank of major. He has been connected with the regiment since 1862, when he enlisted as a private.

The New York Ophthalmic and Aural Institute.—The buildings on East Twelfth Street, occupied by the New York Ophthalmic and Aural Institute, have been given to the institution by Dr. Hermann Knapp, for many years executive surgeon of the hospital and dispensary.

Vital Statistics of Philadelphia.—There were registered during the year 1900 with the Philadelphia bureau of health a total of 25,078 deaths from all causes, a ratio of 19.58 to 1,000 estimated population, as compared with a total of 23,796 for 1899, a ratio of 18.78. There were 29,105 births, an increase of 664 over the previous year. The marriages numbered 9,810, an increase of 630. The number of deaths from typhoid fever was 449, as compared with 849 in 1899; from pulmonary tuberculosis, 2,717, as compared with 2,818; from pneumonia, 2,959, as compared with 2,424; from influenza, 264, as compared with 290. There were 382 deaths from measles, 898 from diphtheria as against 849, and 669 from old age as against 776.

The Late Dr. J. Henry Fruitnight.—The following resolutions were adopted at the annual meeting of the Northwestern Medical and Surgical Society:

Whereas, It has pleased divine Providence to sever by death the membership of Dr. J. Henry Fruitnight in the Northwestern Medical and Surgical Society, a membership lasting nearly a quarter of a century; and,

Whereas, We, the members of this society, desire to place on record our appreciation of the noble and self-sacrificing character of our late colleague, sadly cut down in the prime of life; therefore, be it

Resolved, That in the death of Dr. Fruitnight this society has lost a modest and congenial companion, a true friend, and a valued professional colleague, whose earnestness of purpose and unselfishness of motive peculiarly fitted him for a large and useful medical career; that he is a severe loss to this society, in which he took a warm personal interest, to the many other medical bodies of which he was a member, and also to the medical profession and the entire community; that his published writings, concise discussions, and discriminating thought are worthy of our highest regard;

Resolved, That we sincerely extend our heartfelt sympathy to the members of his bereaved family, wishing for them that consolation which the memory of such a noble life alone can give;

Resolved, That a copy of these resolutions be spread upon the minutes of this society; that duplicates be sent to the MEDICAL RECORD, *New York Medical Journal*, *The Medical News*, *Archives of Pediatrics*, and *Pediatrics*; and that an engrossed copy be prepared for the family of the deceased.

For the Northwestern Medical and Surgical Society, A. M. JACOBUS, EDWARD S. PECK, A. E. BIESER, *Committee.*

Obituary Notes.—DR. ROBERT J. LINDERMAN, formerly State senator from Bucks County, died at Philadelphia on January 6th, at the age of sixty-five years. He was graduated from the Pennsylvania Medical College in 1858, and entered upon the practice of his profession at Quakertown. He was elected to the State senate by a large majority in 1868.

DR. WILLIAM WOOD LESLEY died at Philadelphia on January 5th, at the age of seventy-three years. He was graduated from the medical department of the University of Pennsylvania in 1851, and became surgeon to the steamship *Ohio*, retiring in 1890.

Progress of Medical Science.

Boston Medical and Surgical Journal, Jan. 3, 1901.

The Differential Diagnosis of Intestinal Obstruction.—Z. Boylston Adams says that the differential diagnosis is between obstruction and dysentery, chronic and tuberculous peritonitis, and catarrhal enteritis. From the point of view of treatment the most important differential diagnosis lies between strangulation and impaction or closure of the intestines, occluding the lumen, whether from within or from without. When palpation under ether fails to disclose the nature of the tumor, the anamnesis is of importance. The family tendency, the fact of injury or of surgical operations, of previous attacks of similar nature, of hernias, reduced or not, of the ingestion of indigestible substances, poisons, etc., should be inquired into. Examination per rectum should never be omitted, and the persistent use of high injections may often accomplish much. The employment of purgatives or opium is misleading and dangerous. When a diagnosis of intestinal obstruction is made, the surgeon should be called in.

Clinical Notes and Comments: Degenerative Disease of the Spinal Cord Associated with Anæmia.—Robert T. Edes describes a number of cases which illustrate the connection between certain fairly definite spinal symptoms not usually recognized as belonging to the well-marked system diseases, and conditions of malnutrition of the blood. It is probable that a toxæmia is a common cause of both conditions; this toxæmia is, of course, largely hypothetical, but its existence is rendered very probable by the sequence of the condition spoken of, upon quite a number of infectious diseases. These are, according to Dana, influenza, acute infectious diseases, diarrhœa and dysentery, possibly shock, lead poisoning and malaria. Syphilis is not mentioned by Dana, but other authorities refer to it. It is suggested that possibly some of the obscure paralyses of children who recover, as most adults do not, are in reality cases of this kind.

A Physiological Solvent in the Treatment of Pus Cases.—By Carl E. Munger.

Experiment and Experience with the Rifle.—By Henry G. Beyer.

New York Medical Jour., Dec. 29, 1900, and Jan. 5, 1901.

The Importance of Knowledge of Ear Disease to the General Practitioner.—W. H. Thomson comments upon the great difference of opinion as to the significance of otorrhœa at the present time as contrasted with thirty years ago. He suggests that we should be suspicious of any patient with an old ear lesion, who complains of headaches,

has hysterical symptoms so called, depression of spirits, etc., and should carefully note the pulse and temperature and be on the sharp lookout for brain trouble. Prognosis in a case of purulent trouble in the ear depends somewhat on the particular bacterium present. It is better with the pneumococcus than with the streptococcus. Intracranial organized exudates due to chronic ear disease often lead to persistent muscular twitching, especially just as the patient is dropping off to sleep. They indicate a cortical irritation which is often the precursor of true epilepsy. Cases of otorrhœa exciting mastoiditis are frequently difficult to diagnose. Vertigo is a most important symptom. Thomson divides vertigo into the following classes: Gastric or digestive, cardiovascular, ocular, and aural. The latter causes the most positive disturbance of all. The general practitioner should never omit to inquire into the condition of the ears, and if he suspects ear trouble and finds that he is making no headway with the case he can never be morally justified if he fails to ask an otologist to help him.

Observations on Lateral Curvature of the Spine; Pathological, Clinical, Mechanical.—By A. M. Phelps. The paper is illustrated with five pictures bringing out the points made. The author says that he never saw a lateral curve and rotation due to destruction of bone from pressure with corresponding deformity of rib removed from the spinal column by any method. The most we can do with our present resources is to prevent increase of curve, to remedy the physiological curve, and to give the patient, if possible, strength. No machines or gymnastics have any effect upon the curves and rotations *per se*. The only good they can do is to assist in holding up the spine, but so long as the ribs are bound together by contracted intercostal muscles that force can be of but little avail. Operation may straighten the curve to some extent; and after that has been done proper support should certainly be applied. The author prefers the aluminum corset, which combines the advantages of lightness, durability, thinness, and non-interference with the form or clothing, coolness from its perforations, and the fact that it can be worn during bathing.

The Importance of Postoperative Treatment after Removing Spurs of the Nasal Septum.—E. F. Snydacker insists on the necessity of careful after-treatment in cases of septal operation for granulation-tissue forms, and unless this is kept under control it will increase in size and finally come to cause as much obstruction as the original spur. Such after-care should extend over a period of two months. He declares that no operator should ever undertake to remove a spur from the septum without first explaining to the patient the necessity for after-treatment. If a patient cannot or will not submit to such after-treatment, then the operation should not be undertaken; for it is a matter of almost absolute certainty that eventually the operation will not be a success, rather the contrary, and that in the course of time the patient will be worse off than before the operation.

Hyperidrosis of the Axilla; its Treatment with the Thermo-Cautery.—L. Kolipinski thus describes the procedure followed by him. The axillary base is washed and shaved. The thermo-cautery at a bright red heat is applied, with its flat side, from ten to twenty times to the space from which the sweat is seen to ooze, namely, the area covered by hair in the adult; the triangular groove below, when the arm is elevated, for about two inches; the posterior border of the armpit, especially at its middle, and the upper external border near the hairy centre. One-half or more of the superficies is turned into burns of the second and third degrees. The cauterizing is done in a very few minutes and the pain as indicated is not severe. A dry bismuth or zinc-oxide dressing is applied, and the patient may resume his ordinary occupation in a few days.

The Ear as a Factor in Causing Systemic Disturbance.—J. L. Minor narrates the histories of several cases illustrating the point suggested in the title of his paper. The latter is a plea for systematic examination of the ears in all cases of fever without apparent cause. A purulent inflammation will frequently be found or retention of inflammatory exudates which are the cause of the general disturbance.

Some Observations upon Specialism in the Arts and the Sciences Generally, and upon Specialties and Specialists in the Science and Art of Medicine Particularly.—By William Bodenhamer.

The Mesial Relations of the Inflected Fissure, Observations upon One Hundred Brains.—By E. C. Spitzka.

A Contribution to the Symptomatic Treatment of Pulmonary Tuberculosis.—By J. R. L. Daly.

A Case of Acromioclavicular Dislocation and its Treatment.—By B. E. Henrahan.

Sexual Intemperance.—By Jennie G. Drennan.

Observations in Nitrogenous Metabolism in a Case of Nephritis.—By W. C. Klotz.

The Treatment of Tuberculosis in Sanatoria.—By P. H. Bryce.

The Eustachian Bougie.—By L. B. Lockard.

Medical News, January 5, 1901.

Pneumonia; its Etiology and Treatment.—D. L. Burnett states that the consensus of opinion is that lobar pneumonia is caused by a germ, really by two germs, viz., the pneumococcus of Friedlander and the diplococcus of Fraenkel. They are accompanied by pus germs, and toxins are rapidly developed. Bronchopneumonia may be of a specific nature, as, for example, tuberculous or syphilitic. It is often a terminal affection. As to the treatment, an initial dose of a mild cathartic is indicated in most cases. Opium for several days will dull the nervous shock incident to the disease. Cold spongings will generally control the fever, though small doses of the coal-tar preparations may be added. The heart requires the most careful watching. A good combination is nitroglycerin, strychnine sulphate, spirits of camphor, aromatic spirits of ammonia, and spirits vini gallici, to which an opiate may be added. Alcoholics may be taken in milk, tea, or coffee. The patient should not be allowed even to rise on his elbow. Expectorants are, as a rule, not to be advised. Water or liquids will render the inflammatory products less gelatinous. Cardiac and respiratory stimulants and tonics are preferable to syrupy cough mixtures. Opium and camphor or inhalations of steam and turpentine are good for an irritating cough. Insomnia should be treated according to its cause. Delirium must be controlled. Hot spongings and rubbings, as in insomnia, are of use. A cotton jacket is often used to keep the chest at an equable temperature. As to nourishment, almost any easily digestible food is allowable. During convalescence, tonics are indicated. Iodides are of use in delayed resolution. Cod-liver oil is of much value at this time.

On the Prognosis of Hysteria: a Contribution to the Question of Fatal Hysteria.—Joseph Fraenkel reports that during a period of two years he saw three undeniable clinical pictures of hysteria end fatally. Hysteria may be divided into three principal groups: (1) Predominantly mental forms, hysterical psychoses. (2) Cerebrospinal forms. (3) Splanchnic forms. The prognosis of the first two forms is more favorable than that of the third group. In hysteria, death is due to: (1) Spasm or paralysis of any part of the respiratory mechanism. (2) Inanition resulting from prolonged hysterical anorexia or uncontrollable vomiting. (3) Paralysis of the circulatory or alimentary apparatus. It seems reasonable to state that in hysteria death, when it occurs, is due to irritation or paralysis of splanchnic or vegetative functions.

A Study of Eighty-One Cases Operated upon under Analgesia Obtained by Subarachnoid Spinal Cocainization.—By George Ryerson Fowler.

The History, Aim, and Purpose of the Medical Societies of the State and Counties of New York.—By Frank Van Fleet.

Journal of the American Medical Ass'n, Jan. 5, 1901.

The Douche in the Treatment of Ophthalmia Neonatorum.—E. E. Holt reports the case of a baby between two and three weeks old, from whose eyes came a profuse purulent discharge. There were so much chemosis and swelling of the lids that it was difficult to make a satisfactory inspection of the cornea of either eye. It was finally determined that the cornea was involved and about to break down in each eye. With a Davidson syringe, using the No. 1 point, about a one-per-cent. solution of tepid boric acid was injected into the eye—about one quart to each eye. This was repeated every half-hour, night and day, for the first twenty-four hours, then less often, till at the end of the fifth day the baby was opening its eyes and looking about the room. In using the syringe the point was always directed away from the eyeball and gradually worked along the whole length of the retrotarsal fold so that the conjunctival sac was thoroughly washed out. A two-per-cent. solution of silver nitrate was used from the first and the eyes were cleansed by irrigations, pipettes, and absorbent cotton. Care was taken that the silver nitrate did not reach the cornea; cold packs were applied to the lids between the intervals of douching, and the nourishment of the child was given all the attention possible. Recovery was complete.

Amblyopia following the Intoxicating Use of Jamaica Ginger.—Edward Stieren finds eight recorded cases, in American ophthalmic literature, of blindness following the ingestion of ginger. His own case was that of a man aged thirty-six years, who had been drinking heavily. On sobering up in a place where he could not obtain liquor, he bought

a dozen ounce bottles of Jamaica ginger, all of which he consumed in one morning. About noon he fell into a stupor from which he awoke about 3 P.M. totally blind. No other symptoms presented themselves except a consuming thirst. Vision was almost nil. The cornea was almost totally insensitive to touch with camel-hair pencil. Treatment consisted in immediate confinement to bed in a darkened room. Three hot foot-baths were given during the night, and gr. xx. each of calomel and compound jalap powder in divided doses. He received ⅛ gr. pilocarpine muriate hypodermically twice during the night. Pilocarpine and calomel were continued for the next two days, when the pilocarpine was discontinued and gr. xx. doses of potassium iodide supplanted the calomel. On the fifth day the patient's vision in each eye was $\frac{20}{20}$. The lesion in these cases is believed to be an acute retrobulbar neuritis of a toxic nature.

Walled Off.—Under this title John B. Deaver studies appendicitis, concluding that: (1) Pus is an avoidable complication in the treatment of appendicitis. (2) The patient's welfare is best served by avoiding any of the complications incident to pus formation. (3) The walled-off abscess is not the blessing to be sought, but rather an evil to be avoided by prompt surgical interference as soon as the symptoms of appendicitis manifest themselves. (4) Operation on cases of walled-off pus imperils the patient's chances for recovery, on account of liability to infection of the peritoneal cavity. (5) Fecal fistula as a result of a walled-off appendicular abscess is an avoidable sequel to appendicitis and should not be permitted to occur. (6) The latter statement is true of all complications and sequelæ of appendicitis due to pus formation.

Case of Malignant Endocarditis with Recovery.—By N. S. Davis, Jr.

The Army Surgeon in the Philippines.—By William J. Lyster.

External Drainage of Lung Cavities.—By Le Moyne Wills.

Notes on Tropical Dysentery.—By John Herr Musser.

Specialties and Specialists.—By Joseph Zeisler.

Surgical Errors in Skiagraphy.—By Carl Beck.

Etiology of Dysentery.—By Simon Flexner.

A Normal Acoumeter.—By E. Amberg.

Philadelphia Medical Journal, January 5, 1901.

Some Cases of Tetany in Infancy.—John Lovett Morse in reviewing seven cases of this nature states that in them there was no common etiological factor. Digestive disturbances occurred in all but one. In one case they seemed the only factor; in two others, the only important factor; in two more, their influence could not be excluded. In one they were apparently not important. Traces of rickets were found in four. In no case was there craniotabes. Rickets probably acts only indirectly. Influenza and diarrhœa are possible etiological factors. Difficult dentition may favor the development of tetany. Syphilis seems sometimes to be the cause. In every case but one of these reported, conditions evidently capable of causing toxic products were present. In the one case it was also impossible to exclude some such condition. Absorption of these toxic products into the circulation, with the resulting action on the nervous system, seems to offer the most reasonable explanation of the cause of the disease. These toxic products may be of various sorts. Treatment must be directed to the cure of the primary disease, to the prevention of the formation of toxic products, and to their elimination if already formed. Symptomatic treatment is also important.

A Criticism of the Diagnosis "Composite Teratoma of the Ovary" Made in the "Pathological Report" of Dr. E. A. Jones.—By S. W. Bandler.

The Relation of State and Local Boards of Health to Outbreaks of Diphtheria.—By G. E. Tyler.

The Home Modification of Milk for Infant Feeding.—By L. Emmett Holt.

The Resources of Modern Minor Gynæcology.—By Augustin H. Goelet.

Primary Branchiogenic Carcinoma.—By Frederick Shimauck.

A Physician's Holiday at Carlsbad.—By James Tyson.

The Lancet, December 22, 1900.

Pulmonary Tuberculosis in Early Childhood with Special Reference to its Prevention and to its Diagnosis from Other Wasting Disorders.—Arthur Latham states that the characters of pulmonary tuberculosis in very early childhood are radically different from those which obtain after the age of six years. Until the child is three and a half years of age tuberculosis is mainly dependent upon the infection of the bronchial glands and spreads from these glands to the lungs, rather than from the lungs to the glands as is the case in the adult. After the age of four years the lesions found are more comparable with the types we are familiar with in adult life. The varieties which are found up to the fourth year may be classified as follows: (1) Tuberculosis of the bronchial glands. This, of course, should not, strictly speaking, be included under the heading of pulmonary tuberculosis, but it is convenient to do so. (2) Miliary tuberculosis of the lungs. This may be dependent upon (*a*) a rapid primary infection without any discoverable old focus; (*b*) the rupture of a tuberculous bronchial gland into a blood-vessel with rapid dissemination throughout both lungs, more especially of the lower lobes; and (*c*) pulmonary infection secondary to other and older lesions, such as tuberculous disease of the testis, bone, etc. (3) Tuberculous bronchopneumonia. This may be dependent on (*a*) the tubercle bacilli obtaining a hold upon a simple persistent bronchopneumonia; and (*b*) direct spread by the lymphatics of the bronchi from a previously diseased bronchial gland. This third variety may go on, especially in the confluent form of bronchopneumonia, to what Goodhart has aptly called cheesy consolidation, or it may in rare cases go on to a fibroid condition of the lung. In children who have reached the age of six years we may have in addition to any of these varieties: (4) Pulmonary tuberculosis which approaches the adult type but differs somewhat in its distribution and in the fact that there is a diminished tendency toward the formation of fibrous tissue. He discusses the differential diagnosis of the foregoing clinical varieties and lays down general rules for treatment, which are in the main those applicable to cases of the disease in adults.

A Case of Chronic Dilatation of the Stomach Ending in Death from General Tetanic Convulsions.—D. D'Esterre's patient was a man aged thirty years, who for three years past had suffered from symptoms of dyspepsia occasionally accompanied with vomiting. At one time he was a heavy drinker and a large eater, but he became very careful and abstemious in the matter of food and drink, which even in small quantities caused him pain and uneasiness. There was no palpable tumor within the abdomen. His most troublesome complaint was the vomiting of enormous quantities of coffee-colored fluid about twice a week, sometimes nearly a gallon. He also suffered much from eructation of gas. The physical signs of gastrectasia were present. He was instructed in the use of the stomach-tube, in which he became quite expert, and often expressed himself as feeling much better after its use. However, after a slight improvement he was suddenly attacked with extremely painful convulsions of a tetanic character affecting chiefly the flexor muscles of the arms and hands and in a lesser degree those of the abdomen, legs, head, and neck. Opisthotonos was at one time marked, and he also showed the risus sardonicus. This attack was overcome with large doses of chloral hydrate, bromide of potassium, and tincture of opium, and subsequently he was given sulphate of sodium and magnesium as well as enemata to counteract the constipation. He improved sufficiently to go about again and resume his work, but he succumbed to a similar seizure a few months later.

The Pyrexia of Syphilis.—By P. W. Bassett-Smith. A man aged twenty-five years returned from the West Indies with fever of irregular type and marked anæmia. The condition of the blood and glands led to a diagnosis of pernicious lymphatic leukæmia. His temperature was remarkable, varying as much as 7° F. at times between night and morning, but without rigors and with scarcely any constitutional symptoms. The patient was treated with arsenic, iron, digitalis, etc., for ten weeks, and for a short time with mercury with chalk. Regular examinations of the blood showed the same characters throughout with an extraordinary abundance of blood-plates. As there was an old history of syphilis he was later put on iodide of potassium and bark, with the result that in three days the temperature fell to normal and never again rose.

Observations on Compressed-Air Illness.—F. R. Wainwright gives the clinical histories of nine cases, discussing the condition under the headings of ventilation, pathological effects, diagnosis, etiology, pathological theories, morbid anatomy, remote effects, and treatment. The cases came under observation during recent tunnelling for one of the underground railways in London. He believes that the cause of the symptoms is supersaturation of the blood with air. He believes that this theory explains why rapid recompression followed by a long "locking-out" is in a large majority of the cases curative of all forms of the illness, the air being re-absorbed and the "locking-out" enabling it to escape through the lungs. It also accounts for the fact that the sooner recompression is practised after the onset of the symptoms, the more satisfactory are its results.

A Case of Poisoning with a Small Dose of Chloralose.—By E. H. Doughty.

Hernia Strangulated in the Inguinal Canal; Radical Cure.—By J. B. Pike.

Remarks on a New Intestinal Astringent.—By J. P. Parkinson.

On Some Disappointments of Surgery.—By D'Arcy Power.

Interesting Surgical Cases.—By E. P. Thurstan.

French Journals.

Treatment of Purulent Pleurisy.—G. Marion emphasizes the following points in the treatment of purulent pleurisy: (1) Evacuation as soon as the presence of pus is determined. (2) Avoidance of general anæsthesia, which favors syncope and asphyxia which are comparatively frequent during operation for empyema. (3) The point of evacuation should be at the most dependent spot. (4) The pleura should not be irrigated. The writer gives an account of thirteen cases of purulent pleurisy, not tuberculous, which he has treated. Two patients died during the operation; one from syncope, the other from asphyxia. Probably if they had not been anæsthetized the accident would not have occurred. Another died a month after operation from amyloid degeneration of the viscera. His operation had been performed at least two and a half months after the beginning of the pleurisy. Another, who was not operated on till two and a half months after the beginning of the pleurisy, developed a sinus which demanded a second operation. This would undoubtedly have been avoided had the first treatment been early. The other ten patients made a rapid and complete recovery. The bacteriological examination which was made in eight cases demonstrated the pneumococcus in two cases; in one case the staphylococcus associated secondarily with the pneumococcus; in five cases the streptococcus associated with anaerobes.—*La Presse Médicale*, November 24, 1900.

The Hygienic Treatment of Tuberculosis among the Ancients.—Meunier reviews in an interesting way the ancient treatment of tuberculosis. Hippocrates believed in regular exercise and complete rest. Everything depended upon the personal equation. If exercise agreed with the patient, then that was what he should take. Hippocrates believed in the use of red wine, but substituted white in fever. The patient was advised to avoid hot viands and drinks. Celsus advised for the more robust invalids long sea voyages. For those more feeble he approved of shorter sea trips. Pliny attached great importance to the curative power of the sun. Galen made a point of high altitudes. He believed mountain air dried up the tuberculous ulcerations. The Arabs evidently realized both the contagiousness of tuberculosis and its relatively frequent cure. The school of Salerno believed in the advantages of salt and of honey, and of the milk of goats and asses. Rondelet, contemporary of Rabelais, seems to have been the first to mention the juice of meat. John Jonston regarded tuberculosis as curable even in its advanced stages. Van Swieten foresaw the rôle of respiratory gymnastics. Rozière advocated pure air, moderately dry, and especially an air whose qualities were different from that of the place where the patient contracted his disease. Raulin attached great value to the vapors of sugar. The history of this treatment reveals many curious ideas, and many points which are even at present worthy of careful consideration.—*Le Bulletin Médical*, December 1, 1900.

Excretion of Urine in Neurasthenics.—Maurice de Fleury gives among others the following results of his study of this subject: The quantity of urine excreted in twenty-four hours has been normal in twenty per cent., increased in fourteen per cent., and diminished in sixty-six per cent. The density was increased in 59 cases, diminished in 11, normal in 30. The acidity was normal 29 times, decreased 12 times, increased 59 times. Uric acid was in excess 61 times, normal 14 times, decreased 25 times. Urea was increased 35 times, decreased 57 times, normal 8 times. The phosphates were in excess 26 times, decreased 43 times, normal 31 times. It is known that in the normal individual the proportion of alkaline phosphates, *i.e.*, the phosphates of sodium and potassium, is to the earthy phosphates (phosphates of lime and magnesium) as 3 to 1. In the patients observed by the writer, the opposite conditions have prevailed. In only 19 cases out of 100 was the proportion normal. Indican or skatol was found 73 times out of 100. Only 6 or 7 times were the conjugate sulphates found. The chlorides were increased 56 times, normal 18 times, decreased 26 times. Twelve cases showed bile pigments and 10 urobilin. In 28 cases there were traces of albumin. The coefficient of oxidation was normal 18 times, exaggerated 27 times, decreased 55 times. The coefficient of demineralization was normal 19 times, increased 21 times, diminished 60 times.—*Bulletin Général de Thérapeutique*, November 23, 1900.

Tubercles in the Optic Thalamus and in the Cerebellum.—Louis Spillmann and L. Nilus report a case of this nature. The patient was a seamstress aged seventeen years. The principal symptoms were intense headache, absolute blindness, vomiting, Jacksonian epilepsy, with a pulse regular and rather rapid. Disturbances of memory or of the association of ideas were never noticed, neither were there any anomalies of sensation or motion. Intelligence was not dulled till the very last days of life: coma supervened without convulsive phenomena. At autopsy about a dozen small tubercles the size of a pea were found. They were seen in the middle of the right hippocampus. The optic thalamus on the left side was invested by a tubercle the size of an almond. The cerebellum was filled with tubercles, there being three in the right side and four in the left. Tubercles situated in the gray matter of the brain, in the optic thalamus, and in the white matter of the cerebellum of this patient did not give rise to any characteristic symptom: the symptoms observed were those commonly encountered in many cerebral affections. On this account there was difficulty in determining the exact seat of the tumor during life.—*Gazette Hebdomadaire*, December 16, 1900.

Localizations of the Bacillus of Leprosy in the Different Organs.—E. Jeanselme in his interesting paper on this subject gives the following results of blood examination. In one patient, whose blood was examined eight times in eleven days, during the febrile stage, the red corpuscles varied from 3,880,000 to 4,120,000. Hæmoglobin varied from 9.75 to 10.25. White corpuscles varied from 11,600 to 6,000. A feeble patient, an adult, gave the following count: red corpuscles, 3,240,000; hæmoglobin, 10.25; white corpuscles, 6,000. A young girl aged fourteen years, who had been afflicted with this disease since the age of eight, presented: red corpuscles, 4,400,000; white corpuscles, 4,200. An adult man (four examinations): red corpuscles, 4,760,000 to 4,880,000; hæmoglobin, 9.50 to 10; white corpuscles, 4,800 to 10,400. Adult woman (one examination): red corpuscles, 3,720,000; hæmoglobin, 9.25; white corpuscles, 4,000.—*La Presse Médicale*, December 15, 1900.

Intestinal Ulcerations in Patients Suffering from Arteriosclerosis.—M. F. Mouisset concludes from his observations that: (1) Intestinal ulcerations predominating in the large intestine are found in patients suffering from arteriosclerosis. (2) A more complete and careful examination of the intestine at autopsy will show perhaps that these lesions are more frequent than has heretofore been supposed. (3) Alterations in the intestinal vessels are the necessary condition, and are sufficient to cause the production of ulcerations especially in patients who have an increased blood-pressure. (4) Histological examination of the ulcers reveals arteritis and sclerosis of the intestinal wall. The two lesions may be concomitant, or indeed, one may be the result of the other, and in that case it can be said that the ulcerations result from arteriosclerosis of the intestine.—*Lyon Médical*, December 16, 1900.

Lead Poisoning among Lapidaries.—Ch. Piessinger states that a large number of lapidaries in the Jura mountains are poisoned by lead. In the last fifteen years the number of these patients has diminished, owing to better hygiene and to the diminution in number of lead wheels employed by the workmen. Lead gout does not exist in lapidaries. The relatively sober life, moderate use of meat, perchance also the high altitude, all keep these men out of danger from this complication. All the other manifestations of lead poisoning are present—hysteria, dyspepsia of various forms, neurasthenia—this last generally following dyspeptic troubles, epilepsy, nephritis, anæmia, and paralysis. Tuberculosis is frequently seen among lapidaries; nevertheless it seems that those who have undergone a severe intoxication escape it.—*La Médecine Moderne*, November 28, 1900.

A New Case of Juvenile General Paralysis with Hereditary Syphilis.—E. Regis reports this case of a man aged twenty-three years. In 1899 he was transferred to an asylum and all his symptoms were plainly increased: Dementia was more profound; the inequality of the pupils and the abolition of their reflexes were more marked; speech was very indistinct, sometimes unintelligible; ataxia, muscular paresis, lingual as well as labial tremor, were very marked. The inheritance of syphilis in this case was proved and clearly accounted for the general paralysis. The writer also notes in this young man the occurrence of a fracture of the left femur, which was almost spontaneously caused by a misstep: the cause of the fragility of the bone was probably faulty nutrition.—*Journal de Médecine*, December 16, 1900.

Münchener medicinische Wock., Dec. 11 and 18, 1900.

Contributions to the Question of Traumatic Movable Kidney.—E. Payr cites at some length the opinions of various writers as to the protean etiology of this affection, from which it appears that a distinct bodily type predisposes to the displacement. The characteristics of this habitus are

defective or faulty development of the paravertebral niches, general poor muscular development, relaxed abdominal parietes, diastasis of the recti, non-resistance of the hernial openings, enteroptosis, abnormalities in position of the genitals, weakness of the pelvic floor, etc. Traumatism has always been held to play a doubtful rôle in the causation of the trouble, but the author fully agrees with those who assign it a prominent place. The forms of violence which are apt to have renal displacement as a sequel are (1) shock in the direction of the long axis of the trunk, such as occurs in falls on the feet or buttocks (*e.g.*, the floating kidney of equestrians), (2) blows or falls on the lumbar region, (3) forcible compression of the thorax which may produce either direct dislocation of the organ or simply a loosening of its fastenings so that the mobility is a secondary result, (4) muscular traction. The author is of the opinion that too violent or improperly performed massage is also capable of causing the trouble, and describes three cases in which the lesion was apparently the direct consequence of such manipulation. This does not, however, invalidate the benefits supposed to follow such treatment for the cure of the movable kidney itself; it simply emphasizes the necessity for careful training on the part of those to whom such manipulations are entrusted, and calls attention of practitioners to the dangers attendant on their improper performance.

Acute Iodism and its Relation to the Rhodan of the Saliva and the Nasal and Conjunctival Secretions.—O. Muck seems to have discovered a reason for the notorious susceptibility which some persons exhibit to intoxication with potassium iodide. Having accidentally, in connection with another research, made the discovery that the saliva of a patient suffering from middle-ear disease, which had supposably destroyed the chorda tympani nerve, was free from rhodan, tests on a considerable number of individuals revealed the fact that this constituent of normal saliva is present in very variable amounts, or is even entirely absent. It was found that whenever the percentage of rhodan was high, the intolerance to iodide was also great, while the cases notable for a deficiency of this substance bore the drug especially well.

Experiences with Angiotripsy.—E. Winternitz reports on a series of one hundred and fifty major abdominal operations in which angiotribes of various models were employed to check hemorrhage. The results were not quite as favorable as others that have been published, for two of the four deaths reported were directly attributable to secondary hemorrhage setting up fatal peritonitis, even though ligatures were applied to the compressed tissues after removal of the instrument. Of the various forms of angiotribe experimented with, that of Doyen was found least satisfactory, those of Thumim and Tuffier also had several disadvantages, while even the most efficient of all, viz., Zweifel's, does not insure absolute safety nor preclude the necessity for careful ligation of the stump after compression.

Chloral and Hemorrhage.—A. Model ascribes a series of very severe hemorrhages from the stomach, lungs, intestine, and nose, which he himself suffered from, to the habitual use of chloral as an hypnotic. Before the use of the drug was begun, in spite of a hæmophiliac family history, no bleedings ever occurred; after it had been taken for some time, the hemorrhages were frequent, but again were conspicuous by their absence during a period of four years of chloral abstinence. Finally, at the end of this time, moderate indulgence in the drug was followed by a recurrence of the bleeding.

The Effect of Certain Poisons on the Distomum Hepaticum.—By Tappeiner.

Cadaveric Appearances and their Relation to Time.—By Wetzel.

Report on the Smallpox Epidemic of 1900.—By M. Kaufmann.

Report of the Dermatological Clinic of Strassburg.—By G. Hügel.

Results of Vaccination in Bavaria in 1899.—By L. Stumpf.

The Intratendinous Ganglia.—By Morian.

Berliner klinische Wochenschrift, December 10, 1900.

The Capacity for Work of the Fatty Heart with Aortic Insufficiency.—A. Hasenfeld's conclusions are as follows: (1) Animals with aortic insufficiency feel the effects of phosphorus poisoning much more noticeably than do those with normal hearts. (2) A hypertrophied heart with aortic insufficiency shows a special tendency to fatty degeneration. (3) Moderate degrees of acute fatty degeneration do not influence the strength and capacity of the hypertrophied heart muscle either for ordinary or increased exertion. (4) Excessive degrees of acute fatty degeneration lead to a weakening of hearts with aortic insufficiency and even to a fatal result by means of the circulatory disturbances thereby induced.

Remarks on Scrofula and Tuberculosis with a Contribution on Tuberculosis of the Conjunctiva.—W. Uhthoff reports a case of tuberculosis of the conjunctiva occurring in a girl aged fifteen years, describing the gross appearances and stating the fact that the diagnosis was confirmed by results of the tuberculin test and by examination of a portion of excised conjunctiva. Evidence of slight invasion of the lungs was present. The article must be read in the original by those interested.

The Dietetic Treatment of Hyperacidity.—E. von Sohlern describes a round of dietetic experiments. . The author believes that carbohydrates are not only admissible in this condition, but that they have a distinctly beneficial effect.

An Attempt to Cure Lung Hernia.—By O. Vulpius.

Diabetes Mellitus.—By C. von Noorden.

Deutsche medicinische Woch., Dec. 13 and 20, 1900.

Athyreosis in Childhood.—Quincke contributes two case histories which illustrate how much is still obscure in the knowledge of diseases of the thyroid gland. In the first the child appeared healthy at birth but soon afterward showed symptoms pointing toward some abnormality of development, and when brought under observation presented an appearance strongly suggestive of cretinism. Under protracted treatment with iodothyrin and thyraden very appreciable improvement followed, but the patient succumbed to diphtheria at the age of four years. Contrary to the rule in cretinism the child did not stop its growth in height, though at the autopsy it was found that the thyroid gland, which originally had been palpable as a very small nodule, had totally disappeared. In the second case the child seemed normal to its parents for over a year after birth, when it developed a type of myxœdema accompanied by a peculiar suppuration of the gums which caused the loss of all the teeth. At the age of two years no thyroid gland could be made out, and a systematic course of iodothyrin was begun with most gratifying results, which seem permanent, for now (three years later) the child still appears normal in every respect. The author suggests that possibly accessory thyroids or the thymus have taken up the functions of the absent thyroid.

Adenoid Changes of the Cervix during Pregnancy, Labor, and the Puerperium.—C. Hennig says that the best treatment for the adenoid vegetations of the cervix, often occurring during pregnancy and easily mistaken for erosions, consists in warm cleansing douches. These may contain boric acid, aluminum acetate, or silver nitrate; copper sulphate is not to be recommended. Excision of the diseased area is permissible, the wound being closely sutured. The trouble often remains stationary for long periods of time, causing no pain but giving rise to frequent bleeding. Cauterization with the silver stick is allowable only at long intervals, the use of acid nitrate of mercury being less liable to be followed by secondary hemorrhage. During labor lacerations are predisposed to by the soft succulent nature of the granulating tissue, and it is important to restrict the bearing-down pains and not to apply forceps till full dilatation has taken place. In the puerperium the condition affords favorable sites for infection, and antiseptic douches are indicated. Excision is never followed by recurrence.

A New Method of Obtaining the Patellar Reflex.—Walbaum describes a manœuvre intended to facilitate the technique of this reflex in difficult cases. The quadriceps is relaxed in the usual way either by having the patient cross the legs, or, preferably, seating the patient on the edge of the chair and allowing the heel to rest on the ground with the leg semi-extended. The half-closed hand is now applied to the knee in such a way that the finger tips rest on the inferior patellar ligament, and the upper border of the patella is embraced between the thumb and little finger. A slight blow with the other closed fist now both gives a shock to the ligamentum patellæ and also jerks the bone downward, the double act producing a summation of stimuli which never fails to elicit the reaction if it is present. Even if not visible to the eye, the finger tips can appreciate the slightest twitch of the tendon.

Preliminary Report on the Casualties of the Heidelberg R. R. Disaster of October, 1900.—By F. Völcker.

The Value of Pure Plant Albumin in Nutrition.—By A. Loewy and M. Pickardt.

The Bacteria in Typhoid Fever and their Practical Significance.—By F. Neufeld.

Conclusions Reached by the Malarial Expedition.—By R. Koch.

Experimental Work on Iron Therapy.—By F. Müller.

A Case of Difficult Œsophagoscopy.—By G. Killian.

American Journal of the Medical Sciences, Jan., 1901.

The Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis.—Eugene L. Opie states that the association of these two conditions has been mentioned by a number of writers. When anatomical conditions are favorable disease of the pancreas may occur as a complication of cholelithiasis when a calculus passes along the common bile duct. The lodgment of a stone near the orifice of the bile duct, where it may at the same time compress and occlude the duct of Wirsung, is not uncommonly a cause of pancreatic lesions and disseminated fat necrosis. Should a calculus become impacted in this position the cases reviewed by Opie show that one of several conditions may result: (1) An individual, usually in fairly good health, with perhaps a history of previous gall-stone colic, is suddenly attacked with pain in the epigastric region, accompanied by vomiting and followed by collapse. Death occurs usually within forty-eight hours, and at autopsy gall stones are found in the bile passages, while the one which caused the fatal attack may be still lodged in the common duct near its orifice. The pancreas is enlarged, infiltrated with blood, and hemorrhage may have occurred into the surrounding tissue. Foci of fat necrosis are usually present. (2) A fatal termination may not follow rapidly the symptoms mentioned. Pain in the epigastrium persists, jaundice may be present, and a tumor mass above the umbilicus may indicate a probable lesion of the pancreas. At the end of one or more weeks or months death occurs, often with symptoms indicating the presence of suppurative inflammation, presumably in the neighborhood of the gland. At autopsy the diagnosis of cholelithiasis is confirmed by the presence of gall stones in the gall bladder or in the bile ducts, and occasionally the offending calculus is still lodged near the junction of the common bile duct and the duct of Wirsung. The pancreas is dry, black, and necrotic, and evidence of previous hemorrhage may be present. Secondary infection has occurred and the pancreas lies in an abscess cavity formed by the bursa omentalis. In the wall, and often widely disseminated in the abdominal fat, are foci of necrosis. Since the individual has survived the primary lesion, opportunity has been given for the development of secondary changes in the injured pancreas and neighboring fat. (3) In certain instances long-continued or repeated obstruction of the pancreatic duct by gall stones does not cause the acute lesions described, but produces chronic inflammatory changes.

A Report of a Case of Typhoid Pleurisy.—According to Hermon Camp Gordinier and August Jerome Lartigau, pleurisy is not a common complication of typhoid fever. When present, it is ordinarily secondary to pneumonia, to an infarction, or to gangrene. Primary pleurisy is regarded as very rare. The more common members of the pyogenic group of micro-organisms are generally demonstrated. A very few reports show the etiological relationship of the typhoid bacillus to certain cases. One case was that of a man aged fifty-seven years. After examination of the patient, a diagnosis of probable typhoid fever was made. Later the urine was found to give a distinct diazo reaction; the blood showed a positive Widal reaction, no leucocytosis, no plasmodia. Four days later there developed a large right-sided pleural effusion. The bacillus typhosus in pure culture was isolated from the aspirated fluid. In these cases the left side is generally affected. They occur mostly in men. The third week of typhoid seems to be the favorite time of onset. In the majority of cases the exudate, although hemorrhagic and serofibrinous, is also purulent.

A Study of a Case of Gonorrhœal Ulcerative Endocarditis, with Cultivation of the Gonococcus.—August Jerome Lartigau concludes that: (1) Gonococcal urethritis may be the starting-point for a fatal septicæmia induced by a pure infection with the gonococcus. (2) Endocarditis and arthritis are occasionally complications of such an infectious disease. (3) The endocardial processes may be incited by the gonococcus without the association of other organisms.

A Case of Multiple Fibromata of the Nerves, with Arthritis Deformans.—By Robert B. Preble and Ludvig Hektoen.

Asthenic Bulbar Palsy.—By Charles W. Burr and D. J. McCarthy.

Dorsal Dislocation of the Trapezoid.—By John Glendon Sheldon.

Obstructive Biliary Cirrhosis.—By William W. Ford.

Bulletin of the Johns Hopkins Hospital, December, 1900.

A Plea for Naked-Eye Diagnosis and Removal of the Entire Organ with the Neighboring Area of Possible Lymphatic Infection in Cancer of the Larynx.—John N. Mackenzie speaks of the three principal methods of diagnosis in laryngeal cancer in the order of their practical usefulness and importance: (1) The naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena; (2) thyrotomy; and, finally, (3) the microscope. The second method is often included in the first. It is impossible to exaggerate the importance of naked-eye diagnosis in the detection of laryngeal cancer. Every resource and refinement of clinical diagnosis should be resorted to before an appeal to the microscope is made. The removal of the "piece for microscopic examination" too often means only the beginning of the end. Thyrotomy is justifiable when laryngoscopic examination either leaves reasonable doubt as to its true nature, or manifestly fails to define the exact territory occupied by the disease. The partial extirpation of the tumor for purposes of microscopic diagnosis is admissible only as a measure of the very last resort. The objections to the removal of tissue for examination are: (1) It subjects the patient at once to the dangers of auto-infection at the point of incision and to metastasis elsewhere. (2) It stimulates the local growth of the cancer. (3) Finally, the method is often inconclusive, misleading, and sometimes practically impossible. Cancer is an infectious process whatever may be its cause. Serum therapy will some day play the most conspicuous rôle in the treatment of this disease. Early total extirpation of the entire larynx with its tributary lymphatics and glands, whether the latter be apparently diseased or not, is the only possible safeguard against local recurrence or metastasis. No operation for laryngeal cancer is complete without the removal of the neck lymphatics. Only when this method is followed will the statistics and prognosis of this disease become more favorable.

Heredity in Diabetes Mellitus, with a Report of Six Cases Occurring in a Family.—J. Hall Pleasants makes this report and observes certain peculiar features of the family type of the disease, as follows: (1) The occurrence of the disease in an uncle, aunt, or cousin, while the parents escape, is very often observed. This may be conveniently spoken of as the "collateral inheritance" of diabetes. In the same way a grandparent may be diabetic while the parent escapes. (2) When successive generations are affected, there is a tendency for the disease to develop at a progressively earlier age. (3) When more than two members in the same generation are diabetic, there is a tendency for the disease to appear at approximately the same period of life. (4) While hereditary diabetes developing in the first two decades is often of a severe character, the cases developing later in life are generally of a mild type. (5) In a certain number of cases the disease has appeared in the children prior to its occurrence in the parents. (6) There is frequently a neuropathic tendency in diabetic families. Cases are recorded in which several children were diabetic, while the others suffered from various psychoses. (7) Obesity is often a characteristic of families in which diabetes occurs.

Experimental Injection of Testicular Fluid to Prevent the Atrophy of the Prostate Gland in Dogs, after Removal of the Testes.—George Walker sums up the results of his work on this subject as follows: The prostate gland in the injected animals presented both macroscopically and microscopically the same changes that had occurred in the uninjected ones. It may be said, therefore, that the injections of the testicular fluid had apparently no effect whatever, and one is probably justified in concluding that the atrophy of the gland is in no way connected with the absence of any substance in the testicular secretion.

Theodor Billroth, Musical and Surgical Philosopher: a Biography and a Review of his Work on Psycho-Physiological Aphorisms on Music.—By John C. Hemmeter.

Report on the Examination of the Ears of Four Hundred and Forty School Children.—By H. O. Reik.

Archives of Otology, December, 1900.

Aural Complications of Scarlet Fever with Twelve Post-Mortem Observations.—By B. von Gaessler. The author arrives at the conclusion that his observations tend to show a relation of the middle-ear disease to the exanthem. Simple hyperæmia, secretory process, fibrinous exudate, form the progressive states of the ear disease due to infection. In the only case in which no material alteration was found, the length of time since the initial infection may have permitted the subsidence of the ear symptoms while the nephritic condition supervened with fatal result. The fibrinous deposit in the middle ear, in the pharynx, and on the tubes, and the purulency of the atlanto-occipital joint present the most intense state of infection. In the single instance in which the cartilaginous portion of the tube showed evidences of recent inflammatory alterations, the opinion of Moos, that the infection can spread along the tubal mucous membrane, seems tenable. The normal condition of the cartilaginous tube in all other cases lends strong probability to the view that the ear disease is a manifestation of the general infection and not an extension of the infectious process in continuo. While the relatively small

number of examinations permit the expression of only a probably invariable participation of the ear in scarlet fever, they show that pronounced inflammatory processes can exist behind a normal or nearly normal drum membrane. In scarlet fever, the condition seems analogous to measles and diphtheria, in which an invariable participation of the ear has been proven.

Shall the Antrum be Opened in Acute Empyema?—E. F. Snydacker says that the antrum may be a source of danger in acute empyemas in two ways: If the mucous membrane becomes swollen, because of the peculiar anatomy of the parts the outlets of the antrum are easily shut off and an undrained empyema of the antrum ensues; or certain pathological changes occur in the antrum, such as polypoid degeneration of the mucous membrane, formation of granulations, necrosis of the bony walls, etc., which cause the antrum itself to become a focus and disseminator of infection. In every operation for acute empyema of the mastoid cells, unless the operator makes it a routine practice to open the antrum, he must ask himself these two questions: Is the antrum drained? Has it undergone such pathological changes that it is a focus of infection? If he is in doubt on either of these two points, then he must open the antrum.

Zeitschrift für klinische Medicin, vol. xlii., Nos. 1 and 2.

The Diagnosis of Aneurism of the Aorta and Innominate Artery and their Treatment by Subcutaneous Injections of Gelatin Solution.—Josef Sorgo reports a considerable number of cases of various types of hemorrhage in which an attempt was made to produce hæmostasis by the subcutaneous administration of gelatin solution. While the results in some instances were good, the author's opinion is that as yet the fervid statements made by some of the advocates of the method are unjustified and also that we are still wholly in the dark as to how the beneficial effect when present is produced. Applying the measure more particularly to aneurisms the conclusions are somewhat similar. Massing his own cases with others reported and omitting all the doubtful ones, it appears that in thirteen out of thirty-four cases coagulation in the aneurismal sack was produced, while in twenty-one the result was negative. Of these the successes were all in the saccular form, while in the fusiform dilatations nothing but failures were noted. It is hard to determine just how much value attaches to the amelioration following such treatment, for, being accompanied by the additional factors of rest in bed and milk diet, which by themselves are sufficient to cause great subjective and objective improvement, we cannot ascribe the benefit to the injections alone. Furthermore, the facts that the element of coincidence must be dealt with, that the percentage of failures is so large, and that all experimental evidence for the coagulating power of gelatin solutions is lacking, all combine to render one chary of giving a positive opinion. The strength of solution employed was from four to five per cent., thrown under the skin of the thigh or abdomen in quantities varying from 100 to 150 c.c., and repeated every two or three days. Under strict antisepsis the injections themselves are harmless, though in renal disease it is perhaps preferable to give the solution by the mouth. Severe pain and some fever are often produced, but soon subside without treatment.

The Cause of Sickness in Rarefied Atmospheres.—E. Aron has endeavored to throw some light on the peculiar malady known as mountain sickness by conducting a series of experiments in which atmospheric air, air under a pressure of 380 mm. of mercury, and pure oxygen were inhaled and the respiratory activity recorded. His conclusion is that the change in respiration accompanying rarefaction of the inspired air rests upon two components, viz., both the physical and the chemical differences from the normal which such an atmosphere possesses. It follows that great relief will be given to the distress that prevails under such conditions if pure oxygen be inhaled, for thus the chemical element at least can be eliminated, though the physical conditions are still unchanged.

A Contribution to the Study of the Late Forms of Cyanosis of Peripheral Origin.—Thomas reports a number of cases of cyanosis occurring late in life, in which the lesion usually found in such disease, viz., patency of the foramen ovale, did not exist. Given a damaged lung and a hypertrophied right heart the abnormally large charge of blood that pours through the lungs which are already impaired in function is not sufficiently aerated and cyanosis results, and the author explains his cases on this basis.

The Method of Determining the Fat Percentage of the Blood and the Fat Value of Human Blood.—By M. Bönniger.

Unilateral Pulmonary Atrophy and Congenital Bronchiectasis.—By E. Neisser.

The Effect of Artificial Perspiration on Gastric Secretion.—By P. Edel.

Interference with Tactile Sensation.—By A. Adamkiewicz.

Amatus Lusitanus and his Day.—By M. Salomon.

Transsonance in Percussion.—By J. W. Runeberg.

Lymphatic Leukæmia.—By M. Rosenfeld.

Norsk Magazin for Lægevidenskaben, December, 1900.

Extra-Buccal Alimentation, Especially per Rectum.—H. J. Vetlessen cites a number of cases of ulcus ventriculi in which he had recourse to this method of feeding, but dwells more especially on a case of cancer of the œsophagus, in which he prolonged the life of the patient for seventy-one days by the use of nutritive enemata. As a rule he uses milk, to which are added the yolk of an egg, a little salt, port wine, and opium. Subcutaneous injections of olive oil are given at the same time. As the exclusive use of nutritive enemata does not supply enough liquid to the organism, copious salt-water injections or subcutaneous injections should be given.

The Treatment of Pulmonary Tuberculosis.—C. F. Larsen urges that the patient be not kept too much in bed, but have a moderate amount of exercise in order to induce deeper respirations and improved circulation of the blood.

Exanthemata due to the Internal Use of Quinine.—Kristian Grön reports five cases observed. In four of these the exanthem occurred as the usual erythema, with subsequent desquamation; in the fifth case the form was papular, together with a certain amount of urticaria. The doses of quinine causing the eruption were very small. Itching and inflammation were severe. In one case there was a slight rise of temperature. One or two of the patients complained of a feeling of tension in the neck, chest, and thighs.

Moist and Resonant Râles.—By S. R. Laache.

The Use of the Forceps.—By L. Jansen.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BEER AND ARSENIC—PARASITOLOGY OF MALARIA—THORACIC ANEURISM—ALLEGED DEATH FROM X-RAYS—OBITUARY—DRS. J. M. WINN, PARSONS, AND DUNLOP.

LONDON, December 22, 1900.

OUR talk is still of beer and arsenic. This is not surprising, considering that all the materials used in brewing have been subjected to analysis and almost all furnish instances of contamination. I may give as an example that Dr. John Brown, M.O.H., of Bacup, reports he found arsenic in rubber tubing and lead pipes which were used to take the beer from the pumps to the barrels. New pipes and tubing were also found to give the reactions of arsenic. On the other hand, the expert committee appointed by the Manchester Brewers' Association has not found arsenic in brewing materials except in the glucose supplied by one company. But Mr. William Thomson reports to the Manchester and Salford Sanitary Association that he has found arsenic in a number of samples of malt, and, assuming it all went into the beer, the quantity would be as great as in the contaminated glucose beer.

Other analysts have detected the poison in beer brewed from malt and hops. Both these materials are said to have been sometimes contaminated, and it is suggested that the poison is derived from the coke fires used in the drying houses. Altogether there is a great amount of evidence accumulating to show that from one source or another the contamination is widespread.

Dr. Patrick Manson last week communicated to the Medico-Chirurgical a summary of the parasitology of malaria with special reference to prophylaxis. It was conjectured years ago that, a part of the cycle being outside the body, it was probable that some blood-sucking insect was concerned. At length Major R. Ross demonstrated that the parasite entered the mosquito stomach, and he then pursued his investigation on birds. He found the proteosoma of the sparrow passed from the stomach to the salivary gland and so to healthy birds. But MacAllum showed that the parasite, although asexual in the human host, became bisexual in the mosquito, and that the female when impregnated entered the stomach wall. But these are still questions for further research. We do not yet know what circumstances determine the development of the asexual or bisexual phases respectively; nor what becomes of the parasite during the latent period, which is sometimes very long. A further unsolved problem is, why crescents are so often found in this country; in Italy during late au-

tumn, but very rarely in the tropics or in Italy during summer and early autumn.

As to the kind of mosquitos. Hitherto only the Anopheles have been found to convey the infection, and of these five out of forty-six known species have been proved to do so. Of the culex there are some two hundred and fifty species, but of the few tested none have been found carriers of the parasite. As to blackwater fever, Dr. Manson said Koch's idea that it is caused by quinine is quite untenable. The notion that it is only intense malaria is not supported by some of the facts. There is also a lack of confirmation of other conjectures, such as a special type of parasite or one of increased virulence from having passed through a particular species of mosquito.

Dr. Sambon then read a paper by himself and Dr. G. C. Low giving an account of their residence at Ostia in the Roman Campagna from July 19th to October 19th. With two other persons they occupied a mosquito-proof hut, and all four remained unaffected by malaria and are still quite well, though all the inhabitants of the neighborhood suffered, as did also fourteen healthy policemen who were sent into the district. They found the risk of being bitten in the daytime was so slight that they would go out freely, and they gave up the use of veils, which they wore at first in their excursions. They conclude that mosquitos are the sole agents of transmission, and that protection from their bites can easily be obtained and will give absolute immunity.

The Medical Society has held a debate extending over two evenings on "The Diagnosis and Treatment of Thoracic Aneurism." It was opened by Dr. Haviland Hall, who read the notes of a case of aneurism of the transverse and descending aorta. Among the points suggested for discussion were the diastolic thud, tracheal tugging, Roentgen rays, Tufnell's treatment, iodide, calcium chloride, gelatin injections, tracheotomy. You will see there was plenty of room for discursive remarks and opportunity for expressing such opinions as any speaker may have formed.

Sir W. Broadbent thought diastolic shock when present diagnostic, but its absence was not good evidence. Tracheal tugging was interesting, but not diagnostic. Potassium iodide was the chief treatment. Tufnell's, to an extreme degree, was not advisable.

Dr. Maguire was of the same opinion, and asked if ever a workingman had been cured by Tufnell's plan so as to be able to resume work? He believed the good results described by Lancereaux to be real and the plan safe if due care were exercised. About three ounces of a sterilized warm solution of gelatin in decinormal salt solution could be injected into the intermuscular tissue, preferably of the buttock. He had used the method in four cases, and there was evidence of consolidation in the sac.

Dr. Oswald Browne said aneurism of the transverse part often began on the posterior surface, and as physical signs were absent pressure symptoms were of the greatest importance. He mentioned a case in which a man returned to heavy work after treatment by chloride of calcium and rest.

Dr. Kingston Fowler thought both the diastolic thud and tracheal tugging were of value. The latter he had always found associated with aneurism except in one case of mediastinal tumor. Tufnell's treatment was contraindicated in the presence of aortic regurgitation, as it would probably break down compensation. In three cases treated by Lancereaux's method he could not say it had done any good.

Dr. Gilhart Smith had seen no benefit from Tufnell's treatment nor from Lancereaux's.

Dr. S. Taylor thought tracheal tugging of little if any diagnostic value, and had seen no benefit from Tufnell's treatment.

Dr. Cantley thought the plan was often tried in unsuitable cases. He had seen improvement under it when combined with chloride of calcium in a case of abdominal aneurism.

Dr. Sanderson, of Brighton, thought neurotic patients unsuitable for Tufnell's plan.

In his reply, Dr. Hall said iodide of potassium alone was less efficient than in conjunction with low diet. He was not impressed with the gelatin plan, but felt it too early to judge, as aneurisms often lasted for years.

"That the deceased met her death from shock and exhaustion following the accident and the effects of the Roentgen rays upon a weakened system, no blame attached to either the medical man or the photographer." This was the unanimous verdict of the jury in an unfortunate case at Hastings, which has caused a good deal of excitement. There are several points in the case which deserve attention, such as the length of the exposure, distance of the tube, age and condition of the patient. Evidence was offered on these which satisfied the jury, but which a medical expert with Roentgen rays might have been inclined to question. But the point for the profession to weigh seriously is the propriety of entrusting to photographers the taking of skiagrams for medical purposes. When, as in this case, legal proceedings arise, such a course is dangerous, and even for ordinary diagnostic purposes it is most unsatisfactory.

But the profession is far too lax in this and other things. It is too common to commit to unskilled persons what should be carried out by medical men. At one time anæsthetics were often entrusted to any one, but the danger of doing so has been sufficiently accentuated.

The present case shows that only medical *x*-ray experts should be employed. It is just to them that the advantages of their labors should not be usurped by tradesmen. It is very unjust to patients to expose them to dangers which a medical man would be sure to avoid. It is indecorous, too, to introduce non-medical operators to cases of this kind.

Another way in which the profession shirks its work is in entrusting so much of it to nurses. I have always protested against allowing them to give hypodermics, and am glad to see that Sir D. Duckworth in a recent address condemned the practice. Speaking of the abuse of anodynes, he said for much of it the "profession is to blame," and "the frequent handing over of hypodermic syringes to nurses is also to be blamed." But the very men who do such things will cry out against the encroachments of unqualified practitioners.

Dr. James Mitchell Winn died on the 8th inst. in his ninety-second year. He was perhaps best known from his contributions to *The Journal of Psychological Medicine* and as a doughty champion of Christianity. His "Collapse of Scientific Atheism" appeared in 1880; but long before that he had written on "General Paralysis of the Insane" (1847) and on "The Nature and Treatment of Hereditary Disease" (1869). Perhaps the last named was his most important work from a medical point of view. As late as 1894 he renewed with remarkable vigor his fight against atheism in a treatise on "The Fallacies of the Materialistic Theory of Physiological Psychology."

Dr. Courtenay Charles Parsons, civil surgeon in the South African field force, died on the 3d inst. of typhoid. He took his diplomas in 1896. His brother, a lieutenant, was killed at the battle of Driefontein. These two were the sons of Dr. Parsons, of Dover, former treasurer of the British Medical Association, for whom general sympathy is felt.

Dr. C. S. S. Dunlop, whose death at Lagos is reported, at the early age of twenty-seven, was the son of Dr. Dunlop, of Jersey, who has other sons in the service in Africa.

THE TREATMENT OF GASTROPTOSIS.

To the Editor of the Medical Record.

Sir: I read with deep interest Dr. Lockwood's recent valuable contribution to the subject of gastroptosis. I was surprised, equally with Dr. Rose, not to see the "plaster bandage" mentioned as at least a means which might be tried in the management of these cases. It is, of course, possible that the author has not had experience with this simple service. If, however, he has, and does not think well of it, I for one would be very much interested to know why. It is less expensive, less bulky, and less annoying to the patient, and accomplishes the results aimed at far more perfectly than any other form of abdominal support. In regard to the letter of Dr. Rose in your issue of the 22d, I want to emphasize the following, viz., the gratifying results in cases of reflex vomiting, cough, and belching due to displaced stomach; the happy end attained in neurasthenic gastric cases, with one or more of the abdominal organs displaced. In many cases in which an absolutely clean-cut diagnosis is difficult, but in which the lower abdomen supported by the hands (in the position of the plaster) afforded immediate relief, one application has effected what might be termed a cure as far as symptomatology is concerned. Since the publication of my paper in *The Medical News*, I have used this support in upward of fifty cases. Recently a patient who had worn the plaster about two weeks returned to commend its work and to ask if when it "came off" she might have another applied. It was a case of ulcer with gastroptosis and double nephroptosis.

H. W. Lincoln, M.D.

Brooklyn, N. Y., December 23, 1900.

Gonorrhœa and Gynæcological Diseases.—Sanger states that in about one-eighth of all gynæcological diseases gonorrhœa is the underlying cause. Taylor, reviewing the condition from the side of the venereal specialist, says that this statement is conservative and probably nearly correct.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 17, 1900.

PARKER SYMS, M.D., PRESIDENT.

Retention Cyst of the Liver.—DR. WILLIAM A. SHUFELT presented this specimen. It had been removed from a famous ballet dancer, who had first consulted him last July, complaining of pain in the hepatic region associated with jaundice. The stomach had been found markedly displaced downward. On the right side, just below the free border of the ribs, a movable tumor could be felt. The operation had been done one month later. The gall bladder was apparently normal, and there were no evidences of calculi in the common or hepatic ducts. The patient had made a rapid recovery, and the jaundice had quickly disappeared. Search through the literature had shown only five cases of simple cysts of the liver on record. The English authorities regarded these cysts as being sterile echinococcus cysts. The reason he did not think this one was such a cyst, but rather a retention cyst, was that he had been unable to find any trace of the echinococcus hooklets, and in addition it had been filled with bile, and its histological relations seemed to indicate that it was a retention cyst. There was a deep depression in the liver opposite the tenth rib, the result of excessively tight lacing.

Tube and Ovary in an Inguinal Hernia.—Dr. Shufelt also presented this specimen, which had been taken from a servant thirty years of age, who had been admitted to the Lebanon Hospital suffering from an irreducible inguinal hernia. She had suffered intense pain in it at the menstrual periods. She had never worn a truss. After the usual incision for the Bassini operation had been made the sac had been found to extend from the internal ring to a point well over the pubic bone. In the sac had been found a well-developed and normal tube and ovary. The fimbriated extremity of the tube was perfect. The ovary contained numerous fibroid growths, and was firmly attached to the sac. The tube and ovary were removed with the sac. The patient had made a prompt recovery.

Coffee as a Beverage, and its Frequent Deleterious Effects upon the Nervous System: Acute and Chronic Coffee Poisoning.—DR. WILLIAM M. LESZYNSKY read a paper with this title (see page 41).

The Verdict of the Human Race.—DR. WILLIAM H. THOMSON said that coffee was used by a very large proportion of the whole human race—roughly speaking, by about one hundred millions of people. This brought up the question as to whether coffee, tea, and tobacco were really poisons. His answer was emphatically "No," because they were used by all mankind on such a scale that if they were really poisons they would long ago have exhibited their ill-effects upon the various races of the earth. It certainly could not be said of any one of these that it really affected the health or the longevity of the human race. Physiological experiments on an unusually extensive scale had established the fact that to the majority of human beings, when healthy, these articles were in no sense deleterious. But it was a totally different question whether any of these agents, and coffee particularly, might not be very injurious to persons not strictly in normal health. In such persons almost any article of food or drink might become injurious. It was undoubtedly essential that the physician should carefully question a large number of his patients regarding their habit of drinking coffee.

Its Use and Abuse.—It was a striking fact that the races of mankind had uniformly adopted as habitual beverages plants containing caffeine or an allied chemical principle. This suggested that the ordinary and moderate use of such beverages could hardly be mischievous. He was of the opinion that coffee was of very great service to a multitude of people, acting as a relish, and enabling them to take a nourishing breakfast when otherwise they could not do so. This matter of relishes was an important and interesting subject, and had been elucidated by careful physiological experiments, having for their object the determination of the effect of such substances upon the gastric secretion. There were certainly some people who from idiosyncrasy could not take coffee at all without harm. In his experience these people were indicated to the physician by the fact that the taste of the coffee was "repeated" even when taken in moderation. Of course, marked excesses in diet, whether in coffee or in beef, should be checked, otherwise ill-health must result. He would invariably condemn the use of more than one cup of coffee at a meal. He was sure that a person using six cups of coffee daily for six months would exhibit symptoms which should indicate to the careful physician the necessity for checking this practice.

Coffee Drinking in Childhood.—DR. I. N. LOVE said that he had begun making special observations on the use and abuse of coffee about fifteen years ago, and had presented a paper on this subject about ten years ago to the Mississippi Valley Medical Association. There could be no question that coffee, tea, tobacco, and alcohol, though the last the least of all, were valuable as articles of diet if used properly. During childhood these articles should not be used at all. The carelessness with which parents would permit even babies to drink coffee was remarkable. This was often done through a desire to give the children a warm drink in the morning. The ill-effects of this practice were frequently met with by the physician. Such children early showed poor digestion and an irritability of the nervous system. He had been surprised to find how common this was, even among the well-to-do, and how seldom physicians gave the matter due consideration. He was of the opinion that this habit was a means of developing in these persons, as they grew older, a desire for something stronger. The exceptional individual of excellent inheritance and strong physique, and with a well-poised nervous system, could use coffee and tobacco from an early age without marked detriment, but it should always be borne in mind that these cases were decided exceptions. The child should have no stimulant, just as the thorough-bred colt should have no whip but oats or other wholesome food.

Coffee-Houses the Foe of Saloons.—Coffee, tea, and cacao contained practically the same active principle, but coffee contained the largest proportion of this substance—in other words, is the strongest. The psychical satisfaction produced by these beverages at meal-time was of much importance. Coffee-houses judiciously placed and managed would undoubtedly solve the saloon problem. Taken with the meal coffee was apt to disturb digestion. When he had desired to restrict the diet in the treatment of obesity he had advised the use of a cup of black coffee in the morning sandwiched in between two cups of hot water. When used in this way it stimulated peristalsis and favored digestion, at the same time that it removed the desire for food and enabled one readily to become a member of the "no-breakfast club." To obtain the best effect of coffee it should not be taken with the lunch or the dinner, but at three or four o'clock in the afternoon when there was no food in the stomach, and when fatigue was beginning to assert itself. The

after-dinner cup of black coffee was an example of the wrong use of coffee. Coffee taken as indicated by him, and without cream and sugar, acted admirably, and represented what should be the proper and habitual use of this beverage. The emergency use of coffee for night work was all right if done judiciously, that is, only as an occasional practice.

Coffee for Children.—Dr. Louis Fischer said that most pediatricians prohibited the use of coffee in childhood for the following reasons: (1) Because coffee was in no sense a food; (2) because it acted as a lubricant to the machinery of the body, and exerted its stimulating influence by toning up and diminishing nerve fatigue; (3) because it produced a disturbance of digestion by a direct interference with the chemical part of the process, producing an atonic dyspepsia; (4) because coffee was a cardiac stimulant, depressing the action of the heart when taken in large quantities; (5) because it produced choreiform movements, insomnia, extreme nervousness, night-terrors, and fear generally, and (6) because it was a diuretic.

Indications for its Use.—Coffee should be prescribed for children as a cardiac stimulant, but in very small doses. From one to several teaspoonfuls, repeated at regular and prescribed intervals, was the proper method of administration, and the physician should be guided as to the dosage by the effect on the pulse. There was no better cardiac stimulant for children than coffee administered in small doses along with large quantities of cream. As ordinarily taken, coffee consisted of an infusion of two ounces of coffee in one pint of water, and analysis showed that a cup of such coffee contained 1.7 gm. of caffeine and 3¼ gm. of gallo-tannic acid. For children coffee should be made of about half the usual strength.

Much Good in Moderate Coffee Drinking.—Dr. Albert L. Gihon said that we should bear in mind the fact that coffee, tea, cacao, kola, and other similar substances were distributed all over the world, and that there was not a race—savage, pagan, or civilized—that did not make habitual use of these things. It was a singular fact—almost a matter of predetermination—that these things should have been so widely distributed over the earth. It was also curious that they should all have nearly the same active principle. We should not confound use and abuse. Their almost universal and indiscriminate use should lead us to be cautious in drawing conclusions regarding the evil effects of such beverages. Aside from idiosyncrasies and a few exceptional cases, it seemed to him that coffee was useful, and was really a food. It was well known that most people took too much food, and if taking coffee in moderation would prevent this it might prove a boon to mankind. The use of kola in Africa was as beneficial in that country as the drinking of coffee was in many other countries. Kola might be called the king of them all. If coffee were good, then kola was better, but it should not be used more freely than coffee.

Dr. Leszynsky said that his paper had been presented after mature deliberation extending over a period of seven years. He had endeavored to eliminate all prejudice and to present a scientific contribution of a conservative character. He had not said anything therein in condemnation of coffee except when used indiscriminately and to excess, and it was because coffee was so commonly used in this country that he had felt impelled to write this paper.

Anatomical and Physiological Evolution of the Ovary from the Embryo to the Aged Woman.—Prof. John G. Clark, of the University of Pennsylvania, presented a paper on this subject, freely illustrated with lantern slides. He pointed out that the Wolffian body underwent complete atrophy and sank down into the pelvis, and that shortly after this a new set of vessels developed. If a testicle were to be formed from this genital mass, the vessels would be seen running up on top of the mass. The opposite was the case if the mass was to go to form an ovary. In the testicle the main circulation was on the exterior, so that any inflammatory changes going on within the organ would not specially impair the circulation of the organ. In the ovary the vessels divided into five primary branches, which ran into the centre of the organ, and spread out into numerous smaller branches. These marked differences in the circulation of the embryo ovary enabled one to differentiate at an early date between the sexes. The formation of the Graafian follicles was then explained, and each step shown by photographs. Attention was called to the arrangement of the vessels permitting in the developed ovary the perfect vascularization of even small portions under adverse conditions. The ovarian artery, it was stated, ran into the hilus of the organ and divided into two branches. Each one of these divided into about seven branches, and the latter freely anastomosed around the Graafian follicles. As the ovary was supplied with both the ovarian and the uterine circulation, there was ample provision for vascularization in case of injury. The follicles lying toward the centre of the organ having the best nutrition were in a state of great activity even in the young child, contrary to the usual opinion. The follicles did not wait until puberty to begin active ovulation, but it was only at that time that they reached the surface and could rupture and be fecundated. In an ovary from a child of two years one would find areas of scar tissue, showing the retrogressive changes which the follicles underwent in early life. A specimen from a girl of six years showed the centre, instead of being filled with myriads of follicles, made up of scar tissue, or rather of the connective-tissue stroma of the organ. The ovary from a girl of nine years showed a central nerve or vascular supply, and a sympathetic nerve supply on the periphery. The follicles were pushing up toward the surface. When they came near enough to the surface to make pressure on these sympathetic fibres and produce congestion, according to Dr. Clark's theory, the vessels became turgescent, and irritation of the surface resulted. The central vascular supply at this stage was not much disturbed. A photograph was shown of an ovary from a girl who had died of typhoid fever after having menstruated only once. It showed a very marked corkscrew arrangement of the vessels and congestion of the vessels. As a result of this circulatory change the follicle was pushed toward the periphery. He had made serial sections through the ovary, and had followed the individual arterial branches. Owing to the fine arterial branches at the periphery being at a right angle to the surface there resulted an area of poor vascularization on the surface where the follicle approached this surface, and this explained the occurrence of local necrosis. Very tiny cysts of the ovary were shown to be often strictly normal. The follicle was most apt to rupture one or two days prior to the appearance of the flow; hence impregnation was most likely to take place just before the flow. This opinion was generally accepted, the speaker said, by physiologists, and seemed to be based on anatomical grounds. Section after section was shown to give an idea of the very perfect granulating process by which, after menstruation, the ruptured follicle was filled up. The corpus luteum of pregnancy was the same as an ordinary corpus luteum except for the tremendous engorgement of the vessels. This probably explained why ovulation did not occur during pregnancy. When the artery was injected there was an almost immediate return through the vein. While, therefore, the follicles near the periphery were held in position, it seemed probable that the tremen-

dous vascularization of the corpus luteum of pregnancy deflected the circulation from the periphery and prevented other follicles from rupturing. As the woman grew older the follicles were situated farther and farther from the central or parent circulation of the ovary. The periphery became anæmic, so that even though follicles might still remain near the periphery they could not be brought to the point of rupture, owing to the diminished vascularization of the periphery. The vascular supply in the centre still remained good. The menopause did not come on as a result of the disappearance of the Graafian follicles, but rather as a result of the impairment of the circulation which was essential to the greatest development of these follicles. Graafian follicles were often quite numerous in the ovary even after the menopause, but the vascularization was not sufficient for rupture of the follicles to occur. It was well known that if the tiniest portion of an ovary were allowed to remain after an operation it would be sufficient to keep up menstruation for a short time. This was because of the splendid vascularization of the ovary. If the four main branches were ligated the remaining one could still maintain the function of the organ.

Dr. W. R. Pryor said that Dr. Clark was to be complimented, not only upon his indefatigable research, but upon his apparently convincing demonstration. Time and experience could alone settle some of the problems involved. There was hardly any room for criticism, yet perhaps many would not be willing as yet to accept in its entirety Dr. Clark's mechanical theory as to the establishment of menstruation and the production of the menopause.

Ovarian Transplantation.—Dr. Robert T. Morris said that for ovarian transplantation some surgeons were using nearly the whole ovary, while others were selecting only portions near the periphery. This matter of selection was a subject of much importance just at present, as well as the question of the most suitable site for making the implantation. Probably the best site would be that from which the original ovary had been removed. The wonderful study of the vascular supply of the ovary that had just been presented to the association had a very important bearing on ovarian transplantation. Some of the failures in transplantation might very properly be ascribed to too large a piece of ovary having been taken and an improper site selected for the implantation. In cases in which the uterus had not been fully developed in young animals, the uterus had gone on to complete development after ovarian transplantation, showing that the ovary presided to some extent over the complete development of the uterus. He asked Dr. Clark's opinion on these points.

Dr. Clark said he thought the success of ovarian transplantation depended not so much upon the blood supply as upon the lymph supply of the ovary. Until the organ could establish a separate blood supply it was probable that it was maintained in its new position by the lymph supply. For this reason he would suggest selecting the uterus itself about the broad ligament as the most suitable site. The chance of impregnation after ovarian transplantation seemed to him necessarily very questionable. The ovaries were frequently so completely encapsulated by adhesions that in spite of the existence of numerous perfect ova impregnation could not take place. This same barrier would be apt to be present in cases in which ovaries had been transplanted. In any case, ovarian transplantation opened up some extraordinary social complications.

Veratrum Viride is a perfectly safe remedy even when used in larger doses, provided the patient be kept in the recumbent position.—Coston.

WESTERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Proceedings of the Tenth Annual Meeting, Held at Minneapolis, Minn., December 27 and 28, 1900.

The association met in the ladies' ordinary of the West Hotel under the presidency of Dr. O. Beverly Campbell, of St. Joseph, Mo.

A brief address of welcome, on behalf of the local medical profession, was delivered by Dr. James E. Moore, which was responded to by Dr. A. C. Bernays, of St. Louis, Mo.

After the transaction of routine business, the reading of papers was begun.

Insanity in Women Associated with Pelvic Disease.—A paper with this title was read by Dr. W. O. Henry, of Omaha, Neb. After briefly reviewing the current literature upon the subject and calling attention to the fact that very little was said upon it in any of the standard text-books upon gynæcology and mental diseases, he stated what appeared to him to be a fact, namely, that a large majority of all insane women had some pelvic disturbance as an important, if not a chief, causative factor. He then complimented the men who had done good work along this line, and had been courageous enough to follow it up, in spite of opposition and unbelief, and urged the bringing before the profession of the united testimony of all who had been giving this subject any special study, that the real truth might be arrived at, and suffering womankind be given the benefit of the very best the profession could offer. He then reviewed briefly sixteen cases from his own experience, of which ten patients were cured mentally and physically, three were improved, two were no better, and one died. He held that these all might have been saved by earlier and more radical local measures. He drew the following deductions: (1) Many patients operated upon but not cured, had failed of relief, either because attention to the local disease was not given early enough, or was not sufficiently radical. (2) Every insane woman should be given the benefit of a thorough and painstaking pelvic examination, and all pelvic disturbance quickly cured as an essential element in permanent restoration of the mind. (3) In some cases, when lacerations had been repaired and endometritis cured, there still remained enough reflex trouble from the uterus and ovaries, not perceptible until their removal, to continue the mental disturbance and demand their entire removal. (4) The general practitioner, as well as the laity, should be more fully alive to the connection between pelvic and mental diseases in women. (5) Many cases of insanity in women would be wholly prevented if the pelvic lesions were early repaired. (6) It was the duty of the profession, and especially of the general practitioner, into whose hands these cases first came, to urge upon women the importance of keeping the procreative organs in absolute health, and of having all injuries repaired early and diseases cured at once.

Hypospadias.—Dr. C. H. Mayo, of Rochester, Minn., followed with a paper on this subject. Hypospadias, he said, was one of the most common malformations of man, occurring in one to every three hundred to three hundred and fifty males. The varieties were balanic, penile, and scrotal, according to location. The older methods of treatment consisted of canalization, scrotal and penile flaps, denudation with suture, and flaps of the prepuce, or a combination of two or more of these principles. To these could be added mobilization and dislocation of the normal urethra. This (Beck) method of lifting the urethra from its bed and extending it to the end of the glans by a perforation or splitting of that structure

was an advance in the treatment of the glandular or balanic type of the deformity. However, three instances of Beck's method, reported from Czerny's clinic at Heidelberg, indicated that the contraction in each resulted in deflecting the glans downward, and that the delivery of the urine through the meatus was much as before. This would not occur in the slighter cases, and could be avoided in some of the others by tunnelling the glans in such a manner as to bring the meatus above the apex of the organ as a prophylactic against future contraction. The principle advanced by Van Hook, of a pediculated tube of urethra constructed from the prepuce and drawn through a tunnel in the penis and glans to meet the urethral opening, had been employed by the writer in two cases of perineoscrotal hypospadias, combined with bladder drainage by means of a Jacobs self-retaining female catheter through a buttonhole in the perineal urethra, and a urethral drain of strands of silkworm gut projecting from the new meatus and the perineal opening alongside the catheter. In the mild cases the urethra should be extended, and for the more severe cases a combination of this operation with that of Van Hook should be made, and a plastic closure at the point of contact would insure union by drainage of the bladder through a perineal buttonhole.

The Choice of Operations for Stone in the Bladder.—Dr. Byron B. Davis, of Omaha, Neb., read a paper with this title. He began by saying that the best operation for stone in the bladder was the one which most nearly answered the following conditions: (1) it had the lowest operative mortality; (2) it was followed by the smallest percentage of recurrence, and (3) it most nearly restored the urinary apparatus to a normal condition. He then showed that the operation of lithotrity had a small mortality, chiefly because it was used only in the comparatively simple and uncomplicated cases. In the hands of lithotritists the serious cases were treated by one of the cutting operations, and of course their results showed a large mortality. It was also shown that men who practised consistently the suprapubic method in all cases as they presented themselves, had a mortality which bore comparison with the results of the most skilled lithotritists. The number of recurrences were few when the cutting operations were practised and followed by drainage. Quotations from men with large experience showed that after lithotrity recurrences were very frequent, one in seven cases or oftener. In giving a reason for these numerous recurrences, the author found that after lithotrity the conditions which led to the formation of stone in the first place were not removed by the operation of lithotrity. The most frequent condition was stagnation combined with the presence of micro-organisms. Furthermore, it was asserted that no man could be sure he had emptied the bladder of all fragments and particles of sand, and these, if left behind, would serve as nuclei for fresh stones. On the other hand, when drainage was used after a cutting operation, until all infection had passed away, one of the chief factors in the production of recurrence was eliminated. Through an incision, all fragments could be easily removed; if the prostate obstruct, it could be dealt with in such a manner as to insure complete emptying of the bladder in the future. Dr. Davis operated in practically all cases by the suprapubic method. After removing the stone and doing anything called for within the bladder, he closed the suprapubic bladder wound, using superficial drainage to guard against infiltration of urine in the event of leakage. He then quickly established median perineal drainage, using a large catheter in the perineal wound, and maintaining careful asepsis until all indications of cystitis had disappeared. He concluded that (1) the mortality of lithotrity, when all classes of cases were considered, was no lower than that of the cutting operations; (2) the patient's condition after lithotrity was often no better than before; (3) recurrences were much more frequent after lithotrity than after the cutting operations with drainage; (4) lithotrity was not adequate to deal with the more serious and complicated cases, and the simpler ones would, most of them, end in recovery after any operation done aseptically.

Anæsthesia through Cocainization of the Spinal Cord; its Use and Limitation.—Dr. John B. Murphy, of Chicago, read a paper on this subject. Analgesia, he stated, was produced from the effect of the cocaine upon the sensory roots and ganglia within the spinal cord. The affinity of cocaine for the sensory nerve tracts was noted in the first experiments with this method. Reference was made to the researches of Corning and others. The speaker had been able to collect from recent literature 592 cases. Of this number, there were 4 partial failures, and 25 complete failures. Among the 592 cases there was only 1 death, this being partially attributed to the use of the drug, and was reported as having occurred in the clinic of Tuffier. Of the 5 deaths said to have occurred in Tuffier's clinic, the first 4 patients had died from other causes. The technique of the procedure should be very carefully carried out. First, the technique of preparing the solution was important; second, that of administering the proper quantity of the solution in the proper place; and, third, that of taking proper care of the patient afterward. The cocaine should be prepared by manufacturers who gave special attention to the sterilization of the crystals, etc. The dosage ranged from gr. $\frac{1}{50}$ to $\frac{1}{10}$ for children. Even gr. $\frac{1}{50}$ had been used in a child two and a half years of age. In adults the dose ranged from gr. $\frac{1}{8}$ to $\frac{1}{2}$. In his personal work the speaker had not used more than ℥ xv. of a two-per-cent. solution. Generally he used ℥ xii., many times ℥ xi., and very frequently ℥ x. for operations on the cervix, the vagina, and hemorrhoids; and for operations on the foot ℥ x. of the solution was sufficient. The symptoms, in the order of occurrence, after the injection of cocaine were great thirst, mental depression, and pallor. Vomiting rarely lasted more than a minute or two. In one of his own cases it lasted five minutes. Nausea may last longer. Nausea and vomiting had not been sufficient to disturb him in his surgical work. An important manifestation of the drug was elevation of temperature. After operations the temperature rose from 99° to 103° F., but usually declined before the next morning. In one case, found in the literature, it lasted for three days. In the forty cases in which he had used the method, there was only one in which he felt considerable anxiety. In this case the patient's face became pallid and the pulse very weak. The rule was for the pulse to decline or go below normal while the patient was on the table. The duration of the analgesia was sufficient in the majority of cases for any ordinary operation. In a case of osteotomy for a badly deformed femur the operation lasted one hour and twenty minutes, analgesia being complete during this time.

Post-Operative Fistula.—This paper was read by Dr. J. R. Hollowbush, of Rock Island, Ill. He stated that appendicular fistula might be external or internal; the material which escaped from the external type of fistula might be pus from an unhealed abscess cavity, or fecal matter from either the small or large intestine. The internal type of fistula was caused by the rupture of an abscess into one of the hollow viscera. The author reported cases of fistulæ following operations for appendicitis, biliary fistulæ, etc., and described a method of closing them.

Carcinoma of the Thyroid Gland.—Dr. A. E.

HALSTEAD, of Chicago, read a paper with this title. He went exhaustively into the literature of the subject, saying that the study of primary carcinoma of the thyroid gland dated from a comparatively recent time. Cooper, in 1819, wrote that malignant disease of the thyroid never occurred, and cited many authorities to support his position. The paucity of early literature on the subject could be appreciated when it was considered that Lebert in 1862 found only twenty-three cases recorded, of which three were probably secondary growths. The results of operative treatment were not encouraging. Morris quoted Kuster concerning the outcome of fifty cases treated by complete or partial thyroidectomy. In eight, death followed within twenty-four hours after the operation; in five, within a week; in eight, within two weeks. Four remained free from recurrence for six months. Only one was known to be well at the end of four years. In the cases not operated upon, death resulted in most instances within one and one-half years, from suffocation, hemorrhage, thrombosis, or cachexia. In the cases reported by Poumet, Oser, and Lebert, death resulted from rupture of the carotid artery. In the case of Franque the immediate cause of death was thrombosis extending from the internal jugular to the heart. In the majority of cases death resulted from suffocation, from pressure on the trachea, or from collapse of its walls. Cachexia and infection caused death in only a few cases.

Symposium on Fractures.—This constituted the next feature of the programme.

The Pathology of Fractures. — DR. LEWIS SCHOOLER, of Des Moines, Iowa, took up this part of the subject. He said that each case should be treated upon its merits, and the surgeon should have a thorough knowledge of all methods and appliances, as well as a knowledge of mechanical principles. The difference in the length and tension of muscles in the flexed and extended position of limbs was easily ascertained, and might be studied by any one. The difficulty with text-books and with legal requirements was a too strict adherence to former customs. These, in the eyes of the law and of many surgeons, were wisely and firmly established. Experience, however, showed their difficulties and their inability to meet the requirements in many cases. Even physiological causes might intervene and cause delayed union, as in the case of pregnancy, etc.

The Treatment of Fractures of the Neck of the Femur.—This paper was presented by DR. JOHN P. LORD, of Omaha, Neb. The writer stated he was of the opinion that no one method of treating these fractures could be adhered to, because various indications must be met. All were agreed in regard to the maintenance of efficient extension. It should be the aim of surgeons to reduce the deformity and to apply a dressing which would retain the fragments in constant apposition. The only exception to this dictum should be in cases in which extreme age or enfeeblement enforced relaxation of this vigilance. The writer was resolved to resort to Ollier's apparatus or a modified Phelps fixation appliance, as was done in orthopedic practice, when the next case presented its need, which would enable the attendants to place the patient in the upright position daily, or as desired. The author maintained that the old tentative methods of treatment so long in use did not apply to a large proportion of cases, and the old apprehension of hypostatic pneumonia and exhaustion from confinement in the aged did not have the same place as in days gone by, before the trained nurse and the masseur. Absolute fixation did not require so long a period of confinement as in the days of sandbags with extension of equally uncertain efficiency.

Observations on Compound Fractures.—DR. D. S. FAIRCHILD, of Clinton, Iowa, presented this paper. These fractures, he stated, came almost entirely under the head of emergency work and often occurred under the most unfavorable circumstances. The prognosis of an open, complicated, or compound fracture depended upon certain pathological conditions present, the chief of which was infection. The great majority of open fractures were made so by the traumatism which produced the solution in the continuity of the bone. In a certain number the fracture was made compound from within out by the sharp point of a fragment of bone, when the opening might be very minute, or the fracture might be made an open one in a few days by the separation of a slough due to the devitalizing influence of an external contusion with consecutive pressure from within or from without, or both. In these cases the healing of the bone did not differ materially from a simple uncomplicated fracture. Compound fractures caused by direct crushing violence were much more serious, in that the blood-vessels and nerves were liable to be involved, and the soft parts in general more seriously damaged. The question to be considered in fractures produced by direct violence would often depend on the nature of the force employed. In the late cases which came under the care of the surgeon the conditions would differ according to the nature of the infection.

The Ambulatory Treatment of Fractures.—This was discussed by DR. FREDERICK RUSTIN, of Omaha, Neb. In selected cases, confined principally to fractures of the fibula, Pott's fracture, fracture of the malleolus and tarsal bones, the ambulatory treatment, he contended, was not only rational, but gave the patient the advantages claimed for this practice. Ambulatory treatment need not necessarily be immediate, but might be applied any time before the fragments were held in relatively firm position by the new growth which led to the callus formation, so that a period of seven to fourteen days might elapse after the injury, and yet the ambulatory treatment might be applied. The author described the different methods of applying splints. The advantages of the ambulatory treatment were: (1) The time which the patient saved, in some cases the period of incarceration being but a few days. (2) The swelling and œdema were less, owing to muscular action, and stiffness of the neighboring joints and muscular atrophy would probably be less, and union was apt to be hastened, owing to the fact that immobilization was not perfect, and irritation of the fragments stimulated a more hasty repair. The disadvantages were: (*a*) the callus formation was much enlarged, owing to imperfect immobilization; (*b*) embolic processes, of either fat or blood, were relatively encouraged; (*c*) immobilization was insecure, owing to muscular action, and finally non-union was not uncommon, particularly in people of advanced years. The author did not advocate the ambulatory treatment in all fractures, but believed there were certain cases in which it should be tried in justice to the patient.

Treatment of Fractures of the Skull.—By DR. JAMES H. DUNN, of Minneapolis, Minn. The treatment of these fractures, it was claimed, was essentially that of injuries to the cranial contents. Aside from the general management and care due to all serious head injuries, it consisted of prevention of infection, the control of hemorrhage, removal of foreign bodies and displaced fragments, and the relief or prevention of irritating lesions of the cortex. The ends to be reached were generally understood. To trephine in compound and depressed fractures, to open the skull on the development of focal brain symptoms following suspected or recognized fracture, under all circumstances to observe the utmost possible asepsis in the presence of an external wound or fissure of the base,

and to avoid operative intervention in the absence of clear indications, might be accepted as axiomatic. Experience showed that secondary trouble was unusually frequent in unrelieved depressed fractures of the skull, though the displacement might be but slight. Subsequent operations showed that proper exploration might probably have prevented the development of a cyst, abscess, or other serious secondary lesion. Operative intervention in head injuries was rational only in case a definite indication, both as to the probable character and especially as to the yet more probable location of the lesion, existed. If this reasoning be admitted, further progress in the treatment of skull fractures must lie in the direction of more careful general management, more accurate diagnosis, and an improved operative technique. The *x*-ray was not of practical value in the diagnosis of skull fracture, except in cases of metallic foreign bodies lodged within the skull.

DR. C. C. ALLISON, of Omaha, Neb., read a paper in which he discussed "Hernia of the Bladder."

DR. J. CLARENCE WEBSTER, of Chicago, read a paper in which he reported "Three Interesting Cases of Cæsarean Section."

President's Address.—This was delivered by DR. O. BEVERLY CAMPBELL, of St. Joseph, Mo., who selected for his subject:

A Consideration of the Different Operative Procedures in the Treatment of Retrodisplacements of the Uterus.—In selecting a successful method of treatment for retrodisplacements of the uterus, it was necessary, he said, to note in each individual case the presence or absence of disease in the adnexa, as well as the mobility of the organ. Adhesions between the uterus and rectum in retrodisplacements were invariably the result of pelvic inflammation, which would have usually produced pathological changes in the adnexa. The author classified retrodisplacements of the uterus. Operative treatment should not be resorted to until after a reasonable trial of simpler methods of treatment. The chief objections to the Alexander operation were pointed out, as also the arguments in favor of it. The improved Alexander operation, whereby the inguinal canals were opened, adhesions broken up, and the appendages treated, was practised by the few. The objections to this method were referred to. After mentioning the various methods of shortening the round ligaments, Dr. Campbell described one which he had devised himself. An anterior colpotomy after Martin's method was performed and the fundus was delivered into the vagina. Each round ligament in its turn was drawn out of its peritoneal covering through an incision near its uterine attachment and held with forceps. An incision was made anteriorly through the peritoneal coat of the uterus, equidistant from the cornua and at a level with the attachment of the round ligaments. A pair of Spencer Wells' forceps was now passed beneath the peritoneal coat of the uterus and made to emerge at the uterine attachment of the round ligament. The drawn-out round ligament was fastened in the grasp of the forceps thus introduced, and drawn beneath the peritoneal coat of the uterus. The opposite ligament was treated in the same way. Chromicized catgut sutures, three in number to each ligament, were passed deep into the muscular tissue of the uterus and made to include the ligament. The rents in the peritoneal coverings of the ligaments and uterus were closed with fine catgut sutures. In completing the operation after his method of treating the round ligaments, no attachment was made of the peritoneum. The vaginal wound was closed with chromicized catgut sutures. Convalescence after anterior colpotomy was very rapid. The majority of his patients were allowed to sit up out of bed the twelfth day after operation, and given the freedom of the halls the fourteenth day. This was certainly not the case when ventrofixation or Alexander's operation had been performed. His operation was applicable to both the vaginal and suprapubic routes.

A New Intestinal Suture, with all the Knots Inside.—By DR. F. GREGORY CONNELL, of Chicago. He briefly reviewed the subject of intestinal sutures and classified the various methods of intestinal union as follows: (*a*) Foreign bodies: (1) Four Masters and modifications. (2) Invagination and modifications. (3) Senn plate and modifications. (4) Murphy button and modifications. (5) Special forms. (*b*) Suture: (1) Glover's and modifications. (2) Invagination and modifications. (3) Lembert and modifications. (4) Placing knots inside. (*c*) Miscellaneous. He drew attention to the gradual change which had taken place regarding the location of the knot of the stitch and emphasized the same in the following summary: (*a*) Outside of the abdominal wall; (*b*) outside of the intestinal wall, anchored to the abdominal wall; (*c*) outside of the intestinal wall, in free peritoneal cavity; (*d*) outside of the intestinal wall, buried between the serous coats; (*e*) inside of the intestinal wall, in the lumen on the mucosa. The author noted another change which had occurred during this gradual involution of the knot, and that was with reference to the amount of tissue included in the bite of stitch, which was strongly brought out in the following steps: (1) Suture including all coats with the knot on the serosa; (2) suture including peritoneum only; (3) suture including peritoneum and muscularis; (4) suture including peritoneum, muscularis, and submucosa; (5) suture (again) including all coats, with the knot in the lumen. He enumerated the different methods whereby the knots were placed in the lumen, but in none of which were all the knots so situated, even in the one method (Maunsell's) in which they were so placed at the site of the union; this was effected only by the aid of a second incision, which was closed with the knots on the serosa (Lembert stitches). The essential feature of the author's technique was the placing of the last knot in the lumen on the mucosa. The stitches were inserted in such a manner that the ends, the needle end and tail end, were free on the mucous coat, instead of on the serous coat, as in the ordinary stitch. The simple circular stitch, or the square stitch, might be so inserted. In order to tie this knot in the lumen, a threaded needle, eye first, was passed between any two of the previously inserted stitches, preferably about opposite the last stitch which was still to be tied, and the eye caused to emerge at the point where the threads or suture ends were still protruding from the lumen. The threaded needle and its thread formed a loop through which the free ends of the suture were passed. This loop, formed by needle and thread, was then withdrawn and, within its grasp, the two ends of the suture which were to be tied into the final knot. Traction on these threads or ends caused the bowel to flatten, as it were, thus bringing the mucosa of both sides in close contact, and while in this relative position the knot was tied, the ends were cut off short, and as the gut resumed its normal contour, that of a cylinder, the knot disappeared within the lumen, and the enterorrhaphy was complete. (The different steps in the author's method were fully illustrated in the *Philadelphia Medical Monthly*, January, 1899; also in the *Journal of the American Medical Association*, November 3, 1900, in which Dr. Franklin H. Martin reported the first case on the human subject.) The suture might be employed under any circumstances that the ordinary method of suturing was used in a continuous suture, as well as when interrupted stitches were used. The author claimed the following advantages by placing the knot in the lumen: (1) No foreign body.

Suture material would all pass away. (2) Early passing away of the suture material. (3) Decrease in adhesions to neighboring organs. (4) Perfect serous approximation. (5) Increased security. (6) Smaller diaphragm. (7) Less danger of necrosis. (8) Suture might penetrate all coats of the bowel wall.

Traumatic Injuries of the Ureter.—A paper on this subject was read by DR. J. W. MACDONALD, of Minneapolis. Ureteral injuries were divided into: (1) Subparietal injuries, or those in which no open wound communicated with the injured ureter. (2) Penetrating wounds, or those in which an open wound communicated with the injured ureter. (3) Surgical wounds, accidentally or intentionally inflicted. The most common causes of rupture of the ureter were pointed out; and the symptoms, diagnosis, prognosis, and treatment dwelt upon. Dr. Macdonald reported the following case, and presented the patient:

March 8, 1900, Miss O——, nine years of age, was dragged in front of the hind runner of a heavily loaded sled. Examination revealed no injury except a bruise on the right side. The patient was in great pain. No hemorrhage from any internal organ occurred at the time of injury or subsequently. The patient improved rapidly for four days and was discharged. The reporter was called again on the eighth day and found a tumor below the twelfth rib on the right side. This was opened with a lance and six ounces of a serous-looking fluid were withdrawn, which became nearly solid by boiling. The tenth day a trocar was introduced, drawing out about eight ounces of a similar fluid. The cavity was washed out with a strong solution of tincture of iodine. The sac refilled, and on the twelfth day a free incision was made, establishing free drainage. The discharge was examined and found to be urine. From this time until the performance of the operation by Dr. Macdonald, the daily flow from the side was about the same as by the bladder, and had every appearance of urine. There was but a slight elevation of temperature, but little pain after the first three weeks, and the health of the child did not appear to decline. The urine was found to be highly albuminous, containing more than one and one-half per cent. of albumin by weight. Urea was abundant, and a microscopical examination showed blood and pus cells. On June 7th he operated. An incision, beginning at the lower border of the twelfth rib and the outer edge of the erector spinæ muscle, was extended downward and forward about an inch in front of the anterior superior spinous process and ended about the middle of Poupart's ligament. The tissues were infiltrated to a considerable extent with pus, and exposure of the ureter was rendered difficult and in some places impossible by necrotic and by cicatricial tissues. The ureter was healthy for about three inches from the kidney, but here sloughing had taken place, and for several inches it was lost in a mass of cicatricial tissues. After a most tedious search, in which the writer opened into and closed the peritoneum at three different places, he considered further dissection was useless and removed the kidney. The patient made an uninterrupted recovery, and was now in excellent health.

Etiology and Pathology of Surgical Infections of the Kidneys and of the Cystonephroses.—This subject was discussed by DR. M. L. HARRIS, of Chicago. In referring to the etiology, the author considered the manner in which the microbes reached the kidneys; the concomitant conditions which favored the lodgment and development of micro-organisms after they reached these organs, and the varieties of the microbe. He said there were four routes by which microbes might reach the kidneys, namely, through the blood stream; along the urinary tract; through the lymphatics by contiguity, and directly from without by trauma. The pathological changes, which varied according to the nature of the infecting microbe, were discussed, as was the particular part of the kidney chiefly affected. Pyelitis, pyelonephritis, tuberculosis of the kidney, cystonephrosis, pyonephrosis, etc., were dwelt upon at considerable length. Dr. Harris narrated the following case, which illustrated many points in the etiology of the various conditions considered by him.

Miss P——, aged eleven years. When two years of age she suffered from a severe intestinal trouble. Following the intestinal trouble she had pain in the left side of the abdomen and back. For a long time the pain was referred to the old intestinal trouble. After a few years the character of the pain changed. It became more paroxysmal, with freedom from pain in the intervals. During the paroxysms the pain was very severe, accompanied by vomiting and scarcity of urine. After lasting from one to two days there would be a rather free discharge of cloudy urine, and the attack was over until the next time. The urine contained a small amount of pus, a bacteriological examination of which revealed the colon bacillus. A diagnosis of intermittent pyonephrosis was made and an operation advised. At the operation the pelvis was found dilated to the size of an average orange. The ureter escaped from the lower part of the sac at its junction with the kidney substance. It then presented a rather sharp S-shaped flexure, and was bound to the sac wall by adhesions. The adhesions were separated and a plastic operation was performed on the uretero-pelvic junction, which restored a free opening into the ureter at the most dependent part of the sac. Primary union followed and complete recovery of the patient resulted.

The etiological points in this case were: A primary intestinal trouble followed by a colon-bacillus pyelitis. The inflammation extended through the wall of the pelvis of the kidney, with the formation of inflammatory adhesions which drew on the upper end of the ureter, causing the S-shaped flexure and fixing it to the wall of the pelvis. The contraction of the adhesions, with the formation of the flexure in the ureter, gradually produced an obstruction to the free escape of urine from the pelvis, and thus converted the pyelitis into an intermittent pyonephrosis.

DR. W. H. ALLPORT, of Chicago, followed with remarks on the surgical infections and cystic enlargements of the kidney, their symptomatology and diagnosis.

Treatment of Septic Infections of the Kidneys and Cystonephroses.—This topic was discussed by DR. L. L. MCARTHUR, of Chicago, who, for convenience of consideration, subdivided the treatment into (1) internal medication; (2) local applications (ureteral laverage and antiseptics); (3) surgical interference, either nephrostomy or nephrectomy. The author considered the use of certain well-known and often abused remedies in the treatment of septic infections of the kidneys. Reference was made to the alkalinity or acidity of the urine. As to the local treatment of renal infections, he could say nothing from personal knowledge, never having used lavage of the renal pelvis and ureter, either with or without antiseptic remedies, although excellent authorities had reported favorable results therefrom. Having determined the nature of the infection by bacteriological examination, and the involvement of one or both kidneys, efforts should be made to remove the source of infection; to destroy or inhibit the organism in question, and to provide free exit to the products of infection. If the infection had been by extension from a corresponding cystitis, vigorous and systematic treatment of that must be at once instituted. The choice of medicaments was not of so much moment as the systematic carrying out of

a rigid hygiene of the bladder. First, if the urine be acid, especially so with the gonococcus and bacillus coli communis, the urine should be rendered alkaline and the elimination from the kidneys of much fluid insured. Second, some of the better antiseptics should be given. The kidneys should be assisted by lightening their labors through good elimination from the bowels. As the bacillus coli communis was the most frequent cause of renal infection, it would be well to inhibit its multiplication in the intestines by intestinal antiseptics. Third, when, after a reasonable trial of these remedies, and the use of ureteral lavage *à la* Caspar, Albarran, and Kelly, the case progressed unfavorably, as the majority perhaps would, there remained nephrostomy. Every renal operation which could be done without opening the peritoneal cavity was the safer operation, especially so with septic kidney; hence the selection of a retroperitoneal route. Personally he favored the incision of a nearly transverse character, a finger's breadth below the last rib, and called attention to the possibility of making a muscle-splitting operation instead of a cutting one. It had not been the author's fortune to meet with many cases in which it seemed feasible or wise to deliver the kidney, as many operators recommended, external to the body, and he felt sure he had seen a death from too great traction on the pedicle of the right kidney, which, by constricting the inferior vena cava, cut off the return flow to the heart.

Dr. J. E. Summers, Jr., of Omaha, Neb., narrated an interesting case of adenoma of the tongue.

Dr. Alexander Hugh Ferguson, of Chicago, spoke of the various methods adopted by eminent surgeons for the excision of the superior maxilla, and then described a method which he had devised for removing the superior maxilla through the mouth.

The Operative Management of Retroperitoneal Abscess of Appendicular Origin.—Dr. Gilbert G. Cottam, of Rock Rapids, Iowa, read a paper with this title, in which he gave the following explanations of the occurrence of retroperitoneal abscess of appendicular origin: 1. Inflammatory attachment of the tip of the appendix to either fold of the mesocolon, followed by perforation into the post-colonic space. 2. Transmission of infection from an acutely inflamed appendix, situated anteriorly, along the lymphatics of the appendix and cæcum to the mesocolic glands. 3. Abnormalities of the peritoneal investment of the appendix. In about seventy-five per cent. of cases the meso-appendix was lacking, rendering the appendix an extraperitoneal organ, in contact with the peritoneum only on its anterior aspect. This type might be termed the retroperitoneal appendix and demonstrated its proximal relations to the post-colonic space. The various procedures available for reaching, evacuating, and draining retroperitoneal abscesses were given as follows: I. Anterior incision: (*a*) Transperitoneal. (1) Exploratory; if presence of retroperitoneal abscess was verified, immediate and complete suture of anterior wound and new incision made, as in II., or, suture of peritoneum only (Edebohls) and completion of operation as in (*b*). (2) Curative; evacuation and drainage anteriorly, with or without counter-incision posteriorly. (*b*) Extraperitoneal. II. Posterior incision. III. Incision per rectum, vaginam, etc. (chiefly of historical interest). After treating all of these in detail and describing illustrative cases, the author concluded by advocating the posterior incision in all cases in which a retroperitoneal abscess was suspected, or in which there was doubt as to whether the abscess was in front of or behind the posterior parietal peritoneum, for the following reasons: It did not open the general peritoneum; it allowed drainage by gravity; it permitted free exploration of the post-colonic space; it disposed of the hernia problem; and if the abscess should prove to be anterior, the iliac incision could still be used and drainage instituted through both openings, the lumbar incision then corresponding to the counter-incision as now ordinarily used.

Anatomical and Surgical Observations on Appendicular Abscess.—By Dr. A. C. Bernays, of St. Louis, Mo. The earliest operation of appendectomy in which he had found pus in the cavity of Douglas, he stated, was done on the morning of the third day, about fifty hours after the attack, and the amount of pus was over a pint. The large majority of patients were operated upon between the eighth and fifteenth days, *i.e.*, during the second week. He believed the most reliable sign of Douglas' abscess was the appearance of abdominal distention early in an attack of appendicitis. The treatment of appendicular abscesses did not come under the scope of the paper. The principles which governed the management and operation of these cases were well understood, and the selection of a method would be a matter to be determined in each case by the surgeon. The drainage per rectum in men and per vaginam in women of typical Douglas' abscesses was an easy and successful treatment in uncomplicated cases. In cases in which the Douglas' abscess was complicated by iliac, lumbar, or some other abscesses, or in which the Douglas' abscess reached so high that it could be felt above Poupart's ligament, it had often been opened and drained from the anterior abdominal parietes.

Dr. Van Buren Knott, of Sioux City, Iowa, gave a further report of a case of cerebral cyst upon which he had operated some three and a half years ago.

The Operative Management of Hip-Joint Disease: a Critique.—Dr. A. F. Jonas, of Omaha, Neb., read this paper, in which he drew the following conclusions: 1. The aim of surgeons should be radical in the removal of all affected structures and the preservation of all healthy bone. 2. The desire to preserve the greatest amount of healthy bone and consequently to insure the best possible joint function, made early incision imperative. 3. To insure the best possible function meant not only the early evacuation of intra-articular tuberculous products and the removal of diseased structures, but implied a most thorough disinfection. 4. The most effective disinfection method known at the present time was the application of pure carbolic acid and alcohol. It formed one of the most useful adjuncts. 5. The continued retention of the femoral extremity in the cotyloid cavity, which was necessary to insure good function, required the greatest possible obliquity of the upper end of the bone. This could be secured only by preserving as much of the neck as possible. When a portion of the neck was destroyed or must be removed, a certain obliquity could be obtained by removal of the trochanter major. 6. To insure permanent usefulness of the hip joint, long-continued mechanical correction by means of a portable extension brace must be insisted upon. 7. Excision of the femoral head, neck, and trochanter must be avoided when possible.

Symposium on Surgical Tuberculosis.—Dr. J. Clark Stewart, of Minneapolis, Minn., discussed tuberculosis of the fascia; Dr. Rollin E. Cutts, of Minneapolis, tuberculosis of tubes, ovaries, and peritoneum, and Dr. Knute Hoegh, of Minneapolis, tuberculosis of bones and joints.

Treatment of Tuberculosis of Bones and Joints.—This phase of the subject was discussed by Dr. James E. Moore, of Minneapolis. The treatment of tuberculosis of bones and that of joints were almost inseparable, he claimed, because the disease usually began in the epiphysis of long bones, and the neighboring joint soon became affected. Tuberculosis of the shaft of long bones was so rare that some surgeons

had never seen a case. When it did occur, the only treatment to be considered was the complete removal with hammer and chisel, and, in the absence of a mixed infection, allowing the wound to fill with blood clot. Bone chips, iodoform, and boracic acid were not so good as the blood clot. Orthopedists had arrived at great perfection in their methods, and knew just about what they could accomplish, but they were too well content with their methods and did not resort to operative measures soon enough. Their results were slow and unsatisfactory, but were better than the surgeon could offer at present. We must look to the surgeon for advancement, and when he had arrived at a greater degree of perfection, a larger number of cases would be considered suitable for operation. Early diagnosis was essential to good results from any treatment, and to this end every child who limped or complained of a pain in a joint should be subjected to a thorough examination. Every case of joint tuberculosis was best treated for a short time by rest in bed, with extension by weight and pulley. An apparatus applied later should afford rest and protection to the joint, and should hold the limb in proper position, since a tuberculous joint once cured in a faulty position could not be broken up safely. Plaster of Paris would yield better results in inexperienced hands than complicated braces. It should be applied just tight enough, be not too heavy, and should extend far enough above and below the joint to prevent motion. When joints of the lower limbs were affected, crutches, with a high shoe on the well foot, should supplement the plaster bandage. The injection method of treatment was not recommended. When a joint was growing worse, in spite of good mechanical treatment, it should be operated upon without delay. Pure carbolic acid and the actual cautery were recommended as valuable aids in operative cases. The writer believed that joint tuberculosis should be considered a local disease, and that an effort should be made to prevent its becoming general. Whether the disease be primary or secondary, it could be cured by complete removal. The surgeon should be as careful to remove all diseased tissue as if he were operating upon malignant disease. If extensive disease could be removed, saving life and a crippled limb, why could not surgeons operate early, remove the diseased focus, and save life, a good limb, and untold suffering? The mortality rate from early operation should be less than from present methods. Immediate results from early operations had been better than from any other method, but remote results had been bad because the growth centre was removed, causing subsequent shortening. It remained to be demonstrated that a joint could be opened at an early date, and the focus of disease removed without destroying the function of the joint or interfering with the growth of the limb. Bloodgood had been doing this at Johns Hopkins for some time, and he reported that his results were good enough to encourage him to continue.

Topical Applications in Gynæcological Practice; their Use and Abuse.—By Dr. J. W. Andrews, of Manakto, Minn. The author expressed himself as having very little confidence in the utility of pessaries and in topical applications in gynæcological practice. In a large majority of cases of retroversion or retroflexion of the uterus with tenderness in Douglas' pouch, he believed, there was some disease of the ovaries and tubes on one or both sides, and this could be cured only by surgical measures. In concluding his paper, he expressed the belief that there was no longer a legitimate field for the gynæcologist. There was no reason why a good surgeon who could operate well on the abdominal organs should not operate equally well on the pelvic organs. There was no reason why the general practitioner could not treat catarrh of the cervix, when it existed, as well as he could a catarrh of the throat. He hoped that the routine topical applications in gynæcological practice would be relegated to the mistakes of the nineteenth century.

Two Cases: (1) a Calcareous Uterine Fibroma, and (2) a Fibromyoma of the Urethra.—Dr. H. G. Wetherill, of Denver, Col., contributed this report. (1) This was a fibroid tumor of the uterus, one nodule of which had undergone complete calcareous degeneration. The tumor was a true fibromyoma in all its parts, except this particular nodule, which was quite symmetrical, entirely interstitial, and so infiltrated with lime salts as to appear like a mass of uncalcined limestone, and so dense as to require the use of a bone saw for making a section. Its diameters were four and three inches. The clinical history of the patient was like that of others with fibroid tumor, except for a notable record as to cancer. Her father, mother, two maternal aunts, and one paternal aunt had died of that disease. The patient recovered from the operation. (2) An operation for the removal of a tumor of the urethra and anterior vaginal wall, the tumor being a myofibroma and having its origin in the muscular coats of the urethra and completely enveloping that canal. The tumor was three and one-half inches long by two inches wide, and was first noticed twenty years before removal. It was reducible, but was not retained within the vagina unless resort was had to packing. The specimen was interesting chiefly on account of its rarity, the only other myoma of the urethra found reported by the author being one quoted in Kelly's "Operative Gynæcology." Examination of the tumor by a pathologist showed it to consist almost entirely of fibrous tissue, a few unstriped muscular fibres being scattered through the tumor. The author believed that the tumor had undergone much change during the long period of its existence, and that it was originally a true myoma, possibly of the leiomyoma type. It was necessary to strip the urethra of all muscular coats in the removal of the tumor, and the patient was troubled with imperfect control of the bladder contents after the operation, which a second operation failed to restore entirely, but which was re-established by a pessary made to supply the pressure formerly exerted by the tumor.

The following officers were elected for the ensuing year: *President*, Dr. A. F. Jonas, Omaha, Neb.; *Vice-Presidents*, Dr. A. W. Abbott, Minneapolis, Minn., and Dr. C. E. Ruth, Keokuk, Ia.; *Secretary-Treasurer*, Dr. George H. Simmons, Chicago, Ill.; *Executive Council*, Dr. O. B. Campbell, St. Joseph, Mo.; Dr. H. C. Crowell, Kansas City, Mo.; Dr. John P. Lord, Omaha, Neb.; Dr. James E. Moore, Minneapolis, Minn., and Dr. M. L. Harris, Chicago, Ill.; *Chairman of Committee of Arrangements*, Dr. John B. Murphy. Next place of meeting, Chicago.

Professor Fraser on the Plague.—Lecturing before the Royal Medical Society of Edinburgh recently, Professor Fraser said that the whole question of plague arrestation in India was one of sanitary reform, not restricted to providing windows to admit light to the houses, not restricted to the mere removal of accumulations of filth from the ground and neighborhood of the houses, or the cleaning of drains and the laying down of new sewers, but extended to a new form in house construction, not in an expensive form but in a simple form. He believed that it would be impossible to stop the plague in India till that was done. When that was done the house in India would, to some extent, be similar to the bungalow of the European in that country.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 5, 1901:

	Cases.	Deaths.
Tuberculosis	229	161
Typhoid fever	62	18
Scarlet fever	187	18
Measles	82	0
Diphtheria	283	51
Laryngeal diphtheria (croup)	8	0
Varicella	65	0
Smallpox	13	0

Plague in South Africa.—Telegrams from the Cape state that four cases of plague have occurred at King William's Town. The town is situated in the south-east district of Cape Colony, close to the seaport town of East London. The source of infection is not known, but the diagnosis is certain. At first it was stated that the patients had travelled from the neighborhood of the Madder River, but there seems to be no confirmation of the statement. We have from time to time been made acquainted with plague cases reaching South African ports, chiefly Cape Town and Durham, but fortunately so far there has been no sign of the disease gaining a footing in the Cape. The Durham instances were in immigrants from Tamatave in Madagascar, where plague has existed for some time.—*British Medical Journal.*

Vaccination in Paris.—According to the Paris correspondent of the *New York Herald*, vaccination has become quite a fad among the high society of that city. A fashionable doctor or the family physician is invited to a special vaccinal breakfast or afternoon tea, at which he makes an impartial distribution of lymph among the plump arms, or oftener still the shapely legs, for in order not to risk the little inflammation incompatible with décolleté dress many ladies prefer to be vaccinated in a more modest spot. "Preferrez-vous au-dessus ou dessous de la jarretière?" asked a doctor the other day, just as he was about to operate upon one of his pair patients. "Plutôt au-dessous," replied the pretty Comtesse D—— absent-mindedly, "parce qu'au dessus cela se verrait." Her response is greeted with ripples of laughter in the salons that are not too puritanical.

Strychnine in Cardiac Weakness.—To obtain the best results from its administration in heart weakness, strychnine must (1) be given in small doses, because large doses, apart from the undesirable effect upon the entire spinal cord by raising the blood-pressure, immoderately increase the resistance to the heart's action long before they can come to its assistance indirectly; and (2) it must be employed at a time when the strength of the heart has not yet sunk too low. If Binz is right in stating that strychnine does not produce the elevation of the blood-pressure by stimulating the vasomotor centre, but by increasing its reflex irritability—and hence peripheral impulses are required to accomplish the contraction of the vessels—then the strychnine must fail us in that very state of collapse in which modern routine so often continues to use it as a last resort. We do, indeed, sometimes succeed, under conditions which it is easier to divine than to recognize, by its use to prevent or delay impending collapse; but when collapse has once set in, I am convinced the drug is of no good effect. Moreover (3) it must not be given even in moderate doses for too long a time, because, like digitalis, it may accumulate in the body. Physiologists and pharmacologists seem to be better informed as to the cumulative effects of strychnine than the clinicians. Lauder Brunton calls it "a cumulative poison, as it contracts the renal arteries and thus prevents its own excretion."—Dr. G. Baumgarten, *St. Louis Courier of Medicine*, October.

Pessaries.—Personally, I agree with Lawson Tait when he said: "I hate pessaries, and never use them when I can help it." I am not in a position to denounce pessaries as frauds, but I am in a position to confess that, as a pessary fitter, I am a failure. Repeated and conscientious practice has not enabled me to accomplish the feat of legerdemain necessary to securely and permanently balance a wabbling womb on a rocking support.—Dr. Stewart McGuire, *Virginia Medical Semi-Monthly*, November 23d.

A Difficult Hysterectomy.—Here commenced one of the most frightful experiences that I ever went through; one of those sudden thunder storms, which were so numerous that summer, had come up. It suddenly grew so dark that we could not see into the abdomen, the rolling and crashing of the thunder, the beating of the rain on the slates, and the flashing of the lightning on the polished instruments, made a scene fit for Dante's Inferno. The electric lights were turned on, when there came a sudden flash and rumble and every light went out. The lightning had struck the transformer and put out every light in the building. Minutes seem hours at such times. The assistant reported the pulse failing, and that there was only enough ether to last a few moments longer; and, although it was raining as hard as ever I saw it, one of the officers rode in his shirt sleeves four miles for more ether and got back in time.—Dr. Frank Blaisdell, *New England Medical Monthly*, October.

The Prevention of Puerpural Septicæmia.—1. When labor is about to begin, or as soon after as possible, one or more enemas of soap and water are to be given till the rectum is quite empty; then, 2, the patient is to have a warm soap bath—in a bath tub if one be available—particular attention being given to the cleaning of the external genitals and anus, and the creases and folds of the skin about the groins, abdomen, buttocks, and thighs. 3. The external genitals are then to be washed with a solution of bichloride of mercury 1 : 1,000; or of lysol 1 : 100; to be followed by clean, warm, boiled water. 4. A clean, dry, absorbent occlusion pad is now to be applied to the vulva, and when possible this should have been sterilized. 5. Clean washable clothing may be put on the patient and a clean, properly protected bed is to be made ready for her. 6. After the patient has been prepared she must not use the water closet when the bowels or bladder are evacuated, but should use a clean chamber vessel, or jar, or a bed pan. 7. After each evacuation the external genitals must be cleansed as before (No. 3) and a fresh occlusion pad must be put on. (Vulva pads are best made of cotton and gauze, and should be made and handled with clean hands only, and placed in clean receptacles. They may be burned when soiled).—Dr. H. G. Wetherill, *Colorado Medical Journal*, October.

Diagnosis of Ectopic Pregnancy.—There are no pathognomonic symptoms of tubal pregnancy, or of any other form of ectopic pregnancy. Usually, however, we find the following points: The patient gives a history of several years of sterility (many exceptions); she has missed a menstrual period, perhaps two of

them (numerous exceptions); she has noticed some unusual pains in the pelvis, which she will probably describe as boring, griping, or colicky in character, these pains being situated usually in the region of an ovary; she has, perhaps, within a few days of the time of consulting her physician had a more or less irregular hemorrhage; perhaps has discharged pieces of membrane which she supposed indicated an abortion, and consulted her physician with the idea that such is the case, owing to the hemorrhage and the pain, and the suspicion of an existing pregnancy. Possibly, however, there has been no suspicion of a pregnancy, as the woman has accepted her sterility as incurable and has dismissed from her mind such a possibility. —Dr. J. F. Baldwin, *Courier of Medicine*, October.

South Sea Medicine Men.—Among the South Sea Islanders no man falls sick or dies from natural causes. They would argue, if they were called upon to analyze their belief, that health is the natural condition, and that every departure from it must be caused by supernatural agency, and since disease is an evil, you must look for its agent among those who wish you evil. Thus far they are at one with many good people in Europe who take comfort in the thought that every visitation of sickness is a divine judgment for their sins; but savages push their logic further. Their gods do no mischief for mischief's sake, and since all men have enemies, and are all free to invoke the unseen powers for either good or evil, the sick man has only to make his choice among the number of his ill-wishers, and charge his heirs to avenge him. Every skilled craft tends to specialization. A few successes in causing illness by spells gave a man a reputation as an expert. The unsuccessful found him ready to remove their enemies for a consideration, he took to the business as a profession, handing his secret down to his son, and his son's son, until the trade became hereditary. A family that once acquired it took good care not to lose it by bungling, as the "wise women" sometimes did, for the art of killing by witchcraft had this decided advantage over the art of healing, that if the spell failed there were other ways—a dose of something in the kava cup or a club stroke on a dark night. Thus among some of the Melanesian tribes it is not too much to say that the population is divided between the companies of them that caused disease and them that healed it. In Fiji leprosy was a special branch of the black art. No common wizard has the hardihood to pretend that he can compass it by the ordinary means of burying a lock of the victim's hair in a bamboo with incantations, and this is well, for even the most cunning healers admit that leprosy is incurable. The power of infecting with leprosy is hereditary in certain families alone. Their deified ancestors have become, as it were, leper gods, whose priests are the oldest living representatives of their stock. The evolution of the idea may be easily traced. Leprosy prevails in certain families, therefore the spirit of leprosy, which is the Fijian equivalent for contagion, is a sort of family retainer, obsequious to the commands of his hereditary masters, and since a living spirit must have a place to live in certain stones are pointed out as his shrines, and these are hedged about with a tabu that is never raised.

Camp Sanitation.—*The Hospital* says: "Two letters have recently appeared in *The Times* on the subject of camp sanitation, which strongly suggest that sanitary matters have not received that attention at the hands of the military authorities which they deserve. A regimental officer with the South African field force points out that in standing camps the water difficulty is, to a great extent, a matter of lack of careful supervision of the arrangements for filtration. All units are now provided with first-class filters, which, if properly attended to, are, he says, an inestimable boon. In numerous cases, however, these filters have been rendered useless by unfair treatment, becoming rapidly clogged up by the mud with which so much of the water in the South African rivers is highly charged; and he points out how easily this difficulty can be overcome by a preliminary straining. The fact is, the provision of pure water has to be taken seriously, and when we are gravely told that in standing camps in which filters are at work, it is 'impossible' to prevent our soldiers, so well disciplined in every respect, from helping themselves to water which is officially regarded as suspect, we cannot doubt that the task of protecting the water supply has not been undertaken with that sense of its importance which the subject demands. The necessity of placing the water under the guardianship not of a mere sentry but of an officer of some position and authority was one of the points insisted on when the subject of camp sanitation was discussed."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended January 4, 1901:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	December 15th to 22d	1	
Florida, Jacksonville	December 15th to 22d	1	
Illinois, Cairo	December 15th to 22d	3	
Chicago	December 22d to 29th	2	
Kansas, Wichita	December 22d to 29th	2	1
Nebraska, Decatur	April 1st to December 14th	416	4
N. Hampshire, Manchester	December 22d to 29th	14	
New York, New York	December 22d to 29th	11	2
Ohio, Ashtabula	December 22d to 29th	5	
Cleveland	December 22d to 29th	20	
Rhode Island, Central Falls	December 26th	1	
Tennessee, Memphis	December 22d to 29th	2	
Nashville	December 22d to 29th	1	
Texas, Galveston	December 17th	6	
Houston	December 22d to 29th	25	1
Utah, Salt Lake City	December 22d to 29th	52	
West Virginia, Wheeling	December 15th to 22d	3	
Wisconsin, Green Bay	December 23d to 30th	1	
Smallpox—Foreign.			
Argentina, Buenos Ayres	October 1st to 30th	22	14
Austria, Prague	December 1st to 8th	26	
Egypt, Alexandria	November 26th to December 10th	4	4
England, London	December 1st to 13th	2	
France, Paris	November 24th to December 8th	255	31
Greece, Athens	December 1st to 8th	1	
India, Bombay	November 21st to 27th	..	1
Calcutta	November 17th to 24th	..	8
Madras	November 17th to 23d	..	1
Italy, Licata	December 8th to 15th	..	1
Mexico, Vera Cruz	December 15th to 22d	..	1
Russia, Moscow	November 24th to December 1st.	3	1
Odessa	December 1st to 8th	23	7
St. Petersburg	December 1st to 8th	5	3
Warsaw	December 1st to 8th	..	15
Scotland, Glasgow	December 15th to 21st	67	3
Yellow Fever.			
Cuba, Havana	December 8th to 22d	..	6
Mexico, Vera Cruz	December 15th to 22d	..	1
Cholera.			
India, Bombay	November 21st to 27th	..	2
Calcutta	November 17th to 24th	..	35
Madras	November 17th to 23d	..	1
Plague.			
India, Bombay	November 21st to 27th	..	58
Calcutta	November 18th to 24th	..	4
Japan, Osaka	November 20th to December 4th.	4	
Madagascar, Tamatave	October 29th to November 18th.	1	

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Comfort and Exercise. By Mary Perry King. 12mo, 138 pages. Small, Maynard & Co., Boston, Mass.

Transactions of the Clinical Society of London. 8vo, 272 pages. Illustrated. Longmans, Green & Co., London.

King's American Dispensatory. By Harvey Wickes Felter, M.D. Royal octavo, 2172 pages. Illustrated. The Ohio Valley Co., Cincinnati, Ohio.

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Original Articles

THE MOSQUITO THEORY OF THE TRANSMISSION OF YELLOW FEVER, WITH ITS NEW DEVELOPMENTS.

BY CHARLES FINLAY, M.D.,

HAVANA, CUBA.

IN view of the admirable manner in which the army yellow-fever board is carrying out its investigation of my mosquito theory and the wonderful success which has attended all its steps, it may be of interest to the readers of this journal to recall the following extracts of a paper, dated December 31, 1891, which was never published in full, though some parts were utilized in another paper which I sent to the congress of Chicago in 1892. Apart from a modification of my views as to the manner in which the contamination of the mosquito is effected, already explained in a former issue of this journal (May 27, 1899), my ideas on all other points have not changed. In my paper of 1891 I said:

"The first idea of the mosquito considered as the habitual agent of the disease arose from the difficulty of accounting for the peculiarities observed in the propagation of yellow fever under any supposition but that of an infection produced by a natural inoculating agent which should, first, become contaminated from a yellow-fever patient, and, afterward, communicate the disease by inoculating susceptible persons with the germs that it had picked up and retained. This natural agent might or might not be present in a locality where a case of yellow fever was running its course; if present, the disease would be transmissible; if absent, the disease would not extend to other non-immune persons around the patient. The first step, under that hypothesis, was to discover such an agent, bearing in mind that, besides fulfilling the above conditions, it should likewise satisfy all those that are known to influence the propagation of the disease. . . . I have not been able to think of any other agent which could comply with those requisites except the tropical mosquito of America, and I must say that, so far, it has answered to the various tests to which I have submitted it in a manner far exceeding my first expectations. I must premise the statement that my investigations have been limited to the diurnal and crepuscular species of Havana, the 'Culex mosquito' (so named by Robineau Desvoidy, in 1817 or 1820, from specimens carried to Paris by the Cuban naturalist Felipe Poey), which I need not describe again, having done so in my previous papers. That species is the only one from which I have obtained a succession of stings (as many as twelve) in the course of the thirty or forty days that I have been able to keep them alive in small glass phials."

By the term "contaminated mosquitos" I understand such as have stung a yellow-fever patient within the first six days of the attack, and it is my belief that whereas one or two stings from mosquitos recently contaminated may either occasion in susceptible persons a mild attack of the disease or simply confer immunity without any perceptible pathogenic manifestations, a severe attack would result from a greater number of such stings, and the same might follow a single sting from a mosquito that had been fed exclusively on sweet juices during several days or weeks after its contamination, before being allowed to sting a non-immune subject. In this case the germs will have had time to develop more abundantly, and the virulence of the inoculation might be expected to become proportionately intensified. The climatic and topographical conditions which are known to favor the propagation of yellow fever may be reduced to three: temperature (70° to 90° F.), atmospheric moisture with proximity to the sea or to water courses, and low levels (never exceeding four thousand feet nor generally above a few hundred). The same conditions seem to be likewise indispensable for the vitality, functional activity, and reproduction of the "Culex mosquito." Being a hibernating insect whose functional activity can adapt itself only to tropical climates, it becomes benumbed and unable to sting when the temperature falls below 60° or 65° F., and it may thus remain in a condition of apparent death, from which, however, it will revive when the temperature is again raised to above 65° or 70° F., provided the refrigeration has not been carried to below the freezing-point. Moreover, the same limits, below 65° or 70° F., appear to impede the transformation of the larvæ into the winged insect. On the other hand, temperatures beyond 95° F. also deprive the Culex mosquito of its movements, and it dies at 105° or 110° F. When the insect is confined in an atmosphere artificially rarefied to correspond to altitudes of four thousand to six thousand feet, it is unable to fly, at least for a while, or to sting. If we consider the smallness of its wings it seems unlikely that the Culex mosquito will, of its own accord, fly to any considerable height or distance, especially when weighted by the blood which it has ingurgitated. These peculiarities agree with what is known about the propagation of yellow fever, its tendency to invade the lower stories of buildings in preference to the upper ones, and its non-transmissibility in places like the city of Mexico, Puebla, Petropolis, situated at considerable altitudes above the sea level. Finally, looking back from the earliest epidemics of the "peste" which decimated the Spaniards, on their first arrival in the tropical regions of America, to the modern accounts of yellow-fever outbreaks given by Laroche and by Barton, we find the abundance of mosquitos, while the disease prevailed, particularly mentioned.

Among the experimental data intended to prove that contaminated mosquitos do transmit the disease, I need only recall two of the cases described in my article in the *American Journal of the Medical Sciences*, Philadelphia, October, 1886. In Case I. (1881), a distinct attack of albuminuric yellow fever declared itself fourteen days after the application of a contaminated mosquito, the patient being the only one who took the disease among twenty soldiers under my observation, none of the others having at that time received the mosquito inoculation. In Case V. an unacclimated person while residing in a country place from which he had not absented himself since over two months, and in which no case of yellow fever had occurred for

at least seven years, was inoculated with a contaminated mosquito on the 18th of August, 1883, and was attacked on the 26th with a characteristic yellow fever of a mild type; only a doubtful trace of albumin was found on the fifth day, but the eyes were yellow and the gums bled; he remained thereafter permanently immune.

As a practical application of my "mosquito theory" to a test case, let us consider how far that theory might account for the facts observed in the propagation of the yellow-fever epidemic from Havana to Saint-Nazaire (France) through the *Anne-Marie*, in 1861, so admirably studied and described by Melier in his report to the French Academy. This explanation is, indeed, loudly called for by the circumstance that Bérenger-Féraud ("Fièvre Jaune," Paris, 1890) takes his stand against my mosquito theory precisely on the ground that the aforesaid epidemic cannot possibly be accounted for by my theory. Let us recall the facts:

The *Anne-Marie*, a wooden vessel with a crew of sixteen men, sailed from Nantes (France) for Havana, where it arrived on the 12th of May, 1861. During the thirty days that the vessel remained in Havana none of the men experienced any illness, beyond "malaise," fatigue, loss of appetite, or inclination to vomit. She left Havana for Saint-Nazaire (France) on the 13th of June with the same crew. At the start she remained twelve days becalmed in the Florida canal, with suffocating heat, frequent squalls, and heavy rains. On the 1st of July, two fatal cases of yellow fever and another (not fatal) the next day declared themselves on board. Two days passed without any new case, and then followed a series of six new invasions between the 4th and the 8th of July, none of them fatal, the last being the captain, whose attack was less severe, but was attended with a long and tedious convalescence. One, at least, of the other men, the mate, was certainly susceptible to the disease, and yet no other case occurred during the voyage. The vessel reached Saint-Nazaire on the 25th of July and was brought to the wharf, where she lay alongside of the *Arequipa*, another vessel then ready to sail for Cayenne (French Guiana). The captain of the *Anne-Marie* had left the ship to attend to his health, and the mate remained in charge of the vessel, while the rest of the crew got their discharge on reaching Saint-Nazaire, none of the men having taken the infection, as far as could be afterward ascertained. The unloading of the cargo was, therefore, accomplished exclusively by new men, under the mate's supervision. The hold was opened on the 27th of July, and the unloading ended on the 3d of August. The vessel, having been declared infected, was removed to the centre of the dock on the 5th and towed out into the open bay on the 7th, to be thoroughly disinfected. From the moment when the hold was thrown open, all the susceptible persons who entered it became infected with fatal yellow fever. On the 27th and 28th the cooper, who went down to inspect and repair damaged sugar boxes, the mate, and also five sailors belonging to another vessel who had gone into the hold from curiosity and picked out some sugar canes which were stowed between the boxes, all were attacked, a few days later, with yellow fever and died. Altogether, between the 27th of July and the 5th of August, nineteen persons who visited the hold or the deck of the *Anne-Marie* became infected with yellow fever. Five other persons appear to have caught the infection on the wharf or on the deck of other vessels in close proximity to the infected ship. Two persons in the town received their infection, apparently, through bundles that were taken to them directly from the *Anne-Marie*. A remarkable case was that of Dr. Chaillon, who never came to Saint-Nazaire at all, but on the 5th, 6th, 7th, 10th, and 11th of August had visited at their homes, in villages two or three miles distant from the port, four of the workmen who had been employed in the unloading of the *Anne-Marie;* he was taken sick with yellow fever on the 13th, and died on the 17th. This was the only second-hand infection that occurred, during that epidemic, on shore. More remarkable still was the case of Bruban, a stone-cutter, who never came to the side of the dock where the infected vessel was lying, nor had any communication (directly or indirectly) with it; he happened to be employed in repairs near the dock-gates while the *Anne-Marie* was being unloaded, at a spot distant two hundred and twenty-five metres from that ship. He was taken sick on the 4th of August, and died of yellow fever on the 10th. Finally, the *Arequipa*, which had been lying alongside of the *Anne-Marie* since the 26th of July, sailed on the 1st of August for Cayenne (French Guiana). Her mate, having apparently caught the infection from the *Anne-Marie*, was taken sick at sea on the 5th, and died on the 12th. A new focus of infection seems then to have developed on board the *Arequipa*, for a series of invasions occurred on the 22d and 26th of August, the 9th, 19th, and 20th of September, on her way to Cayenne, where the vessel arrived on the 8th of October.

The explanation of the above occurrences, according to my mosquito theory, would be as follows:

The *Anne-Marie*, when she left Havana, on the 13th of June, must have had three of her crew recently infected with the disease, the same who were taken sick on the 1st and 2d of July. During the operations of taking in cargo, provisions, and specially drinking-water, it is next to impossible that, at that season of the year, a considerable number of mosquito eggs and larvæ should not have been introduced on board. With the calms, hot weather, and rains that followed, a whole brood of new mosquitos must have been produced on board of the *Anne-Marie* by the time when the first cases of yellow fever declared themselves; the young insects by stinging those patients became contaminated, and some of them must have transmitted the disease to the next six men who were attacked, with a milder form, between the 4th and the 8th of July. At the time when these six men took their infection the calms had ceased and the vessel was moving more rapidly and had reached cooler latitudes, which circumstances (besides the attraction of the sugar) must have induced the mosquitos to seek refuge in the hold, entering it through chinks which were afterward found to exist between the hold and the quarters which the sick men had occupied. During the rest of the voyage the contaminated mosquitos would be feeding on the sugar and sugar cane, while the yellow-fever germs were multiplying upon their stings (?) and attaining their highest degree of virulence until the hold was opened on the 27th of July. The contaminated insects then commenced their yellow-fever inoculations upon all the non-immunes who came within their reach by entering the infected hold. The temperatures at Saint-Nazaire, from the 26th of July to the 4th of August, gave daily maxima between 69° and 77° F. (the latter only on the 1st of August) and minima between 53° and 63° F., from which it must be inferred that the mosquitos would leave the hold or fly out on deck or in the immediate vicinity of the *Anne-Marie* only during the hotter hours of the day; at other hours they would be benumbed in the open air, and might easily be conveyed in bundles or packages carried from the ship to their homes by the workmen employed in the hold. At the same time the range of temperatures was such that the reproduction of new generations of "Culex mosquitos" could not take place, so that all the yellow-fever inoculations at Saint-Nazaire must be attributed to mosquitos which had become contaminated on board o

the *Anne-Marie*, on the 1st or 2d of July (at any rate, within the first week of that month). The extreme term of existence, for that species of mosquito, being reckoned at from thirty-five to forty days, the youngest contaminated mosquitos imported by the *Anne-Marie* should have died within the second week of August; in point of fact, no instance of infection occurred at Saint-Nazaire that could be attributed to a later date. Dr. Chaillon's case may be explained on the supposition that some contaminated mosquitos, accidentally conveyed by the workmen returning to their homes, had stung the unfortunate doctor; those insects, however, having reached the natural term of their existence, would have been unable to continue the propagation of the infection. The case of the stone-cutter may be accounted for by admitting that, at the midday hours, some of the contaminated insects while flying over the deck may have been blown away by some gust of wind toward the water of the dock; in order to save themselves from drowning, they would have alighted upon any object floating on the water, which, drifting with the outflowing current, must have landed them close to the gate where the stone-cutter was working. The case of the *Arequipa* is instructive as showing how the climatic conditions on that vessel, arising from the fact that it happened to be travelling toward the tropical regions, must have enabled new broods of the Culex mosquito to develop so that a secondary focus of infection was originated, whereas at Saint-Nazaire the prevailing temperatures prevented the occurrence of this event. According to my theory, some of the mosquitos, free from contamination, must have passed from the *Anne-Marie* to the *Arequipa*, before the latter moved away from the side of the infected ship; they, probably, laid their eggs in some water-tank, communicated the disease from the mate to the next patient who followed (and died); a new brood of Culex mosquitos must have developed during the voyage and some of them, having found their way to the patients, occasioned the subsequent invasions on that vessel.

After giving the foregoing extracts from a paper written nine years ago, it is interesting to compare my former statements with the recent experience of the army yellow-fever board in their able investigation of the mosquito theory. Those gentlemen, undoubtedly, have placed beyond the possibility of a doubt the fact that the Culex mosquito, fasciatus, does transmit the yellow fever from the patient to non-immune persons so well isolated from other sources of infection that the severest critic must be satisfied that the characteristic attack which followed each of their five recent inoculations, with a constant incubation period of three and one-half to four days, was certainly the result of the inoculation. It is, moreover, worthy of notice that these remarkable experimental cases were obtained by an improved "technique" in perfect agreement with one of the statements contained in my paper of 1891, namely, that, whereas one or two stings from mosquitos recently contaminated may either occasion a mild attack of the disease or simply confer immunity without any perceptible pathogenic manifestations, a severe attack would result from a greater number of such stings, and the same might follow a single sting from a mosquito exclusively fed, during several days or weeks after its contamination, on sugar or sweet juices. The army board, however, were led to consider that a certain period of time must be necessary in order that the yellow-fever germs should reach the salivary glands of the insect, by analogy with what occurs in the case of the malaria germs after they have entered the stomach of the Anopheles; whereas my own inferences were the outcome of some personal observations and of the logical interpretation of the facts recorded at Saint-Nazaire.

Another important point which the army board, I understand, has undertaken to demonstrate experimentally, is the fact that other sources to which the yellow-fever infection has been hitherto attributed are absolutely incapable of determining an attack of the disease. Dr. Reed, Dr. Carroll, and Dr. Agramonte deserve, therefore, the highest praise and the gratitude, not only of their own nation but of humanity at large, for having carried to every scientific mind a conviction so pregnant with practical results.

January 1, 1901.

NOTES ON OVARIAN GRAFTING.[1]

By ROBERT T. MORRIS, M.D.,

NEW YORK.

Segments of thyroid gland transplanted to remote parts of the body continue to perform their function so well that it has come to be an established procedure on the part of some surgeons to engraft a piece of thyroid gland elsewhere in the body whenever the gland has to be removed from a patient. No matter whether the transplanted part is grafted beneath the peritoneum, beneath the skin, or beneath the mammary gland, it usually continues to perform its function so well that the development of symptoms of myxœdema is prevented.

Another matter of collateral interest to the subject of ovarian grafting which I wish to mention in a preliminary way is that of pregnancy after removal of both ovaries and oviducts. There are a number of well-authenticated instances of this sort, and I present the bibliography of the records of these cases in literature.

The term pregnancy after ovariotomy with numerous reports of cases is common enough in the literatures of the fifties, sixties, seventies, and eighties, but at this period there seems to be meant only single or unilateral removal of the ovary. Even as late as the time of the compilation of Gould's "Curiosities of Medicine" the subject of pregnancy after double ovariotomy did not attract enough attention to receive mention in that work, while pregnancy after single ovariotomy was regarded as singular enough for mention at some length. In 1890 Robertson briefly reports a case of pregnancy after double ovariotomy, and this seems to be the first recorded case, although two years before this time Wetherell reported pregnancy after a case of single ovariotomy in which the other ovary could not be found. We find nothing more on this subject until 1896, when at a meeting of the American Gynæcological Society Gordon reported two cases and Sutton one. In one of Gordon's cases he had performed a double ovariotomy himself, while there was some doubt as to the nature of the operation in the other case. Sutton had operated upon his own case. In 1898 Chambliss wrote to the editor of *The Alkaloidal Clinic* that he had known of a case of pregnancy following double ovariotomy. He had removed one ovary, and another operator had removed the other one. The editor said in this connection that he too had seen a case of the same sort. Ross, of Australia, reports a case of pregnancy after double ovariotomy, but in this case there is a possibility that the patient had become pregnant before the operation. Leonard has recently reported a case of pregnancy after double ovariotomy. In the present year Kossman, of Munich, has reported a case of pregnancy after double ovariotomy, which agrees with the experience of Robertson, Gordon, and Sutton in being complete and convincing.

The reason for these pregnancies after double ovari-

[1] A paper read at a meeting of the Society of Alumni of Bellevue Hospital, December 5, 1900.

otomy seems to be readily enough explained by an observation which I have made in one case.

On reopening the abdomen some months after a double pyosalpinx operation, a small portion of ovary that had remained on the distal side of the ligature was found to have retained its vitality. The ligature is often placed snugly about the pedicle of the ovary, but so near to the ovary that when the latter is cut away a small segment of it remains behind on the distal side of the ligature. Operators commonly believe that such small segments of ovary on the distal side of the ligature disappear by absorption, but it is probable that they sometimes remain quite well nourished through adhesion circulation, or contact circulation, and do not at all need the original circulation by way of the broad ligament for maintaining their vitality. In these cases we must remember also that the ends of the amputated oviducts may open shortly after operation, because mucous surfaces do not become adherent under the ligature, and the cases in which the ends of the oviducts remain permanently closed are ones in which plastic lymph from the muscularis and peritoneum has sealed over the ends of the closed mucous tubes. In any event, we know that the oviducts commonly open a few days after a ligature has been placed about them.

The two facts of retained vitality of transplanted thyroid gland and of accidentally transplanted segments of ovary give sufficient ground for experiments in transplanting ovary.

My experiments were begun in 1895, in the hope that ovary transplanted to a patient who had to lose her ovaries would at least give the benefit of the internal secretion of the ovary, with an avoidance of precipitate menopause. There seemed to be a possibility also that pregnancy might occur after deliberate transplantation of ovary, as well as after accidental transplantation of ovary, assuming that the cases of pregnancy after double ovariotomy were really ones in which ovarian tissue at the distal side of the ligature had retained its vitality.

At about this time there was a movement on the part of several members of the profession toward sacrificing uteri in cases in which the adnexa had been removed, on the ground that such uteri were useless. It was my hope that ovarian grafting would put a stop to this method of procedure in most of the cases for which it was advocated.

My first note on the subject detailed the histories of two patients, one who became pregnant after ovarian grafting, but who aborted; the other of menstruation in a girl with rudimentary uterus and adnexa who had not menstruated previously. This report was published in the *New York Medical Journal* for October, 1895. In May, 1896, Knauer, of Vienna, published a contribution upon the same subject in the *Centralblatt für Gynäkologie*, detailing experiments on rabbits and successful results as far as obtaining continued function of the transplanted ovary was concerned. He later published reports of cases of pregnancy in rabbits after transplantation of ovary. Since the date of my first two papers on the subject of ovarian grafting various authors have made reports, and I have collected a résumé of the literature of the subject to date.

My own cases of ovarian grafting up to the present time number twelve. I had expected to have opportunity to collect data from a much larger number of patients, but it has seemed best to state to patients the experimental nature of the work, and they have usually been reluctant to take an interest in the matter in the cause of science.

Two of the twelve cases are of very recent date; of the remaining ten, some have been lost track of, as they were pyosalpinx cases, and in the class of patients who are apt to have pyosalpinx. These patients had menstruated during the time that I could keep them under observation, but that fact in itself was not of great value, as many patients continue to menstruate for some months after the ovaries have been removed. It may be that these cases of persistent menstruation are sometimes cases with retained ovarian tissue.

The patients whose cases seem to offer testimony of value are the following, the first two of which have been previously reported:

Case I.—Mrs. J. F.——, Jr., aged twenty-six years, not pregnant in two years of married life. Septic tubal disease of long standing had practically obliterated the ovaries and tubes, leaving the pelvis filled with dense adhesions. There was chronic metritis. Remnants of tubes and ovaries were removed, together with masses of pyophylactic tissue. A small piece of the patient's ovary was transferred to the interior of the stump of the right oviduct (saline solution transmission). The patient became pregnant shortly after leaving the hospital about a month later, but lost a well-developed fœtus by abortion at the third month, presumably because of the presence of persistent pelvic adhesions. This result means that we are to be very conservative in the treatment of some of the uteri which operators are at present wishing to remove on the ground that such uteri are useless after the adnexa have been removed. I saw this patient in May of the present year, and she stated that menstruation had recently ceased, although she had menstruated with fair regularity for more than four years. The graft which I had introduced was probably too small to last for a long time.

Case II.—Miss L. B——, aged twenty years, had an infantile uterus and rudimentary adnexa. She had never menstruated, and had suffered from the common symptoms of suppression of menstruation. She received an ovarian graft in the fundus of the uterus from the ovary of a patient aged about thirty years. Eight weeks later she menstruated for the first time in her life; menstruation was profuse, lasting for ten days. A second menstruation occurred six weeks later, lasting for five days, and was normal in character. The third menstruation was five weeks later, scanty, and lasting for one day. The fourth and fifth menstrual periods occurred at intervals of four weeks, and were normal in character. The patient has made a great change for the better in personal appearance, and is relieved from her former distress. I have recently seen this patient, more than four years after operation, and she states that she occasionally misses a month, but usually menstruates at quite regular dates and in a fairly normal way, but menstruation is sometimes prolonged and sometimes is brief.

Case III.—Miss G. T——, aged twenty-two years. I had previously removed a large ovarian cyst of the right side. In December, 1899, I removed an ovarian cyst of the left side recently developed. The patient had suffered with irregular, scanty, and painful menstruation for some years. I grafted into the left broad ligament a part of an ovary taken from a patient a few years her senior who was subjected to operation for retroversion of the uterus, and who willingly furnished the graft from one of her ovaries. The physician of Miss T——, Dr. T. E. Pennington, writing under date of November 20, 1900, says that "since March, Miss T—— has menstruated regularly every month, the menstruation lasting the usual time, full, free, and easy. The patient says that she menstruates better in every way than since her first year of menstruation. I consider her case a very successful one."

Case IV.—Miss J. H——, aged thirty years, for several years had suffered from such painful menstruation that she was nearly incapacitated for work Menstruation was scanty and irregular, accompanied

by severe pelvic pain, spinal irritation, and fainting spells. I made a diagnosis of ovarian sclerosis and informed her that I was loath to remove ovaries in a case of this sort unless the patient was fully aware of the consequences and voluntarily requested the operation to avoid invalidism. I operated in May of the present year, removing the ovaries and grafting into the broad ligaments segments of an ovary from a patient of her own age who was subjected to operation for retroversion of the uterus and who allowed me to take a part of one ovary for Miss H——.

A microscopical examination of the ovaries from Miss H—— by Dr. H. T. Brooks showed intense fibroid changes with very pronounced cystic formation and cellular infiltration. There were but small areas of unaltered tissue and rarely a follicle. The condition was one of fibroid induration with cystic degeneration.

Miss H—— writes me in two letters, the last one November 25, 1900, that she has menstruated regularly since the operation, with the exception of the months of August and September, and at this time she was ill with what Dr. J. F. Erdmann believes to have been pelvic thrombo-phlebitis. Just why such a complication should have occurred at that late date is a cause for speculation. Miss H—— says that with the exception of this incident she has menstruated regularly and freely; she feels perfectly well and has regained health and strength, weighing forty pounds more than at the time of her operation. She says that she has lost the pelvic pain and spinal irritation and the fainting spells, and feels better in every way. A part of the good result is due to the removal of sclerotic ovaries; the part referable to menstruation since the operation is apparently due to the ovarian grafting.

Case V.—Miss L. E. B——, aged twenty years. The case was closely similar to that of Miss H——. Operation on May 17th of the present year. A part of one of her own ovaries that looked normal and that was not involved in much cystic degeneration was transplanted, after removal, into the broad ligament of the left side. The patient writes under date of November 15th that she did not menstruate until the 30th of September; menstruation continued fourteen days with very little pain; she menstruated again on the 5th of October with much pain. Her third menstruation, November 5th, continued ten days with very little disturbance in comparison with what she had always suffered before operation. She says, "Grafting certainly has helped make menstruation easy." I regret that at the time of this operation there was no opportunity to engraft healthy ovary from another patient, and it was necessary to do the best that we could with a small piece of her own degenerate ovary.

Case VI.—Mrs. J. H——, aged twenty-six years. Chronic septic tubal disease with ovaries and oviducts enmeshed in dense adhesions. The patient was an invalid with severe dysmenorrhœa. I separated the adhesions and found it impossible to do conservative work in saving the adnexa. They were consequently removed, and a part of the right ovary was immediately transplanted to the right broad ligament. The operation was performed October, 1897. The patient writes me under date of November 21, 1900: "Menstruation is not painful as it used to be, but if I stand on my feet there is pain over the ovarian region. I am quite regular, but some months there is not very much flow, and at such times the blood seems to rush to my head."

The continuance of menstruation since October, 1897, indicates that at least the precipitate menopause was avoided by the ovarian grafting. The pelvic pain is probably due to re-formation of adhesions which filled the pelvis at the time of operation.

In ovarian grafting, I place the ovary that is to serve for a graft in a basin of physiological saline solution at a temperature of about 100° immediately on its removal. An assistant with thermometer and warmer saline solution at hand maintains the even temperature of the solution in the basin containing the ovary until all is ready for its transplantation.

In my early experiments ovary was sometimes grafted into a slit in the fundus of the uterus in such a way that the uncut surface of the ovary projected into the lumen of the uterus, and the raw surface of the ovary was sutured to the raw surface of the mesometrium, or else a segment of the ovary was grafted into the end of an oviduct. In later cases I have chosen the broad ligament as a site for grafting and as nearly as possible at the point that the ovary would normally occupy. By splitting the broad ligament and introducing the graft into the slit it can be sutured in such a way that the uncut surface of the ovary projects into the peritoneal cavity, while the raw surface of the ovary is in contact with the raw surface exposed by splitting the broad ligament. This apparently offers the best opportunity for continued nourishment of the graft.

The best result in ovarian grafting in my experiments to date is the avoidance of the menopause. The patients have continued to menstruate in a sufficiently normal way to indicate that the grafts have retained their vitality.

My one pregnancy, like one of Frank's, was terminated by early abortion, but the several successful pregnancies that have been obtained in rabbits by other experimenters indicate that we may yet hope for fruitful pregnancy in women as a result of ovarian grafting.

The untoward results in my own cases have been one case of suspected thrombo-phlebitis; one case in which the piece of degenerate ovary from the same patient has apparently continued to undergo cystic degeneration, and one case in an irresponsible patient whom I cannot now find, who was thought to have had an extra-uterine pregnancy, but who was not operated upon for that trouble and who disappeared. The possibility of extra-uterine pregnancy must always be considered in cases in which fimbriated ends of the oviducts have been removed, but in many of our cases we can spare the oviducts with the fimbriæ intact.

A brief résumé of the results obtained by other experimenters in this field is here appended, together with a bibliography of the literature, which will furnish opportunity for extended reference.

Knauer made two series of experiments. The first had reference to transplantation in the original bearer of the ovary, and extended over a number of years. His second series comprised transplantation from one animal to another. The terms "homoplastic" and "heteroplastic" transplantation have been applied to differentiate the two classes of cases.

In his first group there were twelve experiments on sixteen rabbits. The ovaries were ligated off and implanted in part in the mesometrium or peritoneal fold which covers the horn of the uterus on the same side of the body, in part between the fascia and muscle of the abdominal wall. The result of his experiments was that more or less of the ovary persisted in its new locality and was not only nourished there but performed its function in a fully normal way, Graafian follicles developed, ova were expelled and were eventually shown to be susceptible of impregnation with resulting birth of fully developed young. It was further shown that such transplanted ovaries preserved their function for years. Knauer was also at great pains to show that the uterus and general genitalia underwent no atrophy after transplantation of the ovaries, and determined that fact by careful microscopical tests of these organs after the experiment animals were killed.

He found in experiments on young animals whose uteri were not fully developed that after transplantation of ovaries the uterus continued to develop, showing that the ovary presides to some extent over the growth of the uterus.

Rubinstein made twelve experiments on rabbits, in each of which the ovary was left free within the peritoneal cavity. In five it was sutured to the peritoneum. He does not go into the results at present, as they are to be published in the *Archiv für Gynäkologie.* He sums up by stating that whenever an ovary was successfully transplanted the uterus remained fully normal and showed no tendency to atrophy, but whenever the transplanted ovary was absorbed atrophy of the genitalia then followed.

Ribbert made exhaustive experiments upon guinea-pigs which he describes in great detail. In animals killed as late as the one hundred and thirty-fifth day, ova were found perfectly intact as to structure and were performing the function of ovulation.

Preobrajensky experimented with six pairs of rabbits to determine whether the ovary would preserve its integrity if transplanted into the male abdomen. All of these experiments resulted negatively.

Marchese made eight experiments. He exchanged the ovaries in two pairs of female dogs. One dog ran away; in the second the ovaries were found necrotic three months and ten days later. The third dog died of peritonitis in five days. The fourth, killed three months later, showed one ovary necrotic, while the other was normal to the naked eye, but contained no Graafian follicles.

It is evident that the methods chosen by the different experimenters have much influence upon the final results, and there is opportunity for all of us to perfect our technique.

Herlitzka made forty experiments on rabbits. In some cases the ovary was implanted in the female, in others in the male peritoneum. The animals were killed at various intervals afterward. Microscopical examinations by serial sections were made. The results were not constant in character. The author appears to have demonstrated that Graafian follicles in good condition were visible in a male rabbit forty-two days after implantation.

Arendt made fifteen experiments on nineteen animals, rabbits and cats. Eleven times he transplanted the ovaries of rabbits to the broad ligaments of the same side; twice he transplanted the ovary of one rabbit to the broad ligament of another rabbit. Twice he transplanted the ovary of a rabbit to the broad ligament of a cat, and vice versa. In his experiments transplantation was followed by atrophy of the entire genital apparatus, including transplanted ovaries.

Dudley reports a case of ovarian grafting in a patient aged twenty-one years who had menstruated twice at the time of the report after the operation. Menstruation has lasted three and four days respectively, and in a normal manner. In a recent conversation Dr. Dudley informed me that he has now several successful cases to report for menstruation data.

Fish experimented with twenty rabbits. He has been unable to prove that the function of ovulation can lead to conception, but states that his experiments are of too recent a date to determine this point.

Frank experimented on three patients, two with double pyosalpinx and one with cystic degeneration of the ovary, the parts of sound ovarian tissue from each patient being implanted into the uterus or the stump of the oviduct. In all three patients menstruation reappeared in normal fashion. There was evidence of conception in one case, but the patient aborted.

Glass transplanted an ovary from one woman into another woman who had lost her ovaries two years previously. He placed the healthy ovary as nearly as possible in its normal locality, operating by the vaginal route. The first menstruation was sixteen days afterward, lasting two days; then followed suppression of menses for six months, after which the flow reappeared with the patient in perfect health at the time of the report.

Grigorieff experimented with twelve rabbits by transplanting the ovary of each side to the broad ligament of the same side at a point near the uterine cornu. Four of the experiments are given in detail. The author states that after these transplantations ovulation and conception may occur as in the normal rabbit. In several cases in which the animals were killed, no degenerative changes are mentioned. In one case the transplanted ovary was somewhat diminished in size. The ovaries were found normal with Graafian follicles visible.

Jayle made a number of experiments, transplanting ovaries from one rabbit to another and from rabbits to guinea-pigs, and vice versa, but has merely announced his experiments without reporting results.

McCone reports experiments on thirty animals, grafting ovaries from one part of an animal to another part, or to a different animal. The ovary was sewed to the mesentery of the broad ligament, a pocket having been formed to receive the gland. In one rabbit both ovaries were removed, and one of the ovaries was grafted on the right mesosalpinx. The rabbit became pregnant and gave birth to three well-formed young. The rabbit was killed and the grafted ovary found to be flourishing at its new site, showing maturing Graafian follicles and corpora lutei. In one case the ovaries were removed from a female rabbit and the ovaries of a female dog implanted in their place, one on the mesosalpinx and the other on the omentum. Three months later the rabbit was killed—her uterus and tubes were large and healthy, and the ovaries of the dog had continued to perform their function as shown by the presence of maturing Graafian follicles.

A summing up of the testimony of the various experimenters seems to indicate that a properly transplanted ovary may continue to perform its full normal function and that we may not only expect to prevent the symptoms of the menopause after a patient's ovaries have been removed, but we may reasonably expect a pregnancy in a certain percentage of cases. I have little doubt that the recorded cases of pregnancy after double ovariotomy are cases of pregnancy from accidental ovarian grafting, a portion of ovary having remained on the distal side of the ligature, with establishment of adhesion circulation or contact circulation.

It is important for us to determine now just what method of ovarian transplantation gives the best opportunity for the ovary to continue its function. We need to experiment upon patients whose ovaries have been removed one or more years previously, and whose remaining genitalia are undergoing degeneration, to determine if regeneration can occur. This is not improbable if the ovary has such a presiding influence over the development of the uterus as has been shown in some of the experiments upon young animals. In all probability a certain proportion of the women whose ovaries have been removed in the past, could have had ovarian grafting done, either from a piece of remaining healthy ovary or from a segment of an ovary from another patient, the operations having been so timed that the one who was to furnish the ovary could have been operated upon at the same séance with the one who was to receive the ovary.

The special dangers to be anticipated from ovarian grafting would seem to be no more than the dangers from simple uncomplicated laparotomy. I have heard of a number of fanciful objections to ovarian grafting,

but the matter can be safely left to responsible members of the profession.

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[Note.—In 1895 Dr. Morris appears to have anticipated, practically speaking, all that has since been accomplished along this line. In his experiments he had successfully made a homoplastic and a heteroplastic transplantation of the ovary in human subjects. In the same year Knauer at the suggestion of Chrobak began his experiments on rabbits. In his first series he proved that the ovaries of rabbits could be transplanted on the bearer in various localities, could form permanent attachments, be nourished and ovulate. Somewhat later he was able to show that conception could occur from such ovaries, with the birth of normal young animals. The period of observation having extended over a number of years, he was once more able to show that the transplanted ovaries retained their original qualities permanently.—Ed.]

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CASE OF THROMBOPHLEBITIS OF THE LEFT SIGMOID SINUS MASKING A LATENT BRAIN ABSCESS IN THE LEFT TEMPORO-SPHENOIDAL LOBE, BOTH ARISING FROM CHRONIC OTITIS MEDIA.

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Frances S——, aged eight years, was admitted to the ear department of Mt. Sinai Hospital on August 21st, suffering from what was apparently infective thrombosis of the sigmoid sinus of aural origin.

History: As to the previous history the statements of the parents were conflicting. According to one of them, the child had a running ear in early childhood, with repeated recurrences of the discharge. According to the other, the trouble dated back only six months, when the left ear began discharging, unaccompanied by pain. No medical advice was sought. The ear was syringed with warm water and within a week the discharge stopped. Since then the child has been well until five days ago, when the present illness set in with pain in the (left) ear and with some fever but no chills. During this time the child vomited twice. Gradually the pain increased in severity. There was no discharge from the ear. The fever became higher and the child had a chill last night. This afternoon (August 21st) the patient was brought to the Mt. Sinai Dispensary (service of Dr. Meierhof), where a paracentesis of the drum was performed, without, however, evacuating any pus. While at the dispensary she had a chill at 3 P.M., and another at 6 P.M. at the hospital, to which she meanwhile had been transferred. This second chill lasted ten minutes. The temperature was 105.8°. During the same time she had a twitching of the lower extremities, especially the right leg.

Condition on admission: The patient is well nourished and intelligent; is fully conscious and complains of pain in the left half of the head, especially the occipital region, and neck. The mastoid is of normal appearance. The fossa mastoidea and tip are moderately sensitive to pressure, whereas the region behind the mastoid toward the neck and occiput is extremely sensitive and also slightly œdematous. Be-

low the angle of the axilla a few swollen glands can be felt in the depth; the region along the upper part of the jugular is sensitive to pressure, but no cord-like swelling can be distinguished. None of the other symptoms frequently found in thrombosis of the sinus are present. The drum of the right ear presents a normal appearance. In the left ear a paracentesis had been performed in the dispensary; accordingly the drumhead is dull, not tense, and very little congested, except for the membrana flaccida, which is considerably congested.

The ophthalmoscopic examination reveals the picture of beginning neuritis. The discs are intensely red and woolly, and the veins are congested and tortuous.

Diagnosis: Thrombophlebitis of the sigmoid sinus.

Operation (August 21st, 9 P.M.): As the first step the internal jugular was ligated, following the advice of some authors to have the ligature precede the curetting of the thromboid sinus, through which procedure particles of infected matter are apt to be disseminated into the general circulation.

In this preliminary step Dr. A. A. Berg was kind enough to lend me his assistance. Incision was made along the anterior border of the sterno-cleido-mastoid muscle in its lower half, and after preparatory steps, double ligature of the vein one inch above the root of the neck was made and the vein was severed between the ligatures. The vessel was well filled with blood apparently not thrombosed. Thereupon the opening of the mastoid antrum was performed in the usual manner. The surface of the bone was found of normal appearance and porous. A few cells contained a small amount of pus and granulations. The antrum, three-quarters of an inch deep, contained inspissated pus and granulations, which were removed. Then the sinus was freely exposed. A small part of the bone between the latter and the antrum was found discolored dark green. No pus or granulations were found upon the sinus (which speaks for a recent origin of the affection); its outer wall, of greenish-white color, offered to the finger more than the usual resistance. The aspirating-needle was introduced and drew off a chocolate-colored disintegrated pus of a very offensive odor. Now the skin incision over the mastoid and the one on the lower part of the neck were united; the jugular vein was followed upward and dissected up to the digastric muscle, at which level it was ligated. This piece of jugular was excised and measured two inches. The sinus was incised lengthwise and a grayish-brown disintegrated thrombus removed. The sinus was curetted up and down without restoring circulation. More bone was removed to expose the beginning of the lateral sinus and the horizontal part of the sigmoid as near as possible to the bulb of the jugular. During curetting into the lateral sinus bleeding followed, showing that the circulation had been restored; this was controlled in the usual manner by packing with gauze. Curetting down toward the bulb disclosed some more disintegrated thrombus and finally some bleeding. The stump of the jugular when incised bled also, thus showing that some of the tributary sinuses were not occluded (inferior petrosal, condyloid vein). It was, therefore, considered more prudent not to attempt the intended syringing through the lower part of the sinus and the stump of the jugular vein. The wound in the neck was sutured, leaving a drain in the lower angle. The upper end of the mastoid incision was also sutured. The rest of the wound was packed with iodoform gauze and a dressing was applied.

Subsequent course: The morning after the operation (August 22d) the patient looked well and was bright. Temperature at 8 A.M., 99.2°. During the day a slight ptosis and more pronounced puffiness of the region of the left brow and eyelid appeared, which increased during the day and spread also to the right side. On the following day this œdema (evidently due to ligature of the facial vein) gradually disappeared. It was also noticed that she was hoarse or rather that her voice had a metallic sound. No laryngoscopic examination was made, but on inspection of the pharynx the left tonsil was found swollen, and the veins of the pharynx were engorged. This hoarseness, which disappeared the fourth day, returned again later and was noticed more or less during the whole duration of her illness. The evening of the same day the patient had a chill lasting ten minutes, and the temperature rose to 105.2°. It was assumed that some part of the disintegrated thrombus had remained in the lower part of the sinus and that particles of it came into the circulation through collaterals (inferior petrosal sinus and condyloid veins), an assumption which was made very probable through the conditions revealed at the autopsy. Accordingly the attempt was made to remove this thrombus by carefully syringing upward through the stump of the jugular, which, however, was not successful at first. Two more chills were registered on the third and fourth days; they were of short duration (eight and three minutes), and the temperature was a little over 104°.

The attempts at removing the thrombus by careful irrigation were continued and were successful on the third day after the operation, when a soft thrombus was washed out from the lower part of the sinus by a current entering the stump of the jugular. This rinsing was repeated at subsequent dressings, with the result that after a slight chill on the fourth day following the operation no more chills were recorded. It should not be omitted to state that about that time inunctions with Credé ointment (on the limbs, about grs. xx.) were begun and regularly continued for some time.

The condition of the patient was fairly satisfactory. She was fully conscious, sometimes very bright and cheerful, sometimes morose and sullen, but not more so than an unruly child would be under conditions of a severe and painful illness. Her sleep was good and her appetite was fair. The temperature continued to show a septic character, but kept in moderate bounds, mostly between 100° and 102°, although it occasionally went down to 99° and sometimes reached 103°. The wound on the neck had closed by primary intention. A deep abscess in the upper part of the posterior triangle of the neck was incised and drained. This abscess was evidently due to a continuation of the thrombus phlebitis into the deep posterior cervical plexus through the condylar veins. In the wound the exposed dura, which looked sloughy in the beginning and secreted offensive pus, became clean under treatment with concentrated carbolic acid followed by alcohol, so that about the tenth day after the operation the whole wound over the mastoid showed a healthy granulating appearance. To this, however, was an exception. The tampons introduced into the antrum and also in the auditory canal were always malodorous, the pus having the odor characteristic of caries. However, the exploration and eradication of this focus were postponed to a time when the patient would have sufficiently recovered from the severe operation which she had undergone.

There was one ominous symptom, however, which made its appearance first on the sixth day after the operation (twelfth day of illness), when the pulse was noted to be irregular. Most of the time it was regular and in proportion to the temperature and corresponding to the age of the patient, but sometimes when taken during sleep it was considerably too low, for instance 84 with 102.2° temperature (on August 28th, seventh day after operation, thirteenth day of

illness), or 88 with 103° temperature on August 29th. Once it went down to 62 with 99.6° T. on August 30th. However, this retardation never lasted long and seemed to be of entirely passing character, but the irregularity of the pulse is frequently and conspicuously noted on the bed slip. With the exception of this occasional condition of the pulse the patient seemed to be doing well and appeared to be progressing toward recovery.

Toward the second half of the third week after the first operation the general condition of the patient seemed less satisfactory. She was morose and sullen, although her mind was always clear and her answers were always quick and intelligent. She was restless, did not sleep so well, complained frequently of intense pain in her ear and the whole left side of her head, and would purposely derange the dressing as in an attempt to relieve herself. The color of her face became more sallow and she was somewhat emaciated. Under these circumstances the exploration of the carious focus in the neighborhood of the antrum, which had been deferred, was undertaken (September 10th, twenty-sixth day of illness, twentieth day after operation). The new granulations filling the antrum were removed with the curette and so was some of the soft bone in the neighborhood. When the roof of the antrum was explored with a probe, the latter entered without any resistance through a small opening in the bone and in the dura into a large cavity extending upward and forward, situated evidently in the temporosphenoidal lobe. Thus the existence of an abscess in the temporo-sphenoidal lobe which had not given any symptoms was established. The same day the condition of the patient had further changed for the worse. She had a slight chill and vomited several times, became somnolent, was sometimes delirious, and passed her stools involuntarily. The patient had to be catheterized on account of retention of urine. All these symptoms showed clearly that the meninges had become more extensively involved, either directly through the extension of the encephalitis, or, what seemed more likely and was subsequently made almost certain at the autopsy, through oozing or perforation of the absess into the ventricle.

Operation for abscess: In the evening of the 10th of September (twentieth day after first operation, twenty-sixth day of illness) the patient was chloroformed. The posterior wall of the auditory canal was removed by means of chisel and electric drill. The median fossa was opened over the tympanus and the dura exposed to the extent of three-fourths inch square. In the dura at the site of the tegmen tympani (which had been removed) a small round opening about one-sixteenth inch in diameter was exposed; the dura did not show any signs of recent inflammation. The fistulous opening was enlarged, a thin greenish pus evacuated, the abscess cavity carefully rinsed with saline solution, and a drainage tube introduced. A dressing was applied.

The next morning the patient seemed somewhat relieved. Temperature, 99°; pulse, 100; respiration, 28. She was delirious in the morning, but became clear in the afternoon, recognized mother and nurse, and asked for a drink. The eye muscles were not paralyzed; the reflexes on the left leg were increased. Toward the evening the temperature rose again. She had a very bad night; was delirious and very noisy, in spite of narcotics. In the morning of the following day she presented an entirely changed appearance. She lay in stupor with the eyes wide open, divergent, and rolling, the pupils dilated, the head bent back, the face swollen and of livid color; respiration very frequent and labored; she often uttered inarticulate sounds. The pulse became more frequent and weak (rose from 150 to 190), the respiration more frequent and shallow (32 to 54). The temperature kept rising until at 7 o'clock P.M. it had reached 107.2°; at 8:40 the patient ceased breathing, on the twenty-eighth day of her illness and the twenty-second day of her admission to the hospital.

Bacteriological Report.—Case, Frances S——.

August 21st: Culture from external auditory meatus —bacillus mycoides (contamination).

August 21st: Pus from mastoid—spreads show streptococci and short bacilli decolorized by the Gram procedure (proteus?). Cultures show streptococci only. A spread from the thrombosed sinus shows the same as the spreads from the mastoid.

August 21st: A culture of blood in the excised part of the jugular vein was made; 3 c.c. of blood were used, in three tubes. The cultures remained sterile, after being observed seven days.

August 26th: A culture of blood was made, 5 c.c. aspirated from a vein of the left arm being used. Four agar tubes were inoculated. All remained sterile. Time of observation nine days.—E. LIBMAN, *Assistant Pathologist.*

Autopsy.—Case of Frances S——, made September 12th, fifteen hours after death. The dura is moderately adherent to the inner surface of the cranial bones. Under the pia, along the vessels of the convexity, is an exudate, cloudy on the superior surface and distinctly purulent toward the base. There is a purulent exudate at the base over the tuber cinereum, corpora albicantia, optic tracts, and posterior perforated space. There is a thick, extensive fibrino-purulent exudate over the lower surface of the pons, medulla, and inner half of both lobes of the cerebellum. There is not so much exudate along the vessels of the other parts of the base as there is on the lateral surfaces of the brain. On lifting the brain up some greenish pus is found coming from the opening into the antrum. A probe passed into the antrum opening enters a cavity in the temporosphenoidal lobe, from which the pus is found to be oozing. About 10 gm. of pus escapes. When the brain is completely removed, the conditions are found as follows: On the under surface of the left temporo-sphenoidal lobe at the posterior and outer part is a small opening about 0.3 cm. in diameter, leading into a large abscess cavity in the lobe. The edges of the opening are gangrenous. Directly under this, in the dura, is an opening of the same size with a thickened infiltrated margin. This opening lies just behind the tegmen attici. The dura laterally and posteriorly to the opening is gangrenous for an area of 2 x 1 cm. On stripping up the dura there is found an area of granulation tissue 2 x 3 cm. on its under surface, to the outer side of the perforation. The perforation in the dura leads to a large defect in the tegmen tympani (which opening was made in part at least during the last operation). An examination of the bone shows that the pyramid is carious. The part of the sinus which runs posteriorly contains no clot and no pus. The part internal to the field of operation, running along the posterior border of the petrous portion of the temporal bone, is filled with a moderately thick pus. At its inner extremity is a small purulent thrombus. In the longitudinal sinus and in the left inferior petrosal sinus are white (fat-like) clots lying free in the lumen. The other sinuses are negative.

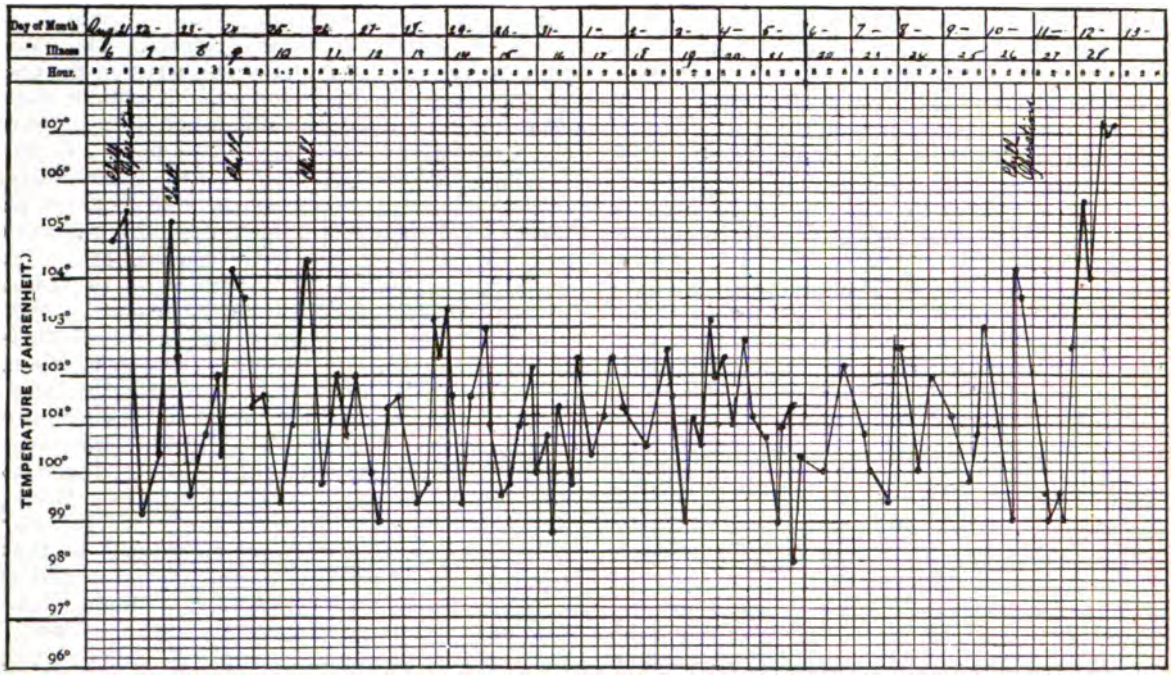
Examination of the interior of the brain: The right lateral ventricle is moderately distended (contains cloudy fluid). The choroid plexus and ependyma are much swollen. The third ventricle is not distended. The fourth ventricle is negative.

The abscess cavity in the left temporo-sphenoidal lobe communicates with the descending horn of the lateral ventricle. The abscess cavity measures 2.5–3 cm. in width, 4.5 cm. in length, height 2 cm. The abscess is not distinctly encapsulated, the margins are

necrotic and gangrenous. The pus is foul smelling. The choroid plexus is much swollen. The lining wall of the left lateral ventricle is softened and greenish in color, especially at the site of the optic thalamus.

Diagnosis: Caries of the pyramid. Thrombosis of the lower part of the left lateral sinus. Old abscess in the left temporo-sphenoidal lobe, communicating with the antrum through a fistula in the tegmen tympani. Purulent meningitis, secondary to perforation of the abscess into the lateral ventricle.—E. LIBMAN, *Assistant Pathologist.*

Remarks: The facts of this case, and the history as far as it could be established, seem to indicate that the patient had been suffering from chronic otitis with occasional purulent discharge. It is true no perforation was found when she applied at the dispensary before her admission to the hospital and the tympanic membrane showed hardly any changes, but this is a circumstance occasionally met with in very extensive mastoid disease. The symptoms from which she suffered since the onset of her last illness were those of mastoid disease with infective sinus phlebitis and systemic infection.



To quote from Macewen's classic description: "The cessation of otorrhœa coincident with accession of persistent otalgia extending into cephalalgia, high temperature with marked fluctuations, vomiting and rigors ought to be regarded as pointing in the direction of thrombosis of the sigmoid sinus."

Besides these cardinal symptoms there are a few corroborating the diagnosis: the œdematous area behind the mastoid, the extreme tenderness of this region, the tenderness and slight swelling of the deep tissues in the upper part of the posterior triangle and the sensitiveness to pressure in the upper course of the jugular—all symptoms pointing to phlebitis of the veins connected with the sigmoid sinus: the mastoid vein, the deep posterior venous plexus of the neck, emptying into the condylar vein and the jugular vein.

The optic neuritis of low degree is likewise commonly met with in the beginning of the sigmoid thrombo-phlebitis. There was not a single sign on admission to indicate the presence of a brain abscess. Nor is this a rare occurrence. On the contrary, it might be put down as a rule that when sinus phlebitis is complicated with either brain abscess (if the latter is not too extensive) or with meningitis, the symptoms of an infective sinus thrombosis generally mask those of cerebral abscess completely and those of meningitis partially (Macewen, page 267). This is especially true of abscesses in the temporo-sphenoidal lobe, which, as a rule, do not produce any characteristic local symptoms. The production of hemiparesis on the opposite side (by involvement of the capsula interna) or of sensory aphasia (if the abscess be on the left side, as in this case), may be considered the exception rather than the rule. So that for the diagnosis of cerebral abscess one had to depend more on the general symptoms present in the initial stage of the abscess than on any focal symptoms. An abscess in the latent stage can hardly ever be diagnosed, especially when masked by sinus phlebitis. The terminal stage of abscess producing œdema of the brain with symptoms of brain pressure, or causing meningitis by reaching the arachnoidal space, or showing the dramatic symptoms of perforation into the ventricles, frequently elucidates a hitherto unclear clinical condition.

Considering the conditions found at the post-mortem examination, the abscess in the temporo-sphenoidal lobe was of longer standing and accordingly in the latent stage. Like in many cases of this kind it communicated through a fistulous opening (at the site of which brain substance, dura, and bone were adherent) with the middle ear, into which its contents occasionally drained themselves. The site of the bony erosion was, as is usual, the roof of the tympanic cavity. According to statistics made by Koerner, a fistulous opening connecting the abscess with the original focus in the temporal bone is met with in forty-two per cent. of the cases of brain abscess of aural origin. Although the autopsy made it appear most probable that the abscess was of long standing and the history of the last illness placed the accession of the sinus phlebitis five days back from her admission to the hospital, there is not a single circumstance which would make it probable that the abscess was caused by the sinus phlebitis. This is perfectly in accord with the statement made by Jansen[1] who expressly states that in none of his cases of sinus phlebitis complicated by brain abscess were there reasons found for assuming that the abscess had been induced by the sinus phlebitis.

[1] Archiv f. Ohrenheilkunde, vol. xxxv., p. 372.

From the course of the illness it is probable that upon the accession of the sinus phlebitis the hitherto dormant abscess was brought into a stage of irritation and progression. It is possible that this occurred without any outside interference; but it is also possible that the handling at the time of the operation and at the dressings caused the result. However this may be, in the second half of the patient's illness the symptoms of meningeal irritation became more pronounced. This irritation was most likely produced by oozing of pus into the ventricle until it terminated in real perforation; this latter, to judge from the characteristic and well-known symptoms, must have taken place less than twenty-four hours before death. The purulent meningitis found at the autopsy was caused either directly through the encephalitis reaching the brain surface or more likely induced by the pus oozing into the ventricles, whence it found its way into the arachnoidal space.

SUBARACHNOID COCAINIZATION IN OBSTETRICS AND GYNÆCOLOGY; A REPORT OF TWENTY-ONE CASES.

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Much has been written on spinal anæsthesia of late, with reports of injections more or less successful, so the following contribution of additional cases may be of interest. Fourteen of these cases were obstetrical and seven gynæcological.

Concerning the technique of operation the important points are:

1. Surgical cleanlinesss in all things and a fresh, aseptic solution of cocaine, full strength. The method of sterilization used at the present time is to raise the temperature of the solution (in small bottles) to 80° C. for one hour on two successive days.

2. The needle need not be longer than 7 cm. and should be kept sharpened.

3. A nurse should stand at patient's head when the puncture is made to keep the back arched forward. A case was recently reported in this city of a patient suddenly sitting upright and breaking the needle.

4. During an operation the patient's ears should be kept closed with cotton and the eyes covered with a towel or cloth.

Following are the histories of the cases:

Case I.—M. J——, aged sixteen years, primipara. Labor pains began October 16th, at 8 P.M. Progress was slow. At 9:50 A.M., October 18th, the cervix was completely dilated and preparations were made to inject gr. ⅛ cocaine into the subarachnoid space. Repeated attempts to find this space proved a failure, so the cocaine was injected into the tissues near it. After seven minutes had elapsed there was some hypalgesia of the legs and pinching the labia was not painful. Labor pains, however, were felt as such. This slight anæsthesia lasted only twelve minutes. The child was born twenty minutes later, the mother suffering severely as the head passed the introitus. This was the only case in which we failed to enter the canal. No toxic symptoms developed.

Case II.—D. D——, aged twenty-one years, primipara. Labor pains began at midnight October 21st. Position, O. L. P. The cervix was completely dilated at 3:45 P.M., when cocaine gr. ⅛ was injected into the subarachnoid space. For about one hour thereafter uterine contractions were no longer painful. There was little progress during this time. Then pains returned as before. A second injection of cocaine was then given, amount gr. ¼. The resulting anæsthesia lasted for almost an hour. By 6:45 the head having made no progress, the forceps was applied. Only about gtt. xxx. of chloroform were necessary to relieve the pain of the application. The occiput had rotated to the sacrum. A small tear in the perineum was sutured painlessly with no further anæsthetic.

Case III.—E. N——, aged thirty-nine years, primipara. Labor pains began at 3 A.M., October 31st. Progress was rapid. Presentation O. L. A. The amniotic fluid was tinged with meconium when the membranes ruptured at 8:30 A.M. Two hours later the fœtal pulse had fallen from 138 to 96. Cocaine gr. ⅛ was injected. Four minutes later under complete anæsthesia the forceps was applied and the head, which had already reached the perineum, extracted. The child was asphyxiated, but after a few minutes began to breathe regularly. The perineal laceration was sutured without any pain to the patient.

Case IV.—W. R——, aged twenty-two years, primipara. Labor began at 4:40 A.M., November 13th. After complete dilatation of the cervix, the pains became severe. At 1:36 P.M. cocaine gr. ⅛ was injected. At this time the perineum was beginning to bulge with each pain. In six minutes after the injections the contractions were almost continuous and yet not felt by the patient. Unaided by the abdominal muscles, the force of the uterus was such as to expel the child's head in spite of the resistance offered by the physician's hands. Twenty-five minutes previous to the injection the amniotic fluid had been tinged with meconium and the fœtal pulse indistinct. The child was born in severe asphyxia and although it gave a few gasps, all efforts at resuscitation failed. The placenta was expelled one minute after the child was born.

Case V.—A. B——, aged twenty-five years, primipara. Labor began November 14th at 1:30 P.M. The cervix was completely dilated at 10 P.M. and the head seen almost on the perineum. An injection of gr. ⅛ of cocaine was made. In four minutes the contractions became painless. These were not strong, however, and in spite of appeals the abdominal muscles were not used by the patient. At 1 A.M. the fœtal pulse had fallen to 110. As no progress had been made for two hours, a low application of the forceps was made. This procedure, as well as the subsequent perineorrhaphy, was absolutely painless. Complete anæsthesia lasted for thirty minutes after the patient was brought to bed.

Case VI.—A. M——, aged twenty-one years, primipara. Labor began November 18th at 3 A.M. Presentation O. L. A. The pains were light until the afternoon when the patient, a very excitable woman, became almost frantic and uttered wild cries with each pain. At 5:31 P.M. the perineum began to bulge and an injection of gr. ⅛ was given. In three minutes the patient became perfectly quiet. Uterine contractions continued unfelt by the patient, but apparently were less powerful. The patient refused to bear down when told to do so and little progress was made. About one and one-half hours after the injection the patient again began to notice the contractions vaguely, and fifteen minutes later the pains were as severe as ever and she suffered as at first. The head had not advanced over an inch during these two hours, and a few whiffs of chloroform were now given with each pain until the birth of the child at 8:48 P.M.

Case VII.—R. McD——, aged twenty-three years, multipara. The pains started at 6:30 A.M., November 22d. The patient suffered greatly until 1:58 P.M., when she was given an injection of cocaine gr. ⅛. At this time the cervix was almost completely dilated, Complete anæsthesia resulted for an hour, during

which time the contractions were unnoted and little progress was made. Finally two contractions, slightly painful, stimulated the patient to help and caused the expulsion of the child at 3 P.M.

CASE VIII.—M. H——, aged nineteen years, primipara. Labor began November 23d at 8 A.M. Progress was slow. Presentation O. D. P. At 9:30 P.M. that day the head had advanced to the perineum. The patient did not assist her pains well. Cocaine gr. ¼ was injected. Complete anæsthesia resulted in three minutes. The uterine contractions continued at the same intervals as before, but were not so effective. The abdominal muscles gave but little help. Five minutes after the injection the patient vomited and then became very drowsy. Her pupils were dilated, her skin was cold and clammy, and her pulse ran up to 124. At the same time the fœtal pulse fell to 100, but rose to normal again in ten minutes. After one and one-half hours had elapsed the patient again began to feel the uterine contractions as such, but they were not painful. No material progress having been made and the fœtal pulse again becoming slow, at 11:30 P.M. the forceps was applied. The patient experienced slight pain with the application, but not enough to warrant any further anæsthesia. The perineal laceration was sutured without pain.

CASE IX.—A. H——, aged twenty-six years, primipara. Labor began November 26th, 6 P.M. Position O. L. A. The head was seen at the vulva at 10:58 A.M., at which time cocaine gr. ½ was injected. Anæsthesia was complete in two minutes. The contractions at once became less frequent and less powerful. Some nausea and vomiting occurred and were aggravated by pressure on the uterus. At ten o'clock the contractions became perceptible to the patient and stronger. The abdominal muscles were now called into play. By 1:50 P.M. the child was born with considerable pain to the patient. The suturing of the perineum also caused some pain.

CASE X.—M. D——, aged twenty-three years, primipara, began to suffer labor pains at 3 A.M., November 27th. The head presented at the vulva at 11:48 A.M. A lumbar injection of cocaine gr. ½ was made. As soon as anæsthesia was established the patient refused to assist her uterine contractions, although the latter continued at regular intervals as before. The head slowly advanced until two o'clock. After this slight pains were again felt by the patient and progress was rapid, the child being born in twenty minutes. The perineorrhaphy was not painful.

CASE XI.—M. E——, aged twenty-four years, multipara. Labor began December 2d at 10:30 P.M. Progress was rapid. Presentation O. L. A. At 1:53 A.M. the cervix was dilated, whereupon gr. ½ cocaine was injected. Anæsthesia was complete in seven minutes. The contractions were as powerful as before the injection and the child was expelled at 2:06 A.M. without a pain. The mother said afterward, "I had no pain after you put that morphine in my back."

CASE XII.—A. H——, aged twenty years, primipara. The pains started December 6th, 6 A.M. Slow progress was made in the first stage. Cocaine gr. ¼ was injected as soon as the head could be seen at the vulvar opening. At 11:18 P.M., thirty minutes after the injection, under complete anæsthesia and with persistent powerful contractions, the child was delivered. There was some asphyxia of the child, possibly owing to a knot in the cord. The perineum was intact. The anæsthesia continued thirty minutes after delivery.

CASE XIII.—G. M——, aged twenty-one years, multipara. Labor began December 3d at 6 P.M. The patient suffered a good deal and progress was slow for a multipara. Presentation O. D. A. At 11:25 the next morning cocaine gr. ½ was injected. The contractions were painless, but were felt vaguely by the patient. At the time of the injection the cervix was completely dilated. The child was not born until 12:30. The anæsthesia lasted until 12:50.

CASE XIV.—K. S——, aged twenty-nine years, primipara. Labor was slow in the first stage, lasting from December 5th, 5 P.M., to December 6th, 3:45 P.M. Then cocaine gr. ¼ was injected. The contractions continued, but the head did not advance along the perineum. No pain was experienced with the uterine contractions until about 6:30 P.M., after which time there was still slight analgesia. No advance having been made by 8 P.M. and the mother being exhausted, a low application of the forceps was made and the child delivered. Some chloroform was given for this last procedure, as the patient complained of pain.

CASE XV.—B. S——, aged thirty-three years. Endometritis; hypertrophy of the labia majora. On October 20th, at 10:45 A.M., the patient being prepared for operation, gr. ⅓ cocaine was injected into the subarachnoid space. In six minutes the pain sense was gone. After curettage, a small piece was excised from the cervix for examination. All this was absolutely painless. Then the labial tumor was extirpated. The operation was finished at 11:15 A.M. The anæsthesia, which had at first extended to the umbilicus, began to disappear toward the end of the operation and the patient complained of pain as the last few sutures were inserted.

CASE XVI.—A. H——. Condylomata acuminata. On November 13th at 10 A.M. cocaine gr. ¼ was injected. In five minutes we began cutting away the very profuse condylomata about the anus and vulva, with practically no pain to the patient. Anæsthesia became complete and remained so for over twenty minutes. The patient complained a good deal of the hot water and the cautery. At 10:35 the patient became nauseated and vomited. At the same time the pulse became rapid, weak, and irregular. It varied from 100 to 160 beats during the next two hours, on one occasion even going up to 180, yet there was no syncope or other toxic symptom except extreme restlessness. The last part of the operation was very painful to the patient. The pulse rate gradually declined to 100 at 6 P.M. and she became much quieter, passed a very good night, and felt perfectly well in the morning.

CASE XVII.—M. M——. Endometritis; lacerated perineum. At 10:06 A.M., November 30th, we injected gr. ⅓ cocaine; anæsthesia was complete in four minutes. The curettage and perineorrhaphy were complete by 10:50. The patient was at first rather nervous, but experienced no pain. Complete anæsthesia lasted until 11:10 A.M. No disagreeable symptoms of any kind developed.

CASE XVIII.—E. B——. Lacerated perineum. Cocaine gr. ½ was injected at 9:49 A.M. Anæsthesia began in two minutes and was complete in five minutes. It lasted over two hours. Outside of vomiting there were no disagreeable symptoms. The perineorrhaphy was concluded without pain at 10:40. At 11:20 the patient noticed a numbness in the lower extremities and a stinging at the site of the operation. At 1:30 P.M. she was perspiring freely and complained of some headache. She slept well all night.

CASE XIX.—J. L——. Chronic endometritis; relaxed perineum. Cocaine gr. ½ was injected at 10:17 A.M., December 3d. The patient was of a very nervous temperament; at times she complained of being uncomfortable and said she could "feel the curetting," but nevertheless remained perfectly quiet. Anæsthesia was established five minutes after the injection. The patient could not feel the pricking of a pin in the lower extremities up to 11:15 A.M. After the curettage a perineorrhaphy was done. The process of denudation was not painful, but when the perineal sutures

were inserted the patient complained. Normal sensation, however, did not return until 12 M., after the patient had returned to bed. No disagreeable symptoms whatever were noted.

CASE XX.—R. T——. Endometritis; retroversion; lacerated perineum. Cocaine gr. ½ was injected at 9:26 A.M., December 4th; complete anæsthesia resulting in four minutes. The uterus was first curetted, then the bladder was separated from the uterus, the anterior cul-de-sac opened, and the uterus brought forward into normal position. The fundus was then sutured high on the vesical peritoneum and the vaginal incision closed. A perineorrhaphy was next done, and as the last sutures were inserted the patient complained of some pain. The operation lasted one hour and ten minutes. The patient did not recover from the anæsthetic until half an hour after completion of the operation.

CASE XXI.—G. W——. Endometritis; lacerated cervix; lacerated perineum; recto-vaginal fistula. Cocaine gr. ½ was injected at 10:23 A.M., December 11th. Anæsthesia resulted in four minutes. Slight vomiting occurred. After the curettage, a unilateral laceration of the cervix was repaired, then the perineum and fistula were denuded and sutured. Throughout that operation, which lasted one hour and twenty minutes, the patient remained entirely composed asked questions of the nurse, and did not even feel uncomfortable. She had full control of her bowels all the time, hence the field of operation was never soiled. At 12:10 the sensation of pain returned and the patient complained of burning at the site of the operation.

It will be observed from a study of these cases that the duration of the anæsthesia was dependent, as a rule, on the amount of cocaine injected. Thus gr. ½ cocaine produced on an average an anæsthesia of one hour twenty-one minutes; gr. ¼, anæsthesia of one hour twenty-six minutes, and gr. ⅓, anæsthesia of one hour fifty-nine minutes. It depended even more on whether the cocaine was boiled or not. When it was boiled the anæsthesia lasted thirty-five minutes, whereas under the pasteurization the duration was on an average one hour fifty minutes. The shortest duration of anæsthesia was in the first case, twelve minutes and the longest was four hours three minutes. As a rule, the anæsthesia was sufficiently prolonged to accomplish its purpose. In nine cases there was some pain, and in three of these cases it was severe enough to require a few inhalations of chloroform. Our later cases were more successful. In only one of the last ten did the operation or labor outlast the anæsthesia. The rapidity with which the anæsthesia formed was astonishing. In from two to four minutes, as a rule, all sense of pain was gone. Eleven minutes was the longest we ever had to wait. In the gynæcological cases it was complete before the woman could be put in position for the operation. It usually extended up to a line drawn between the nipples. With smaller doses of cocaine, however, it did not, as a rule, go higher than the umbilicus. Shortly after the injection, uterine contractions became absolutely painless, in fact, were, as a rule, not even noted by the patient, but were felt only by the hand of the obstetrician placed on the abdomen. This total anæsthesia lasted for one to two hours and was followed by a shorter period of about a half an hour in which, while not painful or only slightly so, the patient again noticed the contractions. There was frequently a hypalgesia after the narcosis had disappeared.

The influence of the cocaine injection upon the nervous centres was various in its manifestations. Thus, in nine of the twenty-one cases the knee jerk was increased, in one case it was lost, and in the others it was unchanged. Dilatation of the pupils appeared in five cases. Three times the heat-and-cold sense was absent. As a rule, it was not at all impaired, however, and in one case in which the cautery was used it brought forth an expression of pain, possibly by association of ideas, as the cutting of a knife at the same time produced no such effect. Tactile sense was fully retained. The patient could tell at any time whether a pointed, blunt, flat, or curved instrument was being used.

Only two of our patients, Case VIII. and Case XVI., developed symptoms that were in any sense serious. In neither case did the patient's life seem to be endangered. Usually the patient's condition was unchanged and in four cases there was even some improvement in the pulse.

The most constant toxic symptom was the vomiting. It appeared in seventy per cent. of our cases, coming on within ten minutes of the injection. It was accompanied by considerable nausea, but lasted only a few minutes. It is worthy of note that, whereas twelve out of fourteen obstetrical cases were characterized by vomiting, it appeared in only three out of seven gynæcological cases. This might be explained by the fact that vomiting is a frequent concomitant of a normal labor. Headache we did not find so frequent a symptom as previous reports had led us to believe. In but three cases did it appear, and was then neither severe nor lasting. Twelve hours after injection a rise of temperature to 101°–102° was observed in most of the cases, but this was also found to be more frequent in the obstetrical ones. It was noted in only

Case Number.	Previous Labors.	Pelvis Diameter, Baudelocque.	Pelvis Diagonal Conjugate.	Child Weight.	Biparietal Diameter, Child.	Duration, First Stage.	Duration, Second Stage.		Duration, Third Stage.	Contractions, Frequency Before.	Contractions, Frequency After.	Contractions, Force Before.	Contractions, Force After.	Abdominal Pressure.	Fœtal Pulse, Before.	Fœtal Pulse, After.	Forceps.	Perineum.
		Cm.		Lbs.	Cm.	Hrs.	Hrs.	Min.	Min.	Min.								
I.	0	19	Promontory not felt.	9¼	11	39	1½	..	10	3	2 minutes.	Strong...	Weak....	No change.	144	144	None.. ..	Intact.
II.	0	20	do.	6½	10	14½	4	32	53	2	2 do.	do. ...	do. ...	Weaker....	135	135	Low application.	Laceration.
III.	0	20	do.	6½	10	6¾	1	..	10	2	2 do.	do. ...	Strong...	do.	90	72	do.	do.
IV.	0	20	do.	6	9½	6½	1	10	1	3	Continuous.	do. ...	Stronger.	Strong	150	150	None.....	Intact.
V.	0	18	do.	8	10½	9½	3	48	16	3	5 minutes.	do. ...	Weaker..	Weaker....	156	110–168	Low application.	Laceration.
VI.	0	20	do.	7¼	9	13	4	48	9	3–4	3 do.	do. ...	Weak....	do.	140	144	None.....	Intact.
VII.	1	18½	do.	8¾	11	6½	2	..	11	3	3 do.	do. ...	do. ...	do.	140	110–150	do.	do.
VIII.	0	17	do.	7	10	12¾	3	14	11	2–3	3 do.	Very strong...	do. ...	do.	120	100–160	Low application.	Laceration.
IX.	0	18	12½ cm.	7½	10	16	3	58	9	3	5 do.	Strong...	do. ...	do.	140	100–140	None.....	do.
X.	0	18	Promontory not felt.	6½	10	8	3	20	6	3	3 do.	do. ...	do. ...	do.	140	140	do.	do.
XI.	1	21	do.	7½	10	5½	2	6	9	2	2 do.	do.	Strong...	Strong	120	120	do.	Intact.
XII.	0	18	do.	6½	8½	17	1	18	7	2	3 do.	do. ...	Stronger.	do.	160	126	do.	do.
XIII.	2	21	do.	8	10½	17	1	20	11	2	½ do.	do. ...	Strong...	do.	140	144	do.	Laceration.
XIV.	0	19	do.	7¼	10	13	4	16	20	3	2 do.	do. ...	Weak....	Weak	140	108–144	Low application.	do.

one of the seven operative cases. Of the minor symptoms the most prominent were restlessness, trembling, and perspiration. In all the cases, after twenty-four hours had elapsed the patient was free from any manifestations of the cocaine. No sequelæ have been noted thus far.

A special table has been prepared to show the effect of the injection on the progress of labor. The injection was usually not given until the cervix was completely dilated and in primiparæ was often delayed until the head was on the perineum. Hence, the first stage of labor was not affected. After the injection, in seventy per cent. of the cases, the pains were, as a rule, neither as prolonged nor as powerful as before. Twice the pains continued as strong as before, and the other two times the cocaine seemed to stimulate the uterus to expel its contents. In frequency the contractions were not much affected, being more often increased in number than otherwise. In like manner the abdominal muscles were not brought into play so well as before the injection. Many of the primiparæ not knowing how to bear down, and not stimulated thereto by the pain itself, let the contractions pass unaided in spite of the appeals of the accoucheur. It is not surprising, therefore, that the average duration of the second stage of labor in primiparæ was three hours twelve minutes. In several cases the head remained on perineum for four hours. The forceps was applied only when the condition of the mother or the child absolutely demanded it. Yet this was necessary in five out of eleven primiparæ. In two of these, however, the blame may not be attributed to the spinal anæsthesia; in one case asphyxia of the child necessitated the application, and in the other one the presentation was a persistent occipito-posterior. In the other three the forceps was applied because of delayed labor and it is hard to find any special reason for this delay except the cocaine injection.

In five cases the cocaine seemed to have a toxic effect upon the child. A pulse that had been 140 would drop to 90–100 shortly after the injection and after remaining so about ten minutes would again return to its normal rate. Three times the child was somewhat asphyxiated when born. One child died, but in this case there were symptoms of weakness before the injection was made. There was no case of post-partum hemorrhage in our series. In fact, the bleeding was unusually small in amount. The average duration of the third stage of labor was only about ten minutes. Of the eight perineal lacerations only two were of any extent. Even so, this is a rather large percentage. The perineal body did not seem to relax so well as under chloroform.

To summarize, then, our results, as far as they go, would tend to support the view that spinal anæsthesia is not very dangerous, except perhaps to the child in utero. When it produces disagreeable symptoms, they are usually transient. In the labor cases it usually retarded progress. Finally, the anæsthesia it produces is for a fairly definite period of time without affecting consciousnes and with full control of the voluntary muscles.

It only remains to consider in brief the indications. From a study of these cases the use of the lumbar puncture in multiparæ would seem to be less called for than inhalations of chloroform. The results obtained from its use in primiparæ were also not very encouraging, but when good results can be obtained in a few cases the experiments should be continued.

In instrumental deliveries, when urgency is required and the patient is not of a very nervous temperament, the spinal narcosis seems to meet every indication. The delivery would be much facilitated by the patient's aid, which is not obtained under general narcosis, and the dangers of retained placenta and post-partum hemorrhage are lessened.

It is doubtful if the puncture will ever replace general narcosis in abdominal operations. In vaginal cœliotomy and minor gynæcological work it seems to have its greatest field of usefulness and will, we believe, come more in vogue as its merits are more fully observed and understood.

IMPORTANT POINTS IN THE MANAGEMENT AND TREATMENT OF CONSUMPTION.

By CHARLES R. UPSON, M.D.,
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Much has been written on the etiology, symptomatology, prognosis, and treatment of pulmonary tuberculosis, but comparatively little has been said of the physician's responsibility in the management of these cases.

In no other disease does the physician undertake a greater responsibility than in the management of a case of tuberculosis. His errors—both of commission and omission—may not only prejudice the results of his treatment but also jeopardize the health and happiness of others.

The physician who is the most successful in the treatment of consumption is one who can and will give plenty of time to the examination and supervision of his patient; who makes an early diagnosis and at once advises him—or, in the case of an extremely nervous person, some relative or friend—of his conditon; who can inspire in the patient a degree of confidence that will prompt him faithfully to carry out the physician's directions; who is not wedded to routine but can individualize symptoms and treat them accordingly—for there is no "royal road" to the cure of consumption.

If the general practitioner—for he is the one most frequently consulted by the consumptive in the early stage of the disease—would exercise the same care in the examination and management of his patient that he would give to, say, a case of pneumonia, the death rate from this disease would be materially lessened.

A few words regarding heredity as causative of consumption. While I am not prepared to say that consumption is never inherited, I am nevertheless firmly of the opinion that heredity is entitled to but little consideration as a factor in the etiology of the disease.

A person may inherit a low vitality, which renders him peculiarly susceptible to morbific influences, but he does not inherit the disease itself. While it is true that several members of a family may contract consumption, its causation can usually be traced to infection.

I have in mind a family consisting of a man, his wife, and four children, in which the wife and two of the children died of consumption. Both the father and mother had good personal and family histories, and the individual members of this family were apparently well up to the time that the mother contracted the disease, after nursing a case of acute pulmonary tuberculosis. Previous to this the two older children had left home and they escaped the disease. Seven months after his wife's death the man married again—a woman whose personal and family history was also good and whose health at that time was to all appearance perfect. Within six months of her marriage she showed unmistakable evidence of having contracted the disease. Fortunately for her, the house in which she lived, with all it contained, was destroyed by fire and she, under more favorable home environment, was

restored to health. One taking a superficial view of the history of this family might be led to attribute the causation of the disease in the cases of the two younger children to hereditary transmission rather than to the true exciting cause, infection.

Twenty-five years devoted to the special study and treatment of pulmonary tuberculosis afford to my mind abundant proof of the curability of many cases of the disease. This experience has taught me that the conditions under which a favorable prognosis may be given are as follows: If the disease is localized in one or even in both lungs; if the patient's digestion and assimilation are or can be made good, his sleep is restful, his environment healthful; and if he is possessed of a firm determination to "get well," we may safely give a favorable prognosis. But unfortunately, in many cases, when the consumptive consults a physician he presents a much more unfavorable aggregation of symptoms, among which may be mentioned disseminated tuberculosis; a rapid pulse in the early stage of the disease, which is out of proportion to his pulmonary condition; progressive loss of flesh, even when he has a fair appetite; a constant high temperature; profound anorexia; intemperate habits and a neurotic temperament, which makes him notional, impatient of restraint, and easily influenced to change physicians and localities. In these cases the prognosis is unfavorable.

The peculiar mental condition of the consumptive often prompts him to minimize symptoms and suppress facts in his personal and family history, which, if known, might assist the physician in arriving at a satisfactory diagnosis.

Extreme care and thoroughness should, therefore, be exercised in the examinaton of these cases, if we would be successful in their treatment.

Omitting a description of the physical signs of pulmonary tuberculosis—with which the reader is doubtless familiar—I will briefly call attention to certain other symptoms indicative of the early stage of the disease—as the prominent bright eyes, often with dilated pupils; morning pallor; an afternoon rise of temperature with, in some cases, a subnormal morning temperature; a quickened pulse; more or less shortness of breath on slight exertion; a slight cough on first assuming a recumbent posture, or an early morning cough with little or no expectoration, or both; occasional night sweating, which, however, may be so slight as hardly to attract attention; "nervousness," with disturbed sleep; a feeling of fatigue on arising in the morning, even after a good night's rest, which, however, may pass away within a few hours; a capricious appetite, frequent attacks of intestinal indigestion, and constant or recurring pain in the clavicular and subscapular regions.

While but few cases will present all of the above-mentioned symptoms, the presence of a majority of them in a given case—even in the absence of physical signs—especially if accompanied with a history of blood-spitting should excite suspicion of the existence of a tuberculous condition.

An invaluable aid in the physical examination of the upper portion of the lung in a case of suspected tuberculosis is the method suggested, I think, by Dr. H. P. Loomis, who directs that "the patient's hand be placed on the opposite shoulder"—which draws the scapula forward—when by placing the ear over the uncovered portion of lung we can, if they be present, detect in the "prolonged tubular breathing and fine râles on coughing" early evidence of the disease.

A laryngoscopic examination of the pharyngo-laryngeal regions will frequently aid us in making an early diagnosis in suspected cases. The pharyngeal and laryngeal mucous membrane presents a decidedly pale appearance, with, in some cases, a more or less marked local congestion of the mucous membrane lining the arytenoid region.

The microscopical demonstration of the presence in the sputa of the tubercle bacillus places, of course, the diagnosis of pulmonary tuberculosis beyond doubt.

The most important points in the management of pulmonary tuberculosis may be briefly summarized under the following heads: The patient should occupy a good-sized, well-lighted room with a southern exposure, from which the carpet, draperies, and upholstered furniture should be excluded. The floor should be frequently cleansed with a mop moistened with a five-per-cent. solution of formic aldehyde and the furniture wiped with cloths dampened with the same solution.

Covered sputa cups, containing a small quantity of the formaldehyde solution, should be used by the patient and should be thoroughly cleansed at least three times in the twenty-four hours. Sputa cloths, to be used for the reception of sputa when the patient cannot use his cup, can be cheaply made from cheese cloth, cut into squares about the size of a lady's handkerchief.

After use these cloths should be sprinkled with the above-mentioned formaldehyde solution and placed in a covered vessel until they can be burned. I have adopted the practice of placing in the hands of my consumptive patients a circular—of which the preceding suggestions form a part—calling attention to the cause of the disease, the dangers of infection, and giving plain directions how to avoid the same.

Under general medication may be mentioned, first, what may be called preparatory treatment—consisting of a dose of calomel and soda at 9 P.M., to be followed in the morning by a saline. This measure, cleansing the intestinal tract, is usually well borne and is, in some cases, followed by a reduction of the afternoon temperature. This treatment should be repeated weekly. For the relief of the intestinal indigestion, creosote, combined with hydrastis and some simple bitter, will be found useful; as a tonic-alterative there is nothing better than a combination of strychnine arsenate, arsenic iodide, caffeine, and calcium sulphide. The anorexia will sometimes yield to orexin, even after the failure of other remedies. Cough mixtures are to be avoided, unless urgently called for, in which case codeine phosphate, or heroin, combined with small doses of potassium bichromate, may be used with good effect.

Hæmoptysis is best treated by rest in a reclining position and the use of hypodermic injections of atropine and morphine. If the hemorrhage be severe, bandages are to be applied to the extremities. Fluids should—if used at all—be given in small quantities and cold. To assist nature in the formation of a clot, calcium chloride may be used with good results. The "night sweats" are often relieved by the use of intestinal antiseptics and small doses of atropine. Copper arsenate or the sulphocarbolate of zinc acts well in cases of diarrhœa. For constipation there is nothing better than small doses of the aromatic elixir of cascara sagrada one-half hour before meals.

Essentials are an abundance of fresh air at all hours of the day and night, and good nourishing food; gentle exercise in the open air when the patient's temperature does not exceed 99.5° F., but when above this point we should insist upon rest, either out of doors or in a well-ventilated room; systematic respiratory exercise; daily sponging of the body with tepid or cold water, followed by vigorous friction with a coarse towel, after which from one-half to one ounce of lard is to be well rubbed into the skin.

Some writers on pulmonary tuberculosis advise against the use of intrapulmonary medication. A rather large and favorable experience in the use of

local treatment in these cases justifies my taking exception to such views, as I have demonstrated times without number the exceeding value of properly selected remedies thus applied—the frequent use of a mixture of eucalyptol, pine-needle oil, menthol, and formic aldehyde having proven in my hands the most beneficial. But we are more apt to prescribe too much, rather than too little, medicine in cases of consumption.

In conclusion, I would urge upon the physician the importance of the strictest attention to the hygienic environment of the consumptive patient. The more rigidly we follow the methods adopted in lung sanatoria in the management of these patients the greater will be our success—the constant supervision and control of the patient being the most important factor in the cure of the disease.

Dipsomania and its Treatment by Suggestion.—J. Milne Bramwell lays down the following rules concerning this application of suggestion therapy: (1) The patient must be willing to be cured. Difficulties as to this are more frequently encountered in cases of chronic alcoholism than in dipsomania. (2) Susceptibility to hypnosis is a varying and important factor. Most authorities agree that all, except idiots and those suffering from certain forms of mental disease, can be hypnotized. On the other hand, time and trouble are often requisite and frequently slight hypnosis alone can be induced. (3) In dipsomania one ought to begin treatment at the commencement of a period of quiescence, and aim at preventing, or at all events retarding and weakening, the next attack. (4) The management of the patient during the earlier part of the treatment, before suggestion has taken effect, is important. If possible, he should not be left alone, but always have near him some trustworthy person to whom he can confide his temptations, and turn for aid in overcoming them. (5) The operator must be persevering and not easily discouraged; many patients, who ultimately do well, relapse more than once during treatment. (6) A distaste for alcohol ought to be suggested, as well as the abolition of the craving for it. The patient must be made to understand that he can never look forward to being a moderate drinker, and that the only choice before him lies between total abstinence or the gutter. (7) Even when the craving disappears quickly, the patients ought to be hypnotized regularly for a month. If they can be seen from time to time for the next six months, so much the better and safer. (8) The object of the treatment is not only to cure the diseased craving, but also to strengthen the will of the patient and help him to combat the temptations of social life.—*Medical Press and Circular*, November 7, 1900.

Is Widal's Reaction Reliable?—William Murrell reports several cases in which Widal's reaction was obtained respectively in obstructive jaundice due to an impacted gall stone, cerebral suppuration, abdominal tumor, and a fever probably due to bronchial catarrh. Cases such as these, he says, tend to shake one's faith in the infallibility of Widal's reaction as a test for enteric fever. Van Oordt and Kasel and Mann, under what may be fairly called test conditions, have obtained the reaction, the former in a case of malignant endocarditis, and the latter in two cases of pneumonia. It is stated, apparently on the authority of Malvoz, that certain bodies, such as safranin and vesuvin, have the power of agglutinating the typhoid bacillus, and that when abnormal reactions are obtained some analogous substance may be present in the blood. If the agglutination can be obtained when they occur, and in a certain percentage of cases of ulcerative endocarditis, pneumonia, jaundice, and even floating kidney, it must be admitted that Widal's reaction is not immaculate, and that as yet the clinical physician is not entirely superseded by the bacteriologist.—*The Medical Press*, November 21, 1900.

The Early Diagnosis of Fluid in the Abdominal Cavity.—L. Landau suggests a sign which he has found of value in determining the presence of small quantities of free fluid in the abdomen. In the early stages of ascites percussion and palpation are useless and exploratory puncture is hazardous, so that the author's sign should prove a useful addition to our diagnostic procedures. It consists in the fact that when the pelvis is filled with a small quantity of fluid, in practising bimanual palpation the examining hands find difficulty in approximating themselves to each other laterally, while the usually somewhat low-lying uterus gives the impression as if it floated on an air or water cushion. If now the pelvis be raised and the examination repeated these conditions disappear owing to the escape of the fluid into the upper portions of the cavity, and palpation gives the customary sensations.—*Centralblatt für Gynäkologie*, November 10, 1900.

Studies in Astereognosis.—F. X. Dercum claims to have been the first to use the terms stereognosis and astereognosis, the former meaning the faculty of being able to recognize foreign bodies, and the latter the absence or loss of this faculty. His conclusions from the observation of cases are that the loss or impairment of the spacing sense is the most important factor in determining astereognosis, but not the only one. Next in importance to the spacing-sense appears to be the knowledge of the position of the fingers and ataxia of movement. The mere preservation of the ability to perceive tactile impressions and the preservation of the pressure, temperature, and pain senses is insufficient to prevent stereognostic loss. It is known that astereognosis may at times be cortical and at times peripheral, but at present we do not know that there are any means by which the symptom can be made of differential value. It is not, however, impossible that it may be so employed.—*The Journal of Nervous and Mental Disease*, November, 1900.

The Prognosis of Various Types of Albuminuria.—Talbot Jones discusses the organic and the functional groups of albuminuria. The prognosis of the various forms of functional trouble he gives as follows: Cyclic albuminuria: the trend of opinion is toward regarding it as a manifestation of slight nephritis which may gradually pass into Bright's. The prognosis is therefore not absolutely unfavorable. Physiological albuminuria the author does not believe to exist. Infective and toxic albuminuria: the prognosis is that of the original disease. Gout and lead poisoning: the prognosis is bad, since it has been shown, both clinically and experimentally, that the albuminuria of these conditions is accompanied by such organic disease as is found in the granular kidney of Bright's disease. "Minimum" albuminuria of the French has an uncertain prognosis, because it often constitutes the first stage of Bright's disease. Anæmia: the albuminuria in this condition is benign. Nervous disorders sometimes cause temporary albuminuria. The prognosis is that of the producing disease. Dyspepsia, highly nitrogenous food, some dermatoses, the blowing of wind instruments by the young, burns, cold bathing, prolonged mental effort, inhalation of sewer gas, and excessive muscular exertion may all cause albuminuria. The frequent repetition of the last-named form can scarcely fail to terminate in chronic nephritis sooner or later.—*The Medical Examiner and Practitioner*, November, 1900.

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INFLUENZA.

THIS troublesome and serious disease is once again present in pandemic form in the United States. From accounts received from all parts of the country it would appear that an almost universal outbreak of influenza has occurred. The subject of influenza has within the past twenty years been discussed and investigated from every conceivable standpoint, but so various are its forms that it still presents many mystifying features, and a much more complete elucidation is required before the statement can be truthfully made that all the links in the chain of evidence have been collected and tabulated.

Regarding the etiology of the grippe, authorities are agreed that it is of microbic origin, and the opinion prevails that to Pfeiffer belongs the honor of discovering and isolating the microbe. This is well set forth in Finkler's masterly monograph on the question published in the "Twentieth Century Practice of Medicine." Dr. Goodhart, however, writing in Allbutt's "System of Medicine," with customary British conservatism, while conceding that the malady is due to germs, and admitting that Pfeiffer was the first to distinguish and describe the minute microbe clearly, believes that much has yet to be learned concerning the etiology and pathology of influenza. Finkler says that he is of the opinion that there exists a pandemic influenza caused by Pfeiffer's bacillus, and also an epidemic endemic influenza of identical nature which develops after the pandemic infection has run its course, being caused by germs left by the latter. The occurrence of various forms of catarrhal fever, which are often called grippe or influenza by physicians and laymen, is something altogether different. Sporadic cases of coryza and bronchial catarrh should never be mistaken for influenza, although the symptoms of influenza may be imitated in an exquisite manner. In a few words the celebrated Bonn professor's advice is that a complaint presenting catarrhal features should not be diagnosed as true influenza until the characteristic microbe has been found. A disease of so protean a nature and of so variable manifestation is even to the skilled physician at times exceedingly difficult to diagnose correctly.

The most distinctive mark of typical severe influenza is its remarkably sudden onset, the only disease which resembles it in this respect being Asiatic cholera. At the same time on occasions its period of incubation varies largely, not only in individuals but in different epidemics. Nevertheless, an unheralded attack termed by the Germans "Blitz-Katarrh" (lightning catarrh) is by far the most frequent warning of the presence of the influenza bacillus in the human subject.

Other symptoms are: headache of a particularly racking type, frontal or orbital, often the precursor of delirium; acute aches and pains in the back, not unlike those which are the forerunners of variola. The condition of the tongue is peculiar to the disease. According to Goodhart, it is generally tremulous, swollen, soft, and coated with a thick, creamy, dirty fur, accompanied usually by a particularly offensive smell of the breath. The sweat, also, has an odor peculiar to this disease alone. Sometimes the coryzal symptoms are severe to a degree, and sometimes a dry and hard cough is an accompaniment. The temperature varies very considerably, occasionally running to a high point, but often rising to no appreciable extent. Rigors and drenching sweats are a not uncommon feature in the course of the complaint. Goodhart rightly lays especial stress upon the value in diagnosis of an extensive diffusion over the bases of the lungs of characteristic sharp, sticky râles. Although the claim may be advanced with justice that much progress has been made during the preceding eight or ten years so far as a knowledge of the etiology and pathology of influenza is concerned, but little improvement can be shown in our methods of treatment and prophylaxis. No specific for the malady is known, and the majority of physicians the world over appear to have come to the conclusion that each individual case should be treated on its merits, and that therapeutic remedies for influenza, *per se*, have but slight curative effects.

The German committee, which was formed after the epidemic of 1892, after obtaining the opinions of six thousand physicians in that country, stated in a general way that the use of drugs had been overdone in the treatment of influenza, and that a doctor's intelligent advice was of infinitely more benefit than quantities of medicine. Dr. Fürbringer, of the said commiteee, declared that it was more than doubtful whether many patients did not suffer less from influenza than from the "galenical poisoning" induced by self-prescribed medicines. Panic, brought on by the depressing influence of the affection, is responsible for this mode of treatment. The patient who thinks he is "in for an attack," should consult a physician without delay and be guided by reason and clinical experience. Rest in bed, the shunning of drastic agents, and, above all, curbing the desire to leave the sick-room until the seeds of the disease are entirely eliminated from the system, are the only rational procedures. One great precaution to be observed in the treatment of influenza, as indeed in the treatment of all contagious diseases, is the thorough ventilation of the sick-room and of houses in which cases occur. Ill-ventilated buildings are eminently favorable to the spread of the malady, and any manner of living which tends to lower the vital powers will naturally render a person more

prone to infection. But while influenza is a self-limited disease, and mild and uncomplicated cases may safely be left to the resources of nature, it is unfortunately true that the disease has to a greater extent than any other the faculty of attacking some weak spot in a person's armor; hence complications are numerous, and in virtue of the complications and sequelæ, often proves disastrous. The most common complications and sequelæ, it is superfluous to remark, are respiratory affections, of which pneumonia is the most fatal. A point to which attention has been frequently drawn within recent times, is the baneful effect that influenza exerts upon the nervous system; this, judging from the records of ancient epidemics, does not appear to have formerly been a prominent characteristic. In fact, taking it all in all, influenza as it presents now, is perhaps the most insidious and dangerous disease which attacks civilized races. There are no known means of effectually guarding against its onslaughts. The best preventive measures are undoubtedly to strengthen and brace up the system by living an active, healthy life, and by avoiding as far as is possible the badly ventilated, overheated rooms which are so prevalent throughout America. An editorial in the MEDICAL RECORD, written at the time of the last epidemic in this country, emphasized the fact that the inhabitants of the United States appeared to be in an uncommon degree susceptible to the morbific influence of grippe, and the surmise was made that this proneness to contract the disease might be in part due to the highly-strung nervous organization of the native-born population. It may now be added that another, and possibly more potent cause is to be found in the pernicious habit of keeping the temperature of public offices and of houses unnecessarily high.

ORIGIN AND SPREAD OF TYPHOID FEVER IN THE UNITED STATES ARMY DURING THE SPANISH WAR.

DESPITE the experience so dearly earned in every war of any length which has been waged since written records were first kept, the means of preventing the occurrence of typhoid fever or of even staying its spread would seem to be almost as ineffective as in the campaigns of Napoleon. This conclusion is forced upon us by the devastation caused among American troops by this disease during the Spanish-American war, and further emphasized by its prevalence and deadliness in the British South African army. There has recently been published a report dealing with the matter by Dr. Walter Reed, Major and Surgeon, U. S. A., Dr. Victor C. Vaughn, Major and Division Surgeon, U. S. V., and Dr. Edward O. Shakespeare, Major and Brigade Surgeon, U. S. V., which provides some gruesome reading, while at the same time it supplies some valuable suggestions. The following is a portion of the conclusions reached: (1) During the Spanish war of 1898 every regiment constituting the first, second, third, fourth, fifth, and seventh army corps developed typhoid fever; (2) more than ninety per cent. of the volunteer regiments developed typhoid fever within eight weeks after going into camp; (3) typhoid fever developed also in certain of the regular regiments within three to five weeks after going into camp; (4) typhoid fever became epidemic in camps located in the Northern as well as in those located in the Southern States; (5) typhoid fever is so widely distributed in this country that one or more cases are likely to appear in any regiment within eight weeks after assembly; (6) typhoid fever usually appears in military expeditions within eight weeks after assembly. These are all hard, undeniable facts. As to the origin of typhoid fever, the three investigators declare: (1) The miasmatic theory of the origin of typhoid fever is not supported by our investigations; (2) the pathogenic theory of the origin of typhoid fever is not supported by our investigations; (3) our investigations confirm the doctrine of the specific origin of typhoid fever; (4) with typhoid fever so widely disseminated as it is in this country, the chances are that if a regiment of thirteen hundred men should be assembled in any section and kept in a camp, the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop; (5) typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others; (6) typhoid fever is more likely to become epidemic in camps than in civil life, because of the greater difficulty of disposing of the excretions from the human body; (7) infected water was not an important factor in the spread of typhoid fever in the national encampment in 1898; (8) flies undoubtedly served as carriers of infection; (9) it is probable that the infection can be disseminated to some extent through the air in the form of dust. The foregoing conclusion as to the modes of infection are more or less in accord with the views of other authorities both in this country and in Europe. Special stress is, we think, rightly laid on flies as a potent means of spreading typhoid fever. Dust, too, is probably more often a factor in disseminating the disease than is commonly supposed. This theory would appear to have received a certain amount of confirmation in South Africa, than which no part of the world is more subject to dust storms. To what extent the water supply of the camps of the United States troops was responsible for the prevalence of typhoid, it is undoubtedly very difficult to state with much degree of accuracy. The writers of the report seem inclined to think that in the camps in question contaminated water played an inconspicuous part as a carrier of infection. True as this may have been in the case of our soldiers and volunteers in 1898, there can be little doubt that, as a rule, polluted water has been to blame for originating and spreading typhoid fever more than any other one cause in almost all the great epidemics which have ever occurred. The suggestions advanced in the report as to the preventive and remedial measures to be adopted when typhoid fever has broken out in camps, provide the most valuable reading. It is pointed out that a command badly infected with typhoid fever does not lose the infection by simply changing location, because when such a command makes another encampment, it carries the specific agents of the disease in the bodies of the men, in their clothing, bedding, and tentage; there-

fore, a thorough disinfection of these impedimenta is necessary. The excellent advice is also given that the soldier's bed should be raised from the ground, and that overcrowding should be strictly avoided. The report draws attention to the need of careful diagnosis in cases resembling malaria among soldiers. The statement is made that malaria was not a prevalent disease among the troops that remained in the United States, and that many short or abortive attacks of typhoid fever were diagnosed as some form of malarial fever. In connection with this fact, it is suggested that to each division of an army a hospital should be furnished, with facilities for scientific diagnosis equivalent to those possessed by all first-class hospitals. Lastly, the compilers of the report declare that the belief that errors of diet with consequent gastric and intestinal catarrh induce typhoid fever is not supported by these investigations, nor is the belief that simple gastro-intestinal disturbances predispose to the disease.

MEDICAL EVIDENCE.

EVERY one is agreed that the manner in which medical evidence is given, both in civil and in criminal actions, is open to severe and just criticism in various particulars. The question of the physician as an expert witness has been fully and freely discussed by his brother practitioners, by medical journals, by the members of the legal fraternity, and the verdict has been given that under the existing system he is a failure.

Many are the schemes which have been evolved by ingenious thinkers to remedy the present discordant state of affairs, but so intricate is the problem that nothing really practical has as yet been accomplished.

Dr. R. L. Pritchard gave a clear exposition of the subject before the Society of Medical Jurisprudence on November 12th, 1900, in which he traversed the well-worn old paths as well as broke some fresh ground. A point to which he draws attention is one that, although it must have often occurred to all interested in the matter, has been seldom directly referred to. The different ideas regarding medical evidence entertained by the medical and legal professions are well presented.

The lawyer looks upon medical evidence as a very unsatisfactory kind of testimony, as the evidence of his medical witness is scarcely ever more positive than opposing testimony on the other side. To the legal profession it is a matter of doubt whether these differences are the result of the uncertainty of medicine as a science or the different refraction of the medical witness's mind when testifying for the plaintiff or for the defendant. On the other hand, the medical profession admits the apparent inconsistencies of medical evidence, but attributes them to legal assumption in endeavoring to comprehend, harmonize, and explain medical matters after a limited study of a particular case.

Dr. Pritchard regards the subject from the standpoint of both professions, and although not positively pointing a way out of an increasingly unbearable situation, reviews the entire matter lucidly. The method always recommended by the MEDICAL RECORD, of creating a commission of independent and impartial experts, does not find favor in the eyes of Dr. Pritchard, who argues that such a mode of procuring experts would limit litigants in their selection of witnesses. And, further, if the expert witnesses were appointed by the court, the unsuccessful party would feel aggrieved that an expert, in whose ability or knowledge of the merits of the case he had no confidence, had decided the extent of his injuries. Dr. Pritchard, in short, would have no system which would interfere with the litigant in proving his case as best he can.

He is of the opinion that the defects in the plaintiff's medical evidence is his reliance for advice and testimony upon the attending physician, and contends that the duties of witness and medical adviser ought not be expected from the same person without subjecting one to the other.

Commenting upon the defects of medical evidence on the part of the defence, the writer thinks it is owing to its experts too often testifying without a sufficient knowledge of the plaintiff's injuries, and that what the defence requires is to know before the trial as much of the plaintiff's injuries as the plaintiff intends to prove. Dr. Pritchard ends an able, if not altogether convincing, address as follows: "The existing practice of medical evidence can be submitted to the courts with the number and extent of opposing opinions not greater than the reversals and dissenting opinions of appellate courts. And where expert opinions would differ an intelligent jury would have no difficulty in finding where the weight of opinion preponderates, as juries have always to do wherever there is a conflict of evidence.

"The value of medical evidence, where it is submitted on facts such as a lay jury can understand and appreciate, is greater than that of other oral evidence. Medical evidence is not the testimony given by the senses, which are greatly liable to error, but it is testimony of scientific reason which, when made clear, carries conviction."

The reasons adduced against the creation of a board of experts are weighty, but not by any means conclusively so. Such a system would appear to be preferable to the present one, if only because the witnesses would be impartial and independent. The medical profession is assuredly in the bulk honest and honorable, but when, by tendering certain testimony, one's own patient and one's own pocket are likely to benefit, one is unconsciously inclined to be somewhat biassed. The institution of a commission of medical men who had no pecuniary interest whatever in a case, would at least remove temptation from the path of the expert witness, and the evidence would probably be quite as much to the point and as comprehensible to the jury as it is now. There have been several trials in which men in the vanguard of the medical profession have testified in direct opposition to each other. No perfect method of procuring medical expert evidence can, in the nature of things, be hoped for; but, at any rate, reforms might be introduced with advantage to all concerned.

PROPOSED HOSPITAL FOR THE SPECIAL TREATMENT OF ACUTE NERVOUS AND MENTAL DISEASES IN THE CITY OF NEW YORK.

THE recent disclosures in Bellevue have attracted attention in all parts of the country to the treatment of the indigent insane. It is to be sincerely hoped—and, indeed, it may be asserted with some degree of confidence—that the state of affairs prevailing in the aforesaid hospital has been exaggerated and that its condition is not quite so black as has been painted. But that there is something entirely wrong in the methods of management in the New York City hospitals must be admitted by every disinterested citizen, and any workable plan that would tend to place these institutions on a satisfactory footing will certainly be hailed with gratitude by all sorts and conditions of men. The treatment of the poor insane in some respects has been for long in certain portions of the United States a blot on the intelligence and humanity of the inhabitants of so rich a land. That an individual has the misfortune to have no money and to lose his wits, should be no reason for treating him more or less as a criminal. The whole question teems with difficulties, and it cannot be reasonably anticipated that an ideal method will be evolved forthwith. Nevertheless, an earnest and serious attempt to better the state of the indigent insane is at least a healthy sign that thoughtful men are becoming alive to their responsibilities and is in itself an augury of progress. Dr. Charles Henry Brown, managing editor of *The Journal of Nervous and Mental Disease*, has recently drafted a bill having this object in view. The bill provides for the establishment within the city and county of New York of a hospital to be known as the "Hospital for the Treatment of Acute Nervous and Mental Diseases." Such hospital is to be under the control and management a board of twelve managers, six of whom shall be regularly licensed practising physicians, and six of whom shall be citizens of the city and county of New York. Such managers are to be appointed by the mayor of the city of New York. The president of the health department and the mayor of the city of New York and the president of the State commission in lunacy are to be ex-officio members of such board of managers.

The most important clause of the bill is section 9, dealing with the admission of patients, which provides that all persons suffering from acute nervous and mental disease, who are residents of the city of New York, may be received at such hospital before their final commitment to a State hospital or other institution according to law, and detained therein for a term of not more than ten days.

The magistrates, or other authorities of the city of New York, may commit to such hospital all persons who appear to be nervously or mentally deranged until such time as their normal condition may be ascertained. Cases of alcoholism, narcomania, or habit neurosis may be committed for a term of ten days, unless in the opinion of the superintendent a longer period is necessary for the health and treatment of the patient and for the safety of the community, under which circumstances an order of a judge in court may be procured, extending such time to a period of thirty days. A person who has been declared insane by duly qualified medical examiners, pursuant to the provisions of the insanity law, may be committed to such hospital by the judge or justice before whom the application for his commitment to an institution for the insane was made, for the purpose of treatment and more minute examination. Such commitment shall not be for a longer period than thirty days, unless otherwise specially ordered by such justice or judge. Convalescent insane may be transferred to such hospital by the authorities of State hospitals and other institutions for the insane, for the purpose of further treatment and surveillance.

The provisions of this bill are to the point, and, if carried into effect, should supply the remedy for many of the evils of the existing system. Especially would it check the power of the policeman and preclude the committal of an innocent person to the prison cell and the consequent criminal stigma attaching thereto. A man or woman has assuredly the right to be judged as to the state of his or her health by an expert and not left to the ignorant, but perhaps well-meaning, tender mercies of the officers of the law.

It is to be presumed that there would be no suspicion of politics in the management of the hospital advocated by Dr. Brown and that the nursing staff would be carefully selected. There is only one feature in connection with the proposal which might, we think, be improved upon. A hospital for the care of insane poor is a matter closely affecting the State, and it would be unfair to the rate payers of New York City that they should be saddled with the entire cost of the construction and maintenance of an institution of that nature.

INVENTION AND EVOLUTION OF MIDWIFERY FORCEPS.

DR. A. R. SIMPSON, professor of midwifery and diseases of women at Edinburgh University, writes to the *Scottish Medical and Surgical Journal* "On the Origin and Progress of Artificial Means of Delivery." To the great surgeon Ambrose Paré, toward the close of the sixteenth century, must be accorded the honor of laying the foundation stone of modern midwifery. Paré revived and recommended in his surgical writings the operation of turning as a method of delivery in difficult and dangerous cases, and his pupil Guillemeau still further popularized the procedure in his special work on midwifery. Jean Palfyn, anatomist and surgeon to the city of Ghent, has the merit of having first offered to the profession a rudimentary pair of safe forceps. This was in the year 1720. For more than a century, however, before this date forceps had been in use, but their employment had been restricted to the hands of a very remarkable family which furnished physicians to the English kings, James I., Charles I., Charles II., James II., and William, and to Queen Anne. Huguenot refugees, and by name Chamberlen, this line of medical men flour-

ished exceedingly by reason of their exceptional skill in obstetrical practice. The secret of their success was jealously guarded and handed as a legacy of rare value from father to son through many generations. In 1672 Dr. Hugh, of that ilk, published a translation of Mauricean's "Midwifery," and in the preface referred somewhat obscurely to midwifery forceps, but although the cause of the Chamberlens' good fortune in bringing infants into the world had been to some extent disclosed, the mystery was not wholly revealed until 1813, when in Dr. Peter Chamberlen's old mansion a chest was discovered, the obstetrical contents of which were deposited among the archives of the Medico-Chirurgical Society, London, where they may be now inspected. Among these treasures the most important are four pairs of efficient midwifery forceps. Dr. Simpson gives as his opinion that the man who did most to popularize its employment and put into the hands of his professional brethren the instrument that gave them the command of the delivery-room, was the Scotchman Smellie, the friend of a still greater Scotch physician, the immortal Tobias Smollett. In the mean time Levret, a Frenchman, had been proceeding along the same path with equally favorable results; but, unfortunately for his reputation, he had not, like Smellie, his Boswell. With regard to the construction of the implements themselves, it is stated that they consisted of two blades, which in the earlier descriptive accounts are termed bows or claws. The blades, the most important parts of the instrument, curved toward one another, each blade being furnished with a handle for purposes of manipulation. The Chamberlen forceps is sometimes spoken of as tongs—by Smellie, among others—and no name could more accurately describe it. Dr. Simpson proceeds to trace further the evolution of the forceps to its present advanced stage, and says: "The forceps that emerged from their obscurity in the beginning of the eighteenth century have undergone two important changes. The lock introduced by Smellie has almost completely replaced the joint of the Chamberlen forceps in British practice, though that has been retained in modified forms in French forceps; while in Germany the Brunninghausen lock is preferred. But whatever minor variations there were in the blades, handles, or lock, the primitive forceps had only the one curve for the adaptation of the blades around the fœtal head which is found in the Chamberlen forceps. Viewed from the side, all these single-curved forceps are straight from the tip of the blades to the handle ends. Levret, of Paris, was first to introduce the pelvic curve, and in January, 1747, presented to the Royal Academy of Surgeons of Paris a new curved forceps contrived for disengaging the fœtal head impacted in the pelvis and arrested at the brim, and in 1757 gave a long description and discussion of its value. Dr. Robert Johnson, a pupil of Smellie, in 1769 invented forceps with what is known as the inverted or perineal curve. It was, nevertheless, not until after anæsthesia began to give the obstetrician greater freedom in the use of instruments that the full value of the long double-curved forceps came to be more fully recognized, and with the more frequent use there grew up a clearer idea of its imperfections as a tractor. Then came the Tarnier axis-traction forceps, which almost wholly solved the question, and in 1880 Simpson himself advocated the employment of forceps constructed on Tarnier's principle, but jointed to the best type of British forceps with, he declares, most satisfactory results. To French surgeons, therefore, belongs the greatest meed of praise both for the invention and perfecting of the midwifery forceps." Dr. Simpson concludes what may without exaggeration be called a fascinating article with a brief discussion of the frequency of forceps cases, and remarks: "How frequently forceps are to be used in practice might be dwelt upon at much length and in the end the question would be determined by the personal equation. Excess of interference is at all times contraindicated, but it is easy to understand that the man who has become familiar with the manipulation of an instrument that he knows to be safe in its application to mother and child, will feel justified in using it to save his own time as well as his patient's suffering, in a case where another man would for a longer time wait and watch the natural efforts. . . . Even this noblest of instruments may be abused, and as we carry it in our obstetric bag, we may do well to say to ourselves what Gideon Gray in Scott's tale, the village surgeon, said to the impatient father of Xilias de Monçada's child, 'Nature must not be hurried and she avenges herself of any attempt to do so.' The best effects of the forceps are secured when we use them, not as a substitute for the efforts of nature, but as an aid when these are like to fail." Dr. Simpson has put together an instructive description of the subject which he knows so intimately—perhaps he has viewed it rather too exclusively from a continental and British standpoint. But this will in no way detract from the real worth of his recorded opinion in the estimation of American readers.

UNIVERSITY OF CALIFORNIA

News of the Week.

The Pan-American Medical Congress.—It has been definitely determined that the congress will open on Monday, February 4th. The section meetings will be held in the morning of that and the three succeeding days. The first general session, formally opening the congress, will take place on the evening of February 4th at the Tacan Theatre. The second general session will be on Wednesday evening, and the third, the closing, session on the following evening. On Tuesday evening there will be an entertainment given to the delegates and their ladies by the city council of Havana. Governor-General Wood will give a reception to the delegates, probably on the day before the opening of the congress. In addition to the entertainments already mentioned in a previous notice, there will be an excursion to Rosario, the plantation of Señor Ramon Palayo, and to that of Señor Pessant across the bay from Havana. There will also be an excursion to Matanzas to visit the Caves of Bellamar and the beautiful Yúmuri valley. Those who intend to read papers but who have not yet sent in their titles are requested to send them not only to Dr. T. V. Coronado,

105 Prado, Havana, but also to Dr. Ramon Guitéras, 75 West Fifty-fifth Street, New York City. It is also requested of those who purpose to attend the congress that they send their names to Dr. Guitéras. It is estimated that there will be present about fifteen hundred members of the congress, of whom between three and four hundred will be from this country, two hundred from Mexico, five hundred from the Island of Cuba, and four hundred from the South American republics.

Philadelphia Medical Club.—At the annual meeting held January 11th, the following officers were elected for the ensuing year: *President*, Dr. E. L. Duer; *Vice-Presidents*, Dr. John B. Deaver, Dr. Philip Marvel, of Atlantic City; *Secretary*, Dr. Guy Hinsdale; *Treasurer*, Dr. F. S. Pearce; *Member of the Board of Governors*, Dr. James M. Anders; *Executive Committee*, Dr. T. C. Fulton, Dr. James Van Buskirk, Dr. L. Webster Fox, Dr. Ernest Laplace, and Dr. G. G. Davis.

The Practitioners' Society of Orange, N. J.—At the first annual meeting of this society, held on January 5th, officers were elected as follows: *President*, Dr. Edgar Calvin Seibert; *Vice-President*, Dr. J. Minor Maghee; *Secretary and Treasurer*, Dr. Stephen G. Lee; *Executive Committee*, Drs. M. Herbert Simmons, Walter Dodge, and Frank B. Lane. Dr. Edward J. Ill, of Newark, and Dr. Thomas W. Harvey, of Orange, were elected honorary members.

The Library of the New York Academy of Medicine.—According to the report of the committee on the library of the academy, the number of books in the library, November 30, 1900, was 89,000 volumes, including 36,105 duplicates. There were added during the year, not including duplicates, 3,649 volumes. In the circulating department 971 books and 832 journals were issued to 194 readers. Eleven thousand five hundred and twenty readers registered during the year in the reading-room, and probably many others used the library but did not register. The additions to the library annually for the last four years were about 3,500 volumes a year, not counting 1898, when 7,000 volumes from the library of the New York Hospital were given to the academy. Nine hundred and ninety-one journals in many languages are on file. At present there are 13,430 feet of shelving available, of which less than 3,000 are unoccupied, and 600 feet of shelving are needed annually for the natural growth in new books.

Philadelphia Pediatric Society.—At a stated meeting held January 8th, Dr. S. McC. Hamill exhibited "A Case of Severe Anæmia with Leucocytosis in an Infant of Six Months." Drs. J. A. Scott and H. M. Fisher presented "A Case of Leukæmia in an Infant." The child was seventeen months old and the spleen was enlarged and indurated. Dr. E. E. Graham exhibited a specimen of "Malformation of the Bowel," the anus ending in a blind pouch one inch deep and being separated from the blind lower extremity of the large intestine by a distance of fifteen inches. An attempt at restoration of the continuity of the bowel proved unsuccessful. Dr. D. J. Milton Miller exhibited "A Case of Nodding Spasm" in a rachitic child. Dr. William Pepper read a paper entitled "A Study of Sarcoma of the Liver and Suprarenal Capsule, with Report of a Case."

A Crusade against Quacks.—The board of censors of the Medical Society of the County of New York has issued the following circular asking the aid of the profession in this city in its war against unlicensed practitioners: "The medical laws of the State of New York provide that, before one can practise medicine, a certificate of proficiency shall be obtained from the regents of the university of the State, which is given only after a satisfactory examination. The purpose of this law is to protect the people from incompetent practitioners of medicine, and, in so far as the medical profession is concerned, this purpose is accomplished. There are, however, many irregular practitioners who practise in open defiance of this law apparently without molestation. This is an incentive to irregular methods, and can only be to the disadvantage of the community at large. It is the purpose of the Medical Society of the County of New York to begin an active crusade againt these unlicensed and therefore illegal and incompetent practitioners, and we ask the co-operation of the profession and the public generally. Any information concerning unlicensed practitioners will be gratefully received by the board of censors and the counsel of the society, and will be considered confidential when requested. Communications can be addressed to the members of the board of censors or to the counsel. Frank Van Fleet, M.D., chairman, 63 East Seventy-ninth street; Henry S. Stearns, M.D., secretary, 45 West Fifty-eighth street; Wendell C. Phillips, M.D.; Robert Lewis, Jr., M.D.; Louis A. Rodenstein, M.D., Board of Censors of the Medical Society of the County of New York. Counsel—Hill, Sturcke & Andrews, 52 William street."

Pathological Society of Philadelphia.—At a stated meeting held January 10th, Dr. Joseph McFarland exhibited a specimen of "Epithelioma of the Mouth and Skin of a White Cat-fish," and also a specimen of "Thrombosis of all Four Chambers of the Heart." The case from which the second specimen was obtained was remarkable from the fact that during life symptoms indicative of the fatal condition were not observed. Drs. Ida E. Richardson and J. Dutton Steele exhibited a specimen of "Hour-glass Contraction of the Stomach." The patient had during life at one time presented symptoms of gastric ulcer. The stomach was divided into two pouches of almost equal size connected by a short tube of small calibre. Microscopical examination of the tissue from this latter situation disclosed an absence of muscular fibres and a preponderance of fibrous tissue. Drs. F. X. Dercum and W. G. Spiller read a paper entitled "Nerve Fibres in the Pia of the Cord as a Sign of Regeneration of the Cord." The cord exhibiting this peculiarity was obtained from a case of dolorose adiposis and the nerve fibres were found in the pia upon the posterior aspect. There was no indication of any attempt at regeneration in this case. Dr. L. Napoleon Boston read a paper entitled "Cultivation of the Aspergillus

in Urine." Drs. M. P. Ravenel and D. J. McCarthy read a paper entitled "The Rapid Diagnosis of Rabies," which is based upon the demonstration of parenchymatous and interstitial proliferative changes in the capsule of the cells of the intervertebral ganglia. Dr. W. M. L. Coplin read a paper entitled "Branchial Cysts, with the Report of a Case."

Wills Eye Hospital.—Dr. John Welsh Croskey has resigned as surgeon to the Wills Eye Hospital of Philadelphia from January 1st, and Dr. McCluney Radcliffe has been elected to the vacancy.

The Hospital Ship "Maine" has arrived at Southampton from China with 280 sick and wounded soldiers on board. This is probably the last voyage she will make under the auspices of the American Women's Committee.

Berks County (Pa.) Medical Society.—At the annual meeting and banquet held at Reading, on January 8th, the following officers were elected for the ensuing year: *President*, Dr. S. S. Hill; *Recording Secretary*, Dr. James W. Keiser; *Corresponding Secretary*, Dr. S. Banks Taylor; *Treasurer*, Dr. A. S. Raudenbush.

A Definition of Pure Beer.—A bill has been introduced into the New York Legislature by Senator Malby and Assemblyman Burnett, under the provisions of which pure beer, ale, and porter are construed to be those manufactured from pure products by mechanical process, entirely free from the use of liquids or chemicals.

A Gift to a Chicago College.—The *Tribune* states that Dr. John Kost, a physician of Adrian, Mich., who has several times made liberal donations to educational institutions, has given to the College of Medicine and Surgery of Chicago a museum of zoölogical specimens, valued at $150,000. The articles filled five freight cars when prepared for shipment.

Koch's Discoveries in Malaria.—In my previous remarks on the subject, I said, in my haste, that Professor Koch had contributed nothing to our knowledge of malaria. This is an error, as I find in reading Lord Lister's valedictory address to the Royal Society. After pointing out that MacCallum "observed the act of conjugation in the crescentic human form, though he did not see the subsequent development of the vermiculus," Lord Lister goes on to say that "Koch made a further step by observing the vermiculus of Proteosoma in blood from the mosquito's stomach." This achievement seems to constitute the sum and substance of Professor Koch's "discoveries" in regard to malaria.—*The Practitioner.*

The Prevention of Malaria in the Island of Asinara.—Professor Claudio Fermi and Dr. Tonsini, of Sassari, have recently reported the results of experiments in the prophylaxis of malaria made by them in the island of Asinara, off the northwest coast of Sardinia. They succeeded in destroying the Anopheles larvæ by means of petroleum poured into the pools of the island. This was repeated twice a month. The process was begun in June and continued until the end of November. The mosquitos in the air were destroyed inside houses by means of a mixture of powdered pyrethrum, chrysanthemum, valerian, etc., and the zanzolina of Celli and Casagrandi. In the dormitories of prisons, when there was nothing better available, chlorine, generated by treating calcium chloride with sulphuric acid, was employed. Protective nettings were applied to windows. The result was that hardly any Anopheles were found in any dwelling, while Culex pipiens was much scarcer than in former years. Not a single case of primary malaria was observed.—*British Medical Journal.*

Pennsylvania Hospital.—Dr. Henry W. Cattell has resigned as pathologist to the Pennsylvania Hospital.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending January 12, 1901. January 4th.—Surgeon F. Anderson ordered home and to wait orders when recruiting duty is completed. January 8th.—Surgeon C. H. T. Lowndes detached from the Naval Academy January 14th and ordered to the *Lancaster*. Surgeon O. Diehl detached from the *Lancaster* and ordered home to await orders. Passed Assistant Surgeon B. R. Ward detached from the naval hospital, Mare Island, Cal., January 17th, and ordered to navy yard, Boston. Assistant Surgeon J. B. Dennis ordered to the Naval Academy, January 14th.

Obituary Notes.—Dr. Lucius J. W. Lee died at his home in Brooklyn, on January 8th, of pneumonia. He was in the sixty-fifth year of his age. Dr. Lee was a grandnephew of the late Dr. S. D. Gross, of Jefferson Medical College, Philadelphia. He was born in Easton, Pa., and received a grammar-school education. During the civil war Dr. Lee served on the medical staff of Douglass Hospital, in Washington, D. C. After the war he entered the University of Pennsylvania, and was graduated in medicine some years later.

Dr. S. D. Beville, of Alexandria, La., was killed on January 7th by Dr. Gremillion. The killing was the outcome of a professional disagreement. Dr. Beville was in attendance on a patient, and called in Dr. Gremillion as consulting physician. They could not agree. Later Dr. Beville was dismissed by the family and Dr. Gremillion employed. This caused ill-feeling, and when the physicians met on the street a fight followed in which Dr. Beville was shot and died almost instantly. He was a graduate of the medical department of the University of Nashville in 1892. Dr. Gremillion is a graduate of the medical department of Tulane University and served on the staff of Charity Hospital in New Orleans.

Dr. William A. M. Mack, mayor of Elizabeth, N. J., died suddenly on January 14th of disease of the heart. He was born at Glen Gardner, N. J., in 1856, and was at one time a telegraph operator. Later he studied medicine and was graduated from the Bellevue Hospital Medical College in 1878. He began practice in Elizabeth and was elected city physician in 1880, holding that office for several years. At the time of his death he was serving his second term as mayor of the city.

Progress of Medical Science.

Medical News, January 12, 1901.

Splenic Anæmia; Anæmia with Enlargement of the Spleen.—Aloysius O. J. Kelly reports a case of this kind. He states that the occurrence of a symptom complex characterized especially by grave and progressive anæmia and enlargement of the spleen, but unassociated with leucocytosis or enlargement of the lympathic glands, has been recognized for a long time. The patient under consideration was a girl aged twenty-two years. Both the sex and the age are points of interest, as many of the cases reported have been males, and many have been over thirty-five years of age. However, considering all the cases reported, the disease seems to occur with almost equal frequency throughout all periods of life. The enlargement of the spleen in the present instance was not as great as many others have reported. The hemorrhage was very interesting and of an unusual source—from the genitals. The dyspnœa, particularly during the last month or six weeks of life, was extreme, especially upon the slightest exertion. Diarrhœa was a marked symptom at the last: there was no obvious cause for the attacks. The fever, as a rule, was very high—usually 103° to 104° F. The blood changes were similar to those in the larger number of reported cases. Medicinal treatment in these cases is most inefficient. As to operation, satisfactory results may be expected in favorable cases. The disease is supposed to last from six months to two or three years. Cases of rapid course are unsuited for operation. But when the course is slower, and the patient in fairly good condition, operation should be carefully considered.

Some Diagnostic Details.—William Edgar Darnall believes that highly developed perceptive qualities, coupled with the habit of observing details most closely, constitute the chief elements which go to make up a fine diagnostician. No detail is too trivial for a physician's observation. The real value of symptoms must be grasped. The writer then calls attention to the various appearances of the eye; the expression and tone of the voice; the different complexions so characteristic of different diseases, *e.g.*, the roseate nose and florid plethora of the gouty, fit subjects for cerebral hemorrhage; the soft, pasty, white skin of the victim of Bright's disease; the peculiar, lifeless white of the uric-acid diathesis; the bluish lip and bronzed appearance of the cachectic complexion of malignant disease. The breathing and position of a patient may be indicative. The bearing, gait, and even the dress of a patient may often give valuable information. Odors are often very significant, as in typhoid fever, grippe, tuberculosis, sepsis, etc. Temperament must be appreciated in order to insure successful treatment as well as accurate diagnosis. Temperament may be grouped under four heads: (1) Nervous. (2) Sanguine. (3) Bilious. (4) Phlegmatic. Physicians may so train themselves that at a glance they can tell from the color of the hair, the texture of the skin, etc., just what allowance should be made for sensitiveness and reactionary power. The results following this careful attention to details will repay the physician for all the pains expended.

Severe Acute Pleurisy, followed by Phlebitis; Death from Embolism.—By Charles Ross Jackson.

On Gonorrhœal Cystitis in the Female.—By F. Bierhoff.

Case of Dextrocardia.—By Homer M. Thomas.

New York Medical Journal, January 12, 1900.

Dyspeptic Asthma.—F. H. Murdoch describes dyspeptic asthma as a state characterized by great shortness of breath on slight exertion, the condition being not paroxysmal but continuous; it occurs in patients suffering from gastro-intestinal diseases, without any abnormal condition of the heart, lungs, or kidneys, sufficient to account for it, and yields readily to treatment directed against the existing dyspepsia. He gives the clinical histories of five patients, three of whom were suffering from achylia gastrica, one from hyperchlorhydria, while in one the gastric secretions were about normal, so that chronic dyspeptic asthma is not constantly associated with any one form of stomach trouble. None of the five patients, however, came complaining of dyspepsia; what they did come for was to obtain relief, if possible, from the distressing shortness of breath from which they suffered. It will also be seen that while an acute attack of dyspeptic asthma, coming on as it does after a meal, is relieved, for the time at least, only by emptying the stomach, the dyspnœa attending the chronic form of the disease, being induced by exertion, however slight, is temporarily relieved only by rest. In one case the sudden attacks coming on at night were always the result of mental worry, and so it is fair to suppose that the attacks of a similar character experienced by two other patients were also due to a disturbed condition of the nervous system. In both the acute and the chronic forms of the disease, permanent relief can come only from restoring the digestive organs to a healthy condition.

A Case of Gangrenous Inflammation of Meckel's Diverticulum Simulating Appendicitis.—By C. R. Darnall. The history of the case is given in full. Death resulted on the third day after operation. On autopsy a Meckel's diverticulum was found springing from the ileum about three feet six inches from the ileo-cæcal valve. It was six inches in length, its distal extremity about one-half the diameter of the other, being firmly attched to the abdominal wall at the umbilicus. It arose from the ileum at a right angle, and at its attachment the diameter was about two-thirds that of the intestine, readily admitting the finger. It gradually diminished in diameter toward its distal extremity. It was patulous throughout its whole extent. There was no torsion or kinking, nor was there any obstruction of the gut demonstrable at the autopsy. At its attachment to the ileum, and for about two inches from that point, the diverticulum appeared to be normal, but at the latter point began a large gangrenous patch which extended along the diverticulum for about one inch and a half, and which at its widest part measured three-quarters of an inch. Near the centre was a perforation about two millimetres in diameter. The diverticulum contained about an ounce of offensive smelling fluid.

Some Remarks on Tuberculosis in Bone.—By Edmund Owen. The article is practically confined to the discussion of tuberculosis of the bones of the hand and foot. In the foot the astragalus is the one most often the seat of primary disease, which generally follows a sprain or twist. At first there are dull pains in the upper tarsal region, and, later, there is some tenderness on making deep pressure, but there is no discoloration of the skin, nor is there heat or œdema. Later the ankle joint is disturbed, effusion occurs, and it becomes stiffened. Under these circumstances Owens finds that the ordinary operation of simply scraping is not radical enough and advises a Syme amputation, which he has often done in hospital practice, though only once in private work, and has not seen any reason to regret it in a single instance. He is not, however, an advocate for radical treatment in all cases of bone tuberculosis, but he believes that amputation with an artificial limb makes life much more endurable in many instances than a resection of a joint with resulting stiffness.

The General Principles of Infant Feeding with Simple Method of Home Modification of Cow's Milk.—By L. E. Holt.

Prevention and Management of Infection of the Breast during Lactation.—By C. S. Bacon.

The Question of Operation in Appendicitis.—By Forbes Hawkes.

Boston Medical and Surgical Journal, Jan. 10, 1901.

The Purulent Rhinitis of Children as a Source of Infection in Cervical Adenitis.—Carolus M. Cobb says that a purulent discharge from the nose may not cause a cervical adenitis for some time, because the retained secretion is very largely contained in bony cavities, but it eventually denudes the mucous membrane over which it flows, and then some condition, as an acute cold, blocks the flow of the purulent discharge and absorption of the retained secretion takes place. If the source of the infection is in the nose, then the importance of treating the nasal disease does not need to be insisted upon. As long as the source of infection remains unhealed, it is hardly reasonable to hope to cure the adenitis. It is true that the infected glands can be removed and the process stopped in them, but this does not prevent others from becoming involved, and one hardly would care to remove the whole lymphatic system of the neck to prevent recurrence.

The Radical Treatment of Lachrymal Diseases.—Walter B. Lancaster says that in many cases in which the usual conservative treatment of epiphora is ineffectual, extirpation of the lacrymal gland and sac, one or both, may be indicated. The surprising thing is that the operation has not become more common. The author has had excellent success with it in five cases. His inclination is toward removing both sac and gland, and not only the large gland but the greater part of the accessory as well. There are some cases in which removal of the gland without the removal of the sac seems to promise relief, and, if so, is to be preferred, namely, cases in which there is no obstruction in the lacrymal passage either to a probe of fair size or to water from a syringe, and yet the epiphora is great. Favorable results in such cases are reported by De Wecker and others.

Remarks upon Spinal Cocainization Suggested by Cases Seen at Tuffier's Clinic in Paris, August, 1900.—By Maurice H. Richardson.

A Short Account of the Recent International Medical Congress in Paris.—By Henry Barton Jacobs.

An Operation for Cataract.—By Edward L. Parks.

Journal of the American Medical Ass'n, Jan. 12, 1901.

The Education of the Sense of Touch in Feeble-Minded Children and its Connection with Manual and Industrial Training.—Fletcher Beach states that in order that the sense of touch should be well developed the nervous structures of the skin should be in a normal condition, and common sensation should be fully developed. Sensation, however, in feeble-minded children is much more dull than in ordinary children, and they do not suffer pain to the same extent. Since common sensation is defective, the sense of touch must be cultivated. This may be accomplished by making the child grasp hard and soft, rough and smooth objects, etc. The sensations of heat and cold, too, should be cultivated. After cultivating the sense of touch, the training of the hand should receive careful attention. Co-ordinating power is attained by manual training. The child may pick up and place in their proper holes the marbles on a solitaire board. Later a peg-board may be used. Exercises in threading beads, perforating picture cards, and building bricks into various forms may follow. Size and form boards are useful in cultivating accuracy in grasping objects. The former is a flat piece of wood with variously sized round holes into which are placed the corresponding bits of wood, while the latter consists of a board with variously shaped holes. Thus the child learns to distinguish size and form. There may be used a cushion covered with spots into which the child sticks pins. Easy drawing lessons have their advantage. Dressing lessons —unbuttoning and buttoning clothes, lacing boots, tying bows, etc., are most valuable. Many of the kindergarten occupations are serviceable, such as paper-weaving, sloyd work, clay modelling; carpentering, gardening, cane-making, or brush-making may be taught. Knitting, crocheting, and darning may be added to the list. Girls should be trained in domestic work and in the laundry, and also in sewing. By these methods the sense of touch will be educated and the feeble-minded child will be made a more useful member of society.

Surgical Asepsis of the Urethra and Bladder, with Demonstration of a Device for the Purpose.—Ferd. C. Valentine sums up the salient conclusions on this subject as follows: (1) Perfect asepsis of the urethra cannot be obtained by our present methods. (2) Urinary diluents and antiseptics by the mouth are limited in their action. (3) Washings with piston syringes, however large, must necessarily fall short of their purpose. (4) Asepsis of instruments and hands does not suffice to prevent urethral fever. (5) Urethral fever does not occur when instrumentation is preceded and followed by irrigations. (6) The irrigator devised by the writer seven years ago, and since materially simplified, effectively does the work required in the office. (7) The auto-irrigator, first exhibited before the Genito-Urinary Section of the New York Academy of Medicine at its meeting of March, 1900, enables the surgeon to perform urethral and intravesical irrigations anywhere. (8) The auto-irrigator is a useful adjuvant in the treatment of such gonorrhœics as cannot visit the physician with sufficient frequency. (9) The auto-irrigator offers the simplest method of preventing sepsis in those obliged to catheterize themselves. The essential features of the auto-irrigator are a modified douche-bag, made in one piece, with a tube four feet long, terminating in a shield and nozzle, the special finish of whose tip cannot injure the most exquisitely inflamed meatus. There are detailed directions for the benefit of patients who may use the auto-irrigator in gonorrhœa, as well as cuts illustrating the method of its use. The suitable solutions for this work are also described, and the writer concludes with a few remarks on auto-irrigations in prostatic enlargement.

Euthanasia. A Medico-legal Study.—Louis J. Rosenberg and N. E. Aronstam state that to administer drugs with the knowledge that they will produce euthanasia would not only amount to an indictable crime at law, but it would also be regarded as an incongruity to the ethics of the medical profession and to public morals at large. As a matter of law, it is well settled that euthanasia—in the sense of being a means of producing an easy death—is prohibited. It is an old legal principle that the taking of a life is excused only if it is so done to save a life. Some physicians might, under the pretense of doing a merciful act, really commit a deed of felony. It appears, after considering the matter from all points of view, therefore, that there is ample reason to dread that the practice of euthanasia would, in the long run, cause more harm than good. That is why the law, laboring as it always does for the good of the majority, has logically prohibited it. In no case, therefore, should the physician intentionally or directly cause death. He should at all times do his utmost to alleviate pain, and make the pangs of death as void of agony as possible. By doing so he will have complied with the highest standard of ethics, and will earn the gratitude of humanity.

The Relative Importance of Valvular and Muscular Lesions in Diseases of the Heart.—By S. Solis-Cohen.

The Diagnosis and Treatment of the Prebacillary Stage of Pulmonary Tuberculosis.—By J. M. Anders.

Removal of a Piece of Steel from the Globe by Electromagnet.—By Walter B. Johnson.

A Plea for a More Rational Prognosis in Cardiac Affections.—By J. J. Morissey.

Treatment of Tuberculosis of the Knee-Joint.—By Wisner R. Townsend.

A Clinical Study of Myocarditis.—By Louis F. Bishop.

Treatment of Prostatic Hypertrophy.—By Parker Syms.

Philadelphia Medical Journal, January 12, 1901.

Fallacies Concerning the Menopause.—George Erety Shoemaker believes that the consideration of fallacies regarding the menopause, prevalent at the present day, must deal not with the terrors of the condition, but with an almost fatalistic neglect of real diseases. The great fatality of cancer is largely due to the fact that hemorrhage and all pelvic symptoms are supposed to be due to the menopause. When a case presents itself to the physician, he should at once proceed to question the patient methodically as to her menstrual history—the normal amount of the flow and the intervals between. The time when the change from normal began to occur should be investigated. If an examination is indicated, it should be undertaken at once and thoroughly. As to fibroid tumors, it is claimed that when they continue to grow, to bleed, and to cause symptoms, waiting for the menopause to cure them is usually a losing game. Operation in these cases is indicated, and should be undertaken before the patient's strength is undermined.

Suggestions on the Treatment of Whooping-Cough.—H. F. Thompson calls particular attention to heroin in the treatment of this disease. This drug allays cough and eases respiration. It reduces the number of respirations, but increases their force and the volume of inspired air. It also exerts a distinct influence in allaying dyspnœa. The explanation of its beneficial action is as follows: The mucus accumulates on the posterior laryngeal wall supplied by the superior laryngeal nerve (the nerve of cough), irritating this nerve and producing most intense cough. If these paroxysms can be aborted by the removal of the mucus from this area, we render the patient less liable to fall a victim to the serious complications of the second stage, and from the antispasmodic and expectorant qualities of heroin we get the desired results.

Wound of the Trachea, with Suture and Union by First Intention.—By E. S. Goodhue.

A Case of Urethrorectal Fistula Cured after a Third Operation.—By Orville Horwitz.

Administrative Control of Tuberculosis.—By Collins H. Johnston.

The Disinfection of Infected Typhoid Urines.—By Norman B. Gwyn.

Leukæmia and Splenic Pseudoleukæmia.—By Everett J. Brown.

Re-Expansion of the Uterus in Labor.—By D. Benjamin.

British Medical Journal, January 5, 1901.

An Address on Acute Dilatation of the Heart in Diphtheria, Influenza, and Rheumatic Fever.—D. B. Lees gives the following clinical indications in cardiac degeneration so often resulting from diphtheria: (1) Feebleness of the pulse wave. (2) Feebleness and diffusion of the cardiac impulse. (3) Extension of the cardiac dulness to the left. (4) Feebleness of the first sound at the apex, with accentuation of the pulmonary second sound. (5) A marked accentuation of the aortic second sound. The heart should be carefully examined, especially by palpation and percussion. Light percussion easily reveals the heart's limits The virulence of diphtheria is more intense in children than in adults. Herein is the marked contrast to the behavior of influenza, which is far more dangerous to adults. In influenza rapid dilatation of the heart frequently occurs, within a day or two after the onset of the disease. In rheumatic fever, even in the most subacute attacks, acute dilatation of the heart seems to be invariably present. It is much less dangerous than that of diphtheria or of influenza, in spite of its greater frequency, this difference depending upon the different effect of the several toxins upon the cardiac muscle. In fatal cases of diphtheria and of rheumatism myocarditis and fatty degeneration, or even destruction of cardiac muscle, are often found; probably similar lesions exist in influenza.

A Case of Renal Colic Attended by the Passage of Casts of the Ureter (Urethritis Membranacea).—J. A. Henton White reports the case of a woman just over sixty, who had suffered from renal colic for twenty years. After a typical attack, the writer examined the urine and discovered albumin, a few blood cells, and a number of semi-transparent mucoid strings about an inch long, and obviously derived from the ureter. Microscopically, they were hollow, elongated, cylindrical bodies of clear mucus held together by a few threads of fibrin, and contained a few small granules and the remains of a few epithelial cells, which occasionally showed a transitional character. The patient was put on an alkaline mixture containing gr. ii. of potassium iodide three times a day and at once began to improve. When this treatment was stopped, the trouble returned, but when the treatment was again resumed the attacks were much alleviated.

The Sex of Patients Suffering from Gastric Ulcer.—R. De S. Stawell quotes statistics which seem to indicate a greater preponderance of males subject to gastric ulcer. The true proportion the writer finds to be five males to six females. The great majority of perforations in females occur between the ages of eighteen and twenty-eight, while in males there is a far more even distribution over the decades of life, making the diagnosis easier in the case of the former. Correct conclusions can be drawn only from a large number of necropsies.

Seborrhœa Treated by Benzene.—Ralph W. Leftwich uses benzene in seborrhœa, applying it with a shaving brush. After this application he uses an inunction: Bay rum and castor oil āā ℥ iss., canth. ʒ ii., aq. Coloniæ ℥ ss., to be used every morning, and the benzene to be repeated about once in five days. The effect upon baldness is very satisfactory. The smell of benzene may be partly concealed by the addition of ol. geranii ♏ x. ad ℥ i. For mild cases of the seborrhœa oleosa type, he combines the benzene with an equal quantity of rectified spirits. No hairs are broken off in the removal of the crust by this method.

Extraordinary Weight of a Fœtus at Term.—W. Egmont Kirby reports the case of a child which directly after birth weighed fourteen pounds fifteen ounces, and was twenty-one inches long. It was very fat. The placenta was large. The mother made a good recovery, but the child died twenty-two hours after delivery.

Clinical and Pathological Notes of a Case of Human Actinomycosis, with Conclusions Drawn from it as to the Nature of the Disease.—By H. E. Littledale.

A Case in which Movable Kidney Produced the Usual Symptoms of Hepatic Colic; Successfully Treated by Nephrorrhaphy.—By Macpherson Lawrie.

The Os Trigonum (Bardeleben) of the Tarsus as a Source of Error in the Interpretation of Skiagraphs.—By C. Mansell Moullin.

Epidemic Arsenical Poisoning amongst Beer Drinkers.—By Nathan Raw, Frank H. Barendt, and W. B. Warrington.

Note on the Dialysis of the Toxins through Collodion Walls.—By M. Armand Ruffer and M. Crendiropoulo.

A Clinical Lecture on Leucocythæmia.—By Robert Saundby.

Ichthyol in Erythema Nodosum.—By Alexander Brownlie.

Urachal Fistula.—By J. M. Renton.

The Lancet, Dec. 29, 1900, and Jan. 5, 1901.

Clinical Varieties of Bright's Disease.—By J. R. Bradford. The author states that we may recognize two forms of acute Bright's disease, one characterized not only by the well-known urinary changes but also by the presence of dropsy, the other in which dropsy is absent and in which the distinction between the acute Bright's disease and mere congestion of the kidney is by no means easy. There are at least two forms of chronic Bright's disease—one in which the patient secretes a scanty, highly albuminous urine and becomes markedly dropsical, the course of the malady being chronic and death occurring usually either from the mere water-logging of the tissues, or from the development of inflammatory complications, or from chronic or subacute uræmia. In the second form of Bright's disease the symptoms often run a latent course for an unknown period and the patient ultimately seeks advice on account of very vague symptoms of ill-health, such as wasting, loss of strength, circulatory disturbance, or possibly he does not seek advice until the onset of acute and fatal uræmia. In this form of the disease dropsy is absent, the urine is abundant and pale, and it contains a considerable quantity of albumin. It would seem that not only may chronic Bright's disease be chronic from the outset, but also that the two varieties of chronic Bright's disease are not necessarily different stages in one and the same morbid process, but represent rather the different effects of perhaps the same morbid process.

A Case of Cobra Poisoning Treated with Calmette's Antivenene.—By W. Hanna and G. Lamb. One of the observers was accidentally bitten by the snake in his laboratory. The serum was several years old and possessed only about one-fourth its original strength. The wound was sucked and bled freely. Some half an hour after th bite 18 c.c. were injected half into each flank. Symptoms of poisoning from the snake venom appeared in two hours and a half after the accident and were of the usual variety. While they were still present, some serum, only six months old, was obtained, and half the amount of the first dose injected as before. In the course of two to three hours after the latter injection all symptoms disappeared. There was much local reaction around the bite (tip of the thumb) and also in the entire arm. A slough formed around the site of inoculation in the course of three days and came away in three weeks more. Healing was complete six weeks later. The authors attribute great value to the antivenene, and claim that a fresh supply should be kept in Indian dispensaries.

A Case of Hydatids Primarily Affecting the Lung.—J. Cæsar reports a case occurring in a woman, age not given. The special points in the case were: (1) The very low temperature, which was never above 100° up to within a couple of days before death; (2) the character of the expectoration (very viscid and streaked with blood); (3) the intermittent and severe dyspnœa; (4) the diarrhœa; (5) the fact of the patient having suffered years before from drinking foul water. Tapping of the chest revealed the presence of a pale sherry-colored gelatinous substance in the pleural cavity. Under the microscope broken-down hydatid cysts were found, but without hooklets. Autopsy showed the liver normal in size, the costal and pulmonary pleuræ separated, no discoverable communication between the abdominal and pleural cavities, and the growth springing from or attached to the base of the lung. These latter facts were regarded as proving that the trouble did not originate in the liver.

Membranous Œsophagitis; Expulsion of a Complete Cast of the Œsophagus.—By N. Raw. A man aged forty-six years, who had been a heavy drinker of raw whiskey, was admitted to hospital complaining of a burning sensation in the throat and along the line of the gullet. Swallowing was difficult. Six days later he vomited up, after a violent fit of coughing, a complete cast of the œsophagus eight and a half inches long. It was foul-smelling and of a greenish color. Gastrostomy was done a month later, but he died of asthenia six weeks after operation, not having seemed able to digest his food. The autopsy showed that the membranous process had involved the stomach to some extent, and in the gullet it had involved all the coats down to the muscularis externa.

Filariasis and its Consequences in Fiji.—The most common result is elephantiasis, and the author describes the mode of operation commonly practised. The great size of the masses renders surgical intervention no light task. A full description is given, but cannot be abstracted here. Other results of filariasis are cutaneous and deep lymphatic varix, orchitis, and lymph scrotum. The periodical attacks of lymphangitis from which all the children suffer are called "wagaga," affecting especially the epididymis or cord. It generally terminates in abscess, whereupon the patient returns to ordinary health to await another attack. Each adult has four or five such outbreaks annually. The local scalpel for opening these abscesses is a piece of bamboo sharpened to a point.

Calcium Iodate as an Iodoform Substitute and Gastro-Intestinal Antiseptic.—By W. Mackie. The new compound contains fifty-one per cent. of iodine and in addition sixteen per cent. of available oxygen. From its use in a series of cases the author is inclined to believe that its advantages as compared with iodoform are absence of smell, checking of fetor, prevention of hypergranulation, and the inhibition of undue formation of pus. Further, it can be used where iodoform is inadmissible, as in aqueous solution for such purpose as a gargle or mouth-wash, for washing out the vagina, bladder, uterus, etc. Internally it may be given in solution in doses of two or three grains. It is an excellent preventive of gastric fermentation.

Infective Parotitis after Abdominal Section Affecting Two Other Members of a Family.—By B. Addenbrooke. The patient was a boy aged thirteen years. Abdominal section was done for suppurative peritonitis. Parotitis developed on the third day after operation, but the boy was well on the eighth day so far as the glandular lesion was concerned. Eight days after that he was visited by his aunt, who on the third day after suffered in a similar way, and she in turn infected, three days later, another relative with whom she was living.

A Case of Puerperal Fever Successfully Treated with Antistreptococcus Serum.—By H. E. Waller and F. R. Gibbs. The patient was a primipara of twenty-three. The cervix was slightly torn in two places and the perineum ruptured.

Two stitches were inserted under antiseptic precautions. The patient was in labor thirty-six hours and suffered considerably from shock. Symptoms of sepsis developed on the third day. Serum was used early in connection with other measures. Full clinical notes are given in the original.

A Case of Deformity of the Skull Simulating Leontiasis Ossea Associated with a Condition of Syringomyelia, no Physical Signs of Syringomyelia Present.—By J. S. Collier.

The After-Results in Forty Consecutive Cases of Vaginal Hysterectomy Performed for Cancer of the Uterus.—By A. H. N. Lewers.

A Case of Mollities Ossium with Spontaneous Fracture through the Great Trochanter of the Left Femur.—By J. H. Ewart.

Association of Inguinal Hernia with Descent of the Testis.—Bradshaw lecture by John Langdon.

The Causation, Prevention, and Treatment of Post-Partum Hemorrhage.—By G F. Blacker.

Circumcision as a Preventive of Syphilis and Other Disorders.—By E H. Freeland.

On a New Method in the Discission of Soft Cataracts.—By Percy Dunn.

A Series of Cases of Actinomycosis.—By R. J. Godlee.

French Journals.

The Rash of Varicella.—E. L. M. believes that the scanty reports of the rash of varicella depend upon its ephemeral duration, and also upon the fact that when it is intense the observer is often inclined to consider the association of scarlatina with varicella. The rash generally precedes the eruption of varicella by about twenty-four hours, though it may appear at the same time, or even follow it. It usually occurs once only, but may recur. Sometimes it is accompanied by no symptoms, but more often fever, an accelerated pulse, and a sudden chill are present. Vomiting has been noted, as well as keen thirst, headache, vertigo, backache, and sore throat. All of these symptoms may be severe. The scarlatiniform rash is the most frequent form in varicella, and it may appear in any region of the body, thus differing from the rash of variola. As a rule, it is scattered in large patches, distributed here and there, and separated by areas of normal skin. Vesicles may develop on the regions invaded by the rash. The rash is not followed by desquamation. It rarely lasts more than twenty-four hours. The diagnosis is generally easy, owing to the rapid appearance of the vesicles of varicella.—*Journal des Praticiens*, December 8, 1900.

Ought Vaccination and Revaccination to be Obligatory?—G. Lemière speaks strongly in the affirmative on the subject. Vaccination is obligatory in France for all children. Revaccination is obligatory for all healthy men, but women and invalids are not bound to this obligation. The writer believes that not only vaccination but revaccination after the end of several years should be obligatory. He quotes Guinon's statement that out of seven hundred and thirty-four nurses employed in the smallpox hospital in London, during a period of ten years, only ten were attacked by the disease. These men had not been revaccinated. All the others who escaped had either suffered from the disease or had been revaccinated. As to the interval between the vaccinations, it is now admitted that revaccination should be practised every five years in children, and perhaps a little less frequently in adults after the age of twenty-five years. Lemière, like Brouardel, thinks that as a matter of national interest in time of peace, and especially in time of war, vaccination and revaccination should be practised throughout the nation.—*Journal des Sciences Médicales de Lille*, December 22, 1900.

Tumors of the Prepuce.—Maurice Péraire states that although many operative procedures for preputial tumors were formerly employed, there are two only which are made use of at the present time: (1) Incision, and (2) extirpation. Although the former may be losing ground, still it ought not to be abandoned. It is to be used in the case of suppurating cysts and in the consecutive fistulæ. It should be complete. The cyst should be entirely removed for fear of recurrence The second method, however, is the method of choice. It should be as complete as possible, and should be followed by careful suturing. An aseptic dressing should be applied. If an extensive ablation of the tumor has been made, it will probably be necessary to skin-graft. The rich supply of lymphatics of the preputial region explains the frequency with which œdema occurs, from the least excoriation, in its loose cellular tissue. It also explains how micro-organisms are transported to inguinal glands, causing adenitis, whether venereal ulceration is present or not.—*La Médecine Moderne*, November 21, 1900.

Serum Diagnosis of Tuberculosis.—S. Arloing and Paul Courmont believe that in slightly advanced cases of pulmonary tuberculosis the agglutinating power of serum is almost constant, but in varying degrees. In grave cases with extensive lesions the serum reaction is frequently absent or very feeble. It can also diminish in intensity and disappear in proportion to the gravity of the condition. Results of experiments confirm the clinical findings. The agglutinating power in tuberculous patients is in inverse ratio to the gravity of the infection or to the extent of the lesion. In patients affected by diverse complaints and in whom clinical examination fails to detect certain signs of tuberculosis, serum reaction brings to light many cases suffering from latent tuberculosis. In fact, serum reaction in tuberculosis appears to constitute a rapid proceeding, harmless to the patient, and of great diagnostic value in early tuberculosis, especially in subjects suspected to have beginning pulmonary lesions.—*Gazette des Hôpitaux*, December 1, 1900.

Two Cases of Hereditary Nasal Syphilis.—G. Dupond, after reporting these cases, concludes: Certain atresias which sometimes occur in the nasal fossæ may be the result of hereditary syphilitic infantile coryza. The bad odor is one of the principal symptoms of syphilitic coryza, but it is always easy after direct examination with the speculum and mirror to distinguish specific ozæna from the true ozæna of atrophic rhinitis. In doubtful cases the employment of specific treatment will not only clear up the diagnosis but will also hasten the cure of the patient.—*Journal de Médecine de Bordeaux*, December, 23, 1900.

Münchener medicinische Wochenschrift, Dec. 25, 1900.

Tuberculous Peritonitis.—R. Oehler believes that the good results so often following the operative treatment of this affection are not always to be ascribed to the surgical measure, as he has observed a considerable number of cases in which it seems fair to assume that a cure has been effected spontaneously, and while the diagnosis cannot be absolutely unassailable unless confirmed by actual inspection of the peritoneum and the demonstration of tubercles, the author thinks that emaciation, cachectic facies, slight febrile movement, occasional diarrhœa, and abdominal distention and the presence of ascites or nodular tumors make a sufficiently characteristic picture to render the diagnosis safe. In the demonstration of fluid, in addition to the usual tests, it is often of value to have the patient stand and to percuss the lower abdominal zone first slightly and then with the finger deeply pressed in. If fluid is present, it will gravitate between the abdominal wall and intestine, giving dulness unless displaced by deep pressure, when a tympanitic note may be elicited. Another point of diagnostic importance is the implication of the umbilicus. Like that of carcinoma the infiltration of tuberculous disease is prompt to invade this region, and nodules of varying size are often to be detected about it, the navel itself being everted, reddened, and sensitive to pressure. In brief, the author's conclusions are that tuberculous peritonitis is essentially a disease of childhood; is fatal in about one-half the cases (usually through meningitis or the cachexia), the average duration being from one-half to two years; and, finally, that spontaneous cure is possible, and occurs most often in children.

A Case of Addison's Disease Successfully Treated with Adrenal Tablets.—Paul Edel reports a case which seems to bear positive testimony to the specific action of suprarenal extract in this disease. The patient came under observation after having suffered for six months from a gradually progressive malady which gave the typical symptoms of slowly increasing general weakness, bronzed patches on face, neck, genitals and the mucous membrane of the mouth, and rapid, soft pulse. No remissions had occurred in the course of the disease, which during the first three months progressed steadily, and during the latter three apparently remained stationary. Fifteen grains of adrenal extract were given twice daily with almost immediate improvement, which was so pronounced that at the end of two weeks the patient resumed his occupation of metal working (contrary to advice, however). At the same time the pigmentation decreased, and at the end of five weeks was scarcely noticeable, but after six weeks of treatment the patient succumbed to an acutely intervening attack of tuberculous meningitis. The value of the adrenin is well shown by the fact that its omission, as soon as the meningeal complication developed, was speedily followed by a return of the pigmentation. The diagnosis was confirmed by autopsy.

Tendovaginitis Capitis Longi Bicipitis.—By S. Goldflam.

Description of an Abortion.—By Althaus.

Post-mortem Appearances.—By Wetzel.

Berliner klinische Wochenschrift, No. 52, Dec. 24, 1900.

Amyloid Degeneration with Special Reference to the Kidneys.—M. Litten has made an elaborate study of this

question, finding that the changes in the kidneys assume several different forms, which are described in full in the original. Concerning the presence of serum-albumin in the urine he finds it most constantly in that form in which the amyloid degeneration affects the large white kidney, the amount being greater than in any other form of kidney disease. Cellular elements are also abundant. Albumin is less frequent in the amyloid contracted kidney. It is more abundant again in the mottled kidney, and is accompanied by more or less blood. In this latter form alone has the author ever seen blood in amyloid kidneys.

A Grave Spinal Symptom Complex Related to an Aneurismal, Serpentine-like Change of a Portion of the Vessels of the Spinal Cord.—By E. Brasch.

Contributions to the Normal and Pathological Histology of the Human Hypophysis Cerebri.—By C. Benda.

Extirpation of the Hypophysis Cerebri.—By F. F. Friedman and O. Mass.

Archives of Pediatrics, January, 1901.

Retropharyngeal Abscess and Adenitis.—Irving M. Snow reports three cases of this rare affection. The symptoms are easily misunderstood and may be erroneously ascribed to a catarrhal laryngitis. The tumor, if large and low down, may press aside the larynx or compress the trachea. All symptoms are much aggravated in the recumbent position. Usually the neck is swollen, the cervical lymph nodes being enlarged, especially at the angle of the jaw, often with fever and constitutional disturbance. The abscess is commonly found at the side of the pharynx behind or below the tonsil, less commonly in the median line. Very often nothing can be seen, then the lower portion of the throat should be explored by the finger. Grave errors in diagnosis will occur if palpation is omitted. No time should be lost in evacuating the abscess.

Clinical Notes on Scurvy in the Island of Cuba.—J. L. Dueñas thinks that the severe forms of infantile scorbutus are relatively rare in Havana. Mild and medium cases are met with oftener. The author is inclined to regard infantile scurvy as a form of progressive pernicious anæmia peculiar to early life, or at all events to accept the existence of a primary alteration of the blood, be that of a chemical or infectious order, to explain the symptoms of scurvy as well as those of progressive pernicious anæmia. The physiological activity predominating in the osseous system during early life could account for the subperiostic localization of the hemorrhages in infancy, as well as the greater frequency of the hemorrhages of the gums when in the course of teething. The extraordinary activity of the process of blood-making at that age should give an explanation of the rapid recovery of patients treated in time.

Malarial Coma in a Boy.—E. P. Stone reports the case of a child of three years and eight months who lived in a locality noted for malarial diseases. He was attacked by fever October 8th. On the 10th he passed into a comatose condition, which lasted about six hours, yielding to a bath at 105° F. continued for ten minutes. Quinine treatment overcame the malaria by October 16th.

Pyelonephritis in Children, with Report of a Case in which Nephrectomy was Successfully Performed.—By Louis Fischer.

Remarks on the Pathogenesis and Prophylaxis of Acute Rheumatic Fever in Children.—By Henry Heiman.

Congenital Stenosis (Spasmodic) of the Pylorus; Recovery.—By Thomas S. Southworth.

L' Union Médicale du Canada, December, 1900.

Treatment of Crushed Extremities by Embalming.—O. F. Mercier has saved a number of extremities by the following process: The patient is placed on the operating-table, wrapped in warm covering, and, if necessary, given injections of artificial serum, caffeine, or ether. The traumatic surface is exposed and irrigated with a 1:2,000 bichloride solution, while foreign bodies, clots, etc., are removed with the fingers, shreds and fragments are cut off, and hemorrhage is stopped. The wound is then stuffed with iodoform gauze impregnated with a mixture of vaseline, boric acid, antipyrin, salol, and a little iodoform, the gauze being pushed into every crevice and opening. A dressing of absorbent cotton and bandages is put on and left in place for several days unless there should be a rise of temperature. It is easy to change the deep dressings, for the gauze does not adhere. When cicatrization is well advanced a dry dressing is often substituted. By this treatment the author claims to have saved wounded members that were doomed to amputation.

Anomalies of the Pinna and Occlusion of the External Auditory Canal.—M. Foucher reports a case of partial deafness in which the external ear appeared normal, except for a cartilaginous excrescence on the tragus. The auditory external meatus, however, was non-existent, being represented merely by a small round opening. Yet the patient could hear a conversation two feet away and the ticking of a watch held to the ear. The patient had six fingers on each hand, the fourth, or ring finger, being double. No treatment of the ear was undertaken, a first attempt to find an auditory meatus having failed.

General Peritonitis due to Intestinal Perforation in a Case of Atypical Typhoid Fever; Surgical Intervention; Death.—By A. Marien and L. J. V. Cleroux.

Ocular Traumatism.—By A. Trousseau.

Norsk Magazin for Lægevidenskaben, October, 1900.

A Slight Epidemic of Cerebro-Spinal Meningitis in Berger.—H. P. Lie and Carl Looft report ten cases which occurred in the first half of the current year, 1900. In four cases spinal puncture was performed intra vitam, bacteriological observations were made, and an examination was made post mortem on one case. The meningococcus was found in all the cases examined, but in two cases it was stained by Gram's method, and in another was stained in this way, after having passed through several generations. The organisms were scanty in number. The spinal fluid was injected into rabbits without causing virulent symptoms.

A Case of "Morbus Cæruleus."—W. Grimsgaard reports the case of a boy aged twelve years, giving in detail the physical signs observed during life, and the clinical symptoms, which were chiefly cyanosis, dyspnœa, and œdema. The autopsy was held under disadvantageous circumstances, the left pulmonary artery having been severed so close to the heart that it was not possible to ascertain whether the foramen of Botallo was open or closed. There were two large openings in the interauricular wall. The pulmonary valves were soldered together in pyramid form, and the posterior aortic valves were also united.

The Hygienic Condition of the Penitentiary of Akershus from July 1, 1894, to December 31, 1899.—By Gottfr. Conradi.

The Hygienic Importance of the Lochia.—By Ingvar.

Some Notes on Sterility.—By O. Christie.

Reviews and Notices.

A Manual of Medicine. Edited by W. H. Allchin, M.D. Vol. I., General Diseases. New York: The Macmillan Company. 1900.

This is a compendium of medicine by numerous contributors. It deals with the diseases excited by atmospheric influences (the infections). It is certainly very instructive, quite complete, and well adapted for teaching purposes. With the exception of a few temperature charts the book contains no illustrations.

The Care of the Child in Health. By Nathan Oppenheim, M.D. New York: The Macmilllan Company. 1900.

This book consists of twelve chapters dealing with the hygiene, feeding, and the educational management of children.

Cancer of the Uterus; its Pathology, Symptomatology, Diagnosis, and Treatment, also the Pathology of Diseases of the Endometrium. By Thomas S. Cullen, M.B. (Toronto), Associate Professor of Gynæcology in Johns Hopkins University. Illustrated. New York: D. Appleton & Co. 1900.

According to the preface of this very large monograph, it is intended to teach the general practitioner how to make an early diagnosis in cases of malignant disease of the uterus. The book is so large, however, that the ordinary observer would hardly consider it a convenient and systematized work of reference, though the specialist will find it to contain an enormous amount of useful clinical and statistical material. There is a voluminous discussion of the pathology and histology of the different types of malignant disease seen in the uterus, and many carefully made illustrations for this part of the subject. We cannot say that any new points of importance in diagnosis have been made, but the old ones have been emphasized and enlarged upon to a very considerable extent. The principle of the treatment of malignant disease of the uterus, as well as of the same kind of disease in other parts of the body, is to operate early and as radically as possible, and as long as surgery is our only hopeful resource this fact cannot be too often emphasized. The descriptions of various operations in this work are clear and satisfactory, and form as good a guide for such work as a written description

can, but there is an unnecessary amount of detail introduced in the description of cases. The tables of cases with the ultimate results as far as could be ascertained are valuable from a statistical point of view, but cover only the cases operated upon in Johns Hopkins Hospital. The book is on the whole a valuable addition to the literature of its subject, but would have been benefited by some condensation.

A Treatise on Nasal Suppuration. By Ludwig Grunwald, of Munich. Translated by William Lamb, M.D., of Birmingham. Eight illustrations, two plates, three hundred and thirty pages. New York: William Wood & Company. 1900.

To advance new ideas or to present old ones in a new light should be the *raison d'être* of book-writing. The volume before us satisfies both these essentials, and the publishers have done well to have this work of Grunwald's translated into English. The first half of the book is devoted to general considerations of the etiology, pathology, symptomatology, and treatment of nasal suppurations; the chapter on symptomatology being especially good. The latter half of the work deals with the special local suppurations. The book has been well translated and excellently presented, and will be of interest to the general practitioner as well as to the specialist.

The Treatment of Fractures. By Charles L. Scudder, M.D. Four hundred and thirty-three pages. Profusely illustrated. Philadelphia: William B. Saunders. 1900.

A book whose chief value lies in its excellent illustrations. The author has added nothing to the knowledge of fractures, and his work is in many respects incomplete.

The Refraction of the Eye, Including a Complete Treatise on Ophthalmometry. A Clinical Text-Book for Students and Practitioners. By A. Edward Davis, A.M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital; Assistant Surgeon to the Manhattan Eye and Ear Hospital; Attending Ophthalmic Surgeon to the Babies' Wards of the New York Post-Graduate Hospital; Attending Ophthalmic Surgeon to Bellevue Hospital, Out-door Department; Secretary of the New York Ophthalmological Society; Assistant Secretary of the New York Physicians' Mutual Aid Association; Member of New York State Medical Society, County Medical Society, Academy of Medicine, etc. With 119 engravings, 97 of which are original. New York: The Macmillan Company. 1900.

This work is intended to supply the need of a text-book on ophthalmometry. There are a number of books on ophthalmoscopy and retinoscopy, but none in English on ophthalmometry. The author's management of this subject is quite unique, as a large part of it is taken up by a detailed description of cases practically illustrating the use of the ophthalmometer. There is also an index of these cases which must prove most convenient to the student. The chapters comprise a description of the instrument with rules for its use in cases of simple hypermetropia and hypermetropic astigmatism, compound hypermetropic astigmatism, simple myopia and myopic astigmatism, compound myopic astigmatism and mixed astigmatism.

Bericht ueber die Pestepidemie in Kobe und Osaka, von November, 1899, bis Januar, 1900. Erstattet von Prof. Dr. S. Kitasato, Director des kaiserlichen Instituts für Infektionskrankheiten, Dr. T. Takaki, Dr. K. Shiga, und Dr. G. Moriya. Tokio, 1900.

This report on the plague epidemic in Japan during the latter part of last year is a valuable contribution to the literature of a disease that promises to be of more or less interest to the western world for some years to come. There are chapters on the history of this epidemic, on the agency of rats in the spread of the disease, the symptoms and course of plague as observed at this time, case histories, treatment, and the Japanese laws regarding protection against epidemic diseases, and the quarantine law of the country.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M.D., Instructor in Chemistry, Harvard University Medical School; Assistant in Clinical Pathology, Boston City Hospital; Medical Chemist to the Carney Hospital; Visiting Chemist to the Long Island Hospital, Boston. Illustrated. Philadelphia: W. B. Saunders & Co. 1900.

The scope of this work embraces the chemistry of the urine and its relation to physiological processes, with a description of the most modern working methods, both qualitative and quantitative. The subject of urinary diagnosis is handled with the greatest care and detail, including the diagnosis and differential diagnosis of diseases and disturbances of the genito-urinary apparatus, considered locally, generally, medically, and surgically. The most striking clinical symptoms of each disease are also enumerated; and also the characteristics of the urine in certain general diseases. The method of recording urinary examinations together with a list of reagents and apparatus for qualitative and quantitative analysis of urine is briefly considered. This work must prove of great value to the practitioner in general.

A Manual of Syphilis and the Venereal Diseases. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago, etc., and Frank H. Montgomery, M.D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, etc. Second edition, revised and enlarged, with fifty-eight illustrations and nineteen lithographic plates. Philadelphia: W. B. Saunders & Co. 1900.

The first edition of this work attained a success to which the second has materially added. The authors have revised and rearranged a considerable portion of the volume, but have made no essential change in their expressed views. The colored plates are excellent and add very considerably to the value of the book, which according to the preface is primarily intended for the student and general practitioner. To the latter it must prove a valuable work of reference, well up to date. Stricture of the urethra, though strictly speaking a surgical disease of venereal causation, receives a chapter in this work, as is customary in other books upon this branch of medicine. The book is a worthy addition to American medical literature.

Annales de L'Institut de Pathologie et de Bactériologie de Bucarest. Publiées par Victor Babes en collaboration avec V. Sion. Vol. VI. Fifth year, 1894-95. Bucarest. 1898.

The reviewing of the work of the institute of Bucharest, as represented by the articles that go to make up these annals, makes one wish that there were laboratories similar to the one at Bucharest on this side of the Atlantic. The volume contains thirty papers on scientific subjects prepared by Babes and his pupils; an especially valuable contribution is the opening one by Babes on the duties of the state toward promoting bacteriological research. A critical review of all the articles would be entirely beyond the scope of this notice, but it may be said of them all, that it is by such work as is done in this institute that scientific medical progress in made.

Hernia: Its Etiology, Symptoms, and Treatment. By W. McAdam Eccles, M.S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon West London Hospital, etc. New York: William Wood & Company. 1900.

The author of this excellent volume has carried out his intention expressed in his preface of offering a "short account of the origin, symptoms, and treatment" of hernia. The subject is so extensive that ordinary sized books will generally be judged by the success with which they systematize information and the clearness with which they present it. This volume offers a comprehensive but condensed account of the different forms of hernia, with the symptoms, treatment, and prognosis. The anatomical characteristics receive attention, and the chapter on the important subject of strangulation contains an excellent discussion of the subject, with some matter arranged in tabular form so as thus to enhance the value of the work as a text-book and increase ease of reference. A good deal of space is devoted to the proper structure and application of trusses, and here as elsewhere in the volume we find many very satisfactory illustrations. The subject of the truss is an important one and does not usually receive quite its full share of attention. The author does not mention any particular operation as preferable when we are attempting radical cure, but apparently prefers to depend upon a careful selection of cases rather than a special method of operating. He gives, however, some useful directions upon the preparation of the patient before operation. The last part of the book is devoted to a discussion of the rarer forms of hernia and a chapter upon the relation of hernia to life insurance and the army and the navy. The volume is a desirable addition to contemporary surgical literature.

A Dictionary of Medical Science. By Robley Dunglison, M.D., LL.D. Twenty-second edition, with appendix, thoroughly revised and greatly enlarged, with the pronunciation and derivation of the terms by Richard J. Dunglison, A.M., M.D. Philadelphia and New York: Lea Brothers & Co. 1900.

An excellent feature of this edition is the marginal thumb letters with which every work of the kind should be sup-

plied as a saver of time and energy. All branches of medical science here find the terms in which they are expressed fully explained, and an insight is given into the relative growth of the various departments. The author's original aim to make each term the caption for an epitome of the existing conditions of medical science has been faithfully carried out by the present editor who, after a long apprenticeship, has not only retained the excellent features of the original scheme, but has added pronunciation by phonetic spelling, and has added derivations, the Greek being given in English letters. The author's portrait graces the first page as a tribute to the twenty-second revision, made over seventy years from the time Robley Dunglison first gave his standard work to the English-speaking medical world. The work stands to-day as a proud monument to his memory and achievements.

TWENTIETH CENTURY PRACTICE: An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York. In twenty volumes. Vol. XX. New York: William Wood & Company. 1900.

Finis coronat opus. Besides important articles on tuberculosis and yellow fever and a number of miscellaneous shorter essays, this last volume of the set contains the general index to all the twenty volumes. When the three hundred and three pages of the index had been completed and the editor had written his preface, from which an idea of the difficulties of his undertaking may be formed, he must have drawn a long sigh of relief. Several changes in authorship had to be made on account of the illness or death of those who had engaged to write for the work, and the interesting, though sad statement is made that these volumes contain the last literary work done by no fewer than nine authors. The list includes Semmola, Leloir, O'Dwyer, Dujardin-Beaumetz, Oertel, Ernest Hart, Kerr, Grainger Stewart, and Whittaker. This fact must enhance the value of this rather remarkable collection of essays, which will stand, in a manner, as a monument to their labors in and devotion to science. In the present number the bacteriology, pathology, and etiology of tuberculosis are studied by August Jerome Lartigau, of Columbia University. He gives a lengthy bibliography. The symptomatology is treated of by Henry W. Berg, of the Willard Parker and Mt. Sinai hospitals, and the diagnosis, prognosis, prophylaxis, and treatment are set forth in one hundred and seventy-one pages by S. Adolph Knopf, of the New York Throat and Nose Hospital, formerly assistant to Professor Dettweiler, of the Falkenstein Sanatorium in Germany. This article is well illustrated. Tuberculosis of the skin is ably portrayed by John T. Bowen, of the Massachusetts Hospital and Harvard University. The whole gives a most excellent survey of phthisis and other tuberculous affections as they are known at the present day. Wolfred Nelson, of the Quebec College of Physicians and Surgeons, now of New York, writes very entertainingly on yellow fever; Thomas R. Brown, of the Johns Hopkins School, on poisoning by snake venom; Beaumont Small, of St. Luke's Hospital, Ottawa, on mushroom poisoning; James E. Newcomb, of Roosevelt and Demilt Dispensaries and Cornell University, on diseases of the uvula, soft palate, and faucial pillars. Neural and mental defects in childhood are written of by Francis Warner, of the London Hospital and London Medical College. Reviewing the completed library and looking over the long list of distinguished men who have helped make it what it is, congratulations are due them, the publishers, and the editor, who have accomplished an arduous task in a very creditable manner.

PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D., F.R.C.P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital; and Senior Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. Revised and Enlarged by H. MONTAGUE MURRAY, M.D., F.R.C.P., Physician to Out-Patients, and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. Ninth Edition Revised from the Ninth English Edition by WALTON MARTIN, Ph.B., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University; Attending Surgeon to the Out-Patient Department, Roosevelt Hospital. With four colored plates and three hundred and thirty-nine illustrations. Philadelphia and New York: Lea Brothers & Co. 1900.

INCREASE in the size of this book was found to be unavoidable on account of the presence of a greater number and larger size of the illustrations and of additional chapters on the pathology of the nervous system, malaria, blood, and the preparation and staining of tissues for microscopical study. There are no less than one hundred and eighty new illustrations. The book is certainly abreast with the times, and is so well known that further criticism seems to be unnecessary.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By DAWSON WILLIAMS, M.D. Lond., Fellow of the Royal College of Physicians of London, and of University College, London; Physician to the East London Hospital for Children, Shadwell. Second Edition. Revised with additions by FRANK SPOONER CHURCHILL, M.D., Instructor in Diseases of Children, Rush Medical College, in affiliation with the University of Chicago; Professor of Pediatrics, Chicago Polyclinic. Illustrated with seventy-two engravings and two colored plates. Philadelphia and New York: Lea Brothers & Co. 1900.

THE names of the author and reviser of this work are a sufficient guarantee of its excellence. The author states that his object has been to indicate the special incidence of disease in childhood; to elucidate as far as possible the causes of this special incidence; to point out the peculiarities which the circumstances of child-life impress upon familiar diseases; and to detail the treatment rendered appropriate by the nature of the disease itself and by the peculiar susceptibility of the growing organism. In the domain of treatment the author has emphasized the rational basis afforded by pathology, and by clinical observation. The reviser has aimed to adapt the work more closely to the special needs of this country. The prescriptions which are scattered through the text have been conformed to the United States Pharmacopœia. There is an appendix of prescriptions, as in the original edition. Particular attention has been paid to infant feeding. The book as a whole is a most valuable storehouse for practitioners in general but more especially for those particularly interested in the study of disease as it occurs in early life.

ATLAS AND EPITOME OF GYNÆCOLOGY. By Dr. OSKAR SCHAEFFER, Privatdocent of Obstetrics and Gynæcology in the University of Heidelberg. Authorized translation from the Second Revised and enlarged German Edition. Edited by RICHARD C. NORRIS, A.M., M.D., Surgeon-in Charge, Preston Retreat, Philadelphia; Gynæcologist to the Methodist Episcopal Hospital and to the Philadelphia Hospital; Consulting Gynæcologist to the Southeastern Dispensary and Hospital for Women and Children; Lecturer on Clinical and Operative Obstetrics, Medical Department, University of Pennsylvania. With two hundred and seven colored illustrations on ninety plates, and sixty-two illustrations in the text. Philadelphia: W. B. Saunders & Co. 1900

As the editor states in his preface, this atlas occupies a position midway between the quiz compends and the more pretentious works on gynæcology. There are many illustrations and colored plates, reproducing the appearance of fresh specimens which will give the student accurate ideas of the condition of diseased pelvic organs. The original text has been carefully followed by the translator, Dr. W. Hersey Thomas. It is concise but comprehensive. The tone of the work is conservative, but this feature will be particularly welcome to the student and general practitioner. The editorial notes make clear the points of resemblance as well as divergence between the author's teaching and that generally accepted in America.

THE RETROSPECT OF MEDICINE: A Half-Yearly Journal Edited by JAMES BRAITHWAITE, M.D. Lond. July, 1900. London: Simpkin, Marshall, Hamilton, Kent & Co. Limited.

THIS is Vol. 121 of the well-known series, taking in the advances from January to June found in a retrospect of the practical side of medicine and surgery. An alphabetically arranged synopsis in the first one hundred and twenty-eight pages covers a wide range of subjects. The issue is up to the usual average.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By ROBERT W. TAYLOR, A.M., M.D., etc. Second Edition, thoroughly revised, with one hundred and thirty-eight illustrations and twenty-seven plates. New York and Philadelphia: Lea Brothers & Co. 1900.

IT gives us pleasure to record the appearance of the second edition of this work, which is already a standard for both student and physician. The author's opportunities in his specialty have been very great, and he has made good use of them. His style is clear and concise, and he has chosen his illustrations well. W can find in the first nine chapters on gonorrhœa and its consequences all that is important in the subject epitomized and sifted, so that the author's conclusions follow easily and naturally. Many methods of treatment of both acute and chronic urethritis are given, and what is thought best is recommended. Stricture of the urethra is fully discussed. The various conditions, chiefly surgical, of the genito-urinary system excepting gonorrhœa and syphilis, which are usually included in works upon general surgery, are considered at length from the point of view of the specialist, but the

technique of the more serious surgical procedures does not receive the attention which it deserves, and which is given in works upon general surgery. The best part of the book is upon syphilis, and here we can only say that we believe there is no better work on this subject extant. The author has avoided unnecessary detail and interminable bibliography, and has given us a comprehensive view of the subject in which w can find whatever is of practical use and interest. This second edition will add to the popularity of the book, which, taken as a whole, is one of the best works of reference upon its special subject in any language.

SPEECH-HESITATION By E. J. ELLERY THORPE. New York: Edgar S. Werner Publishing & Supply Company. 1900. Seventy-five pages.

THE author here endeavors to explain the causes and to outline the remedy of this most distressing affection. The remarks are interesting, but the explanations are neither clear nor conclusive.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COMING CENTURY—VENOUS INJECTIONS FOR PHTHISIS—DISAPPOINTMENTS IN SURGERY—CHRONIC MASTITITIS AND TUMORS—CAUSE OF SEX—HOSPITAL SUNDAY FUND—POISONED BEER—PROFESSORS ROBINSON AND THOMSON—RECENT DEATHS.

LONDON, December 28, 1900.

THE close of this century and the opening of the next are subjects constantly turning up in conversation this week of Christmas and holidays. In all departments of knowledge there is a summing up of the progress of the closing century, and medicine follows the fashion. And the remarkable retrospect naturally leads to speculation as to the future. An early fixture is a congress on tuberculosis for next year, and no doubt papers and researches for it are already preparing. But meantime men are not waiting for that. Announcements of their investigations in this scourge of our race are being made. One of these is by Dr. Robert Maguire, whose recent lectures before the Harveian Society have now been published in full or in abstract, and thereby given a wide circulation. The one point which has arrested attention is a somewhat startling suggestion as to treatment by intravenous injections of solution of formic aldehyde. The employment of so potent a substance in this manner certainly required considerable confidence in the opinion of its possible value. But Dr. Maguire had the courage of his convictions and proceeded to experiment on himself. In that way he ascertained the amount that might safely be injected, after which he proceeded to employ the injections in cases of phthisis. In the course of his experiments on himself he underwent a degree of inconvenience, and even pain, which I think few would care to encounter. With too strong solutions he had hæmaturia, with clots in the bladder, dysenteric symptoms, cough, catarrh of most mucous membranes, a thrombus in the injected vein, cramps, faintness—in fact, a series of disagreeable, not to say dangerous, symptoms. Howbeit he ascertained, as I have said, how far he could go without subjecting patients to such dangers, and then used such solutions as he found he could safely do. In most of the cases he was able to say there was some improvement, which is perhaps not very encouraging, considering how often cases of phthisis improve under various plans and subsequently disappoint us.

Dr. Maguire intends to bring the method before one of the societies, so that it may be subjected to full discussion. Perhaps then we shall have not only more details of the results, but the views of other physicians. Until then it may be wise to hold our hands and leave Dr. Maguire to complete the work he has so zealously begun.

Since Dr. Maguire's lectures the Harveian Society has had another meeting (on the 20th), when Mr. D'Arcy Power read a paper on "Some Disppointments in Surgery." He distinguished these from "calamities" which have been so ably treated by Paget, confining himself to minor unsatisfactory results, illustrating them by cases in his own experience. He began with early life and instanced adhesion of the prepuce to the glans after circumcision. Then he adduced the unsightly result after hare-lip operations if the apposition of the red edges has not been accurate. The recurrence of adenoids, as a fertile source of disappointment to parents, was mentioned and the difficulties that may arise in dealing with imperforate anus. In abdominal operations, those on the kidney often disappoint in some way both surgeon and patient—one cause being the formation of a fistula, a result by no means confined to renal cases. After internal strangulation of the bowel has been relieved by operation, there sometimes occurs the condition described by Paget when the patient "is too exhausted to be conscious of relief and goes on dying, though carefully fed and nourished." Mr. Power has met with the same disappointment after relieving intussusception, and related a case in point. Operations on the appendix are so full of disappointments that it is unwise to promise too much—the most vexatious being the impossibility of finding it, or, when found, of removing it in consequence of masses of adhesions. In one case Mr. Power found the appendix attached to the bladder in such a way that its tip had ulcerated through the walls, thus accounting for pus which had been found in the urine. He divided it, removing the proximal end and leaving the distal attached. The patient made a good recovery and the urine was very soon free from pus. Having touched on the mental disturbances which sometimes follow operations, Mr. Power turned to the bones and joints, in connection with which most surgeons have had their disappointments. So, too, injuries of nerves are most unsatisfactory cases at times, while operations for the relief of neuralgia are always disappointing in some way or in some degree.

The relation of chronic mastitis to tumor formation was the subject before the Pathological Society on the 18th inst. It was brought forward by Mr. F. T Paul, who said he was more and more impressed every year by the tendency of chronic mastitis to end in tumor. Cancerous breasts constantly showed changes indicative of previous chronic inflammation, and breasts removed for mastitis often presented appearances suggestive of commencing cancer. If not the actual cause of cancer, inflammation was, at any rate, Mr. Paul said, a frequent predisposing ause of tumor change in the breast, and made excision advisable in all marked or inveterate cases. He called special attention to the association of chronic mastitis with adenoma in early life, and with the cystic and other varieties of a later period; the marked bilateral mastitis preceding bilateral carcinoma; and the suggestive microscopical appearances of specimens of chronic mastitis

Mr. Raymond Johnson did not think that inflammation passed directly into carcinoma; he thought the histological appearance was different when malignancy arose; probably a second, unknown factor was concerned. The inflammatory process would not account for all cases of adeno-fibromata. This view was indorsed by other speakers.

Mr. Shattock referred to the possibility of a parasitic origin of cancer, and thought that whatever the nature of the so-called cancer bodies, their presence in a border or doubtful case of carcinoma might be diagnosed.

The causation of sex is a problem still unsolved, though in all ages it seems to have excited curiosity. The Obstetrical Society discussed it on December 2d, apropos of a paper by Mr. Rumley Dawson, who professed to offer "a new theory," and seriously propounded as such a notion as old as literature and probably the very oldest speculation of mankind on the subject The sex of a child, he says, depends on which ovary has been fertilized—if the right the result is a male, if the left a female. Quite ancient writers have not only said this, but have declared that the sex may be determined by the mother lying on one side as soon as copulation has taken place. Mr. Dawson's theory had been proposed centuries ago, and has often been shown to be incompatible with facts. Mr. Doran asked if Mr. Dawson believed that the removal of a queen's left ovary would prevent disappointment of a nation's hopes? Other speakers pointed out that birds have only one ovary, the left, and asked whence the cocks; why cases of one-sided ovariotomy were followed by children of the other sex—if the theory were true—and one case followed by twins, one child male, the other female. Mr. Dawson tried to explain these, and heaped up many facts not inconsistent with his opinion, but there are too many which cannot be explained in this way.

The Hospital Sunday Fund has suffered from the demands caused by the war, and there is a decrease of more than £2,300 in the congregational collections. At the annual meeting on the 20th inst. the report was adopted and June 16th fixed for the collections in 1901. The total amount raised was £51,993 14s. 6d.

Beer poisoning still occupies attention. There have been three more deaths, and the inquests have been adjourned to the same date as those previously reported, when the facts will, it is said, be duly set forth. Cases are reported and various observations made in our journals, but it is too soon to sum up the general conclusions to be drawn.

Dr. Arthur Robinson succeeds the late Professor Hughes in the chair of anatomy at King's College.

The chair of anatomy at the Royal Academy has been given to Dr. A. Thomson, professor of the subject in Ox-

ford University and author of a handbook of anatomy for art students.

Another civil surgeon at the front has fallen—Dr. F. G. Engelbach. He was killed in the fight at Nooitgedach while attending the wounded under a hot fire. Among other deaths I may mention: Dr. Kay-Shuttleworth, our vice-consul at San Remo, where he had practised since 1882; Thomas Taylor, an octogenarian, who died on the 23d at Bocking, in Essex, where he spent all his professional life.

THE HEART REFLEX AND THE NAUHEIM BATH.

To the Editor of the Medical Record.

Sir: The last issue of the Record contains a brief but exceedingly valuable article on the heart reflex, evoked by rubbing or tapping the chest, and its significance in producing recession of the cardiac area after the Nauheim bath. These observations are the more valuable because they are demonstrated by an exact apparatus, which renders them independent of the preconceived notions or impressions of the observer. My interest in this subject was awakened several years ago by the excellent monograph of M. Heitler ("Ueber die Wirkung thermischer und mechanischer Einfluesse auf den Tonus des Herzmuskels," Wien, 1894). In the article on Hydrotherapy and Mineral Springs, which opens the fourth volume of Hare's "System of Practical Therapeutics," I ventured (p. 35), in discussing the diminution of the area of cardiac dulness after the Nauheim bath, to say, "How much of this diminution of area of cardiac dulness may be due to the actual effect of the baths and exercises, and how much to the percussion over the area, which is resorted to for the purpose of outlining it, remains in doubt, when we consider that M. Heitler has shown by actual experiment that an enlarged area of cardiac dulness was invariably diminished by tapping over it." The exact observations of Dr. Abrams have removed this doubt, and the fact may be regarded as established that the cardiac recession is due partly, if not altogether, to the evoking of Abrams' heart reflex. All doubts may be removed by obtaining a fluoroscopic picture of an uncompensated heart, before and after the Nauheim bath, without first subjecting the cardiac area to percussion or friction. There is nothing so much needed in medicine as precision in the statement of observation and exactness in making the latter. Surgery has emancipated itself from the mysticism of the past and is now reaping benefit from the discovery of the positive fact that upon absolute cleanliness depends success of surgical measures. Our therapeutic ideas are still too much under the dominion of the empiricism of the past. Every ray of light which removes doubt and substitutes exactness should be gratefully received.

The Nauheim bath emphasized this view. Its great value in certain serious cardiac conditions has been firmly established by the clinical observations of many physicians who cannot be charged with bias or interest in the springs. It is a singular illustration of the above statement that the fanciful *rationale* of the action of these baths, announced by T. Schott, has been accepted by observers of more scientific attainments, who seem to have been hypnotized by the truly marvellous results of these baths. I ventured to write (*ibid.*, p. 34): "The *rationale* of the system of mineral baths and resisting movements is explained by Schott, by assuming a reflex stimulating influence upon the cardiac inhibitory centre, by reason of which the pulse is slowed, its tone increased, and the blood pressure heightened. It would seem that a far more simple explanation may be found in the well-known stimulating or tonic effects upon the circulation (reflex and hydrostatic) always produced by brief applications of water at temperatures below the normal, which stimulation is enhanced by the mineral constituents and the CO_2 gas bubbles, which exert an irritant mechanical effect upon the large cutaneous area. Under this stimulus the cutaneous vessels are dilated—as indicated by redness of the skin when the patient emerges from the bath and is rubbed with a warm cloth. The physiological result of this stimulus to the cutaneous vessels (vasomotor gymnastics of Kellogg) is an increase of blood pressure, a more vigorous systole, and a more complete emptying of the vessels. The dilatation of the cutaneous vessels under reaction after a bath ten to fifteen degrees below the temperature of the body, aided by the stimulating effect of the CO_2 globules and salines, is not the result of relaxation, as it would be after a bath of a few degrees above the normal temperature, but of stimulation to the vasodilators on the skin, endowing its vessels with increased elastic propulsive power. The blood is more vigorously propelled through the enormous area of peripheral vessels, and sufficient normal resistance is created in the latter to increase the blood pressure. There is no need of resorting to Schott's undemonstrable theory, if we can explain the effect of the baths upon this simple *rationale* based upon well-ascertained physiological laws. The great value of the salines and CO_2 contents in the Nauheim water resides in their warming the skin and thus enhancing reaction, which would be imperfect in patients of normal temperature and usually feeble reactive power, without using friction. In other words the mineral ingredients of the Nauheim water take the place of friction, which every judicious hydrotherapist uses when administering baths below the body temperature, in order to prevent chilling, which he abhors. This explanation of the *rationale* of the action of the Nauheim bath disposes of the contradiction involved in the *rationales* offered by Schott, Bezley-Thorne, Saundby, Broadbent, and others. While according, therefore, to the Nauheim baths all that is claimed for them, especially when taken in the lovely village, endowed by nature with valuable springs and beautiful groves, which lure the patient to calmness, the theory of their effect must be reconstructed and simplified." I cannot quite agree with Dr. Abrams' "theory that the real factor involved in balneo- and mechanico-therapeutics (Schott) is dependent not on the baths and exercises as such, but owing to the cutaneous irritation provoked by these manœuvres." The great recessions of cardiac dulness reported by many are doubtless chiefly due to the percussion instituted for ascertaining it; but the enduring improvement of the systole and the consequent better filling of the arteries and increase of urine, the enhancement of the general health and restitution of lost compensation, can be explained only by the oft-repeated reaction from the cool bath in water containing stimulating saline and CO_2 ingredients, and their effect upon the cutaneous circulation. The latter, being an essential part of the vasomotor system, is thus restored or enhanced, and restores or enhances the entire circulatory apparatus. This *rationale* applies to every cold hydrotherapeutic procedure administered in chronic diseases, and partly explains also the effect of the valuable Brand bath in typhoid fever. In the latter I have often utilized the Nauheim salts for the purpose of overcoming feeble reactive capacity in patients, who otherwise could not accept any cool bath without chilling and depression.

Simon Baruch, M.D.

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REST IN BED IN THE TREATMENT OF ACUTE MENTAL DISEASE.

To the Editor of the Medical Record.

Sir: In the number of your journal for December 22, 1900, on page 976, you quote from the *Archives de Neurologie*, October, 1900, the description of a method of treatment of the acute forms of mental disease by rest in bed, and the quotation also refers to the advantage of carrying out this method in a large open ward. It may interest you to know that this plan of treatment has been in use in this hospital for the past seven years, successfully, with all of the advantages referred to in your quotation manifest. However, we go still further and put every patient received in bed; keeping him there until by careful clinical investigation, with the aid of the laboratory, we know to what extent he may be suffering from organic disease or functional disturbance in the vegetative organs. To quote from a recent paper by the writer: "If the patient is ushered into a cheerful ward and received by properly gowned nurses, who give him a bath and put him in bed, he realizes that he is being cared for, even if he does not think such care necessary. After a careful examination by the physician in charge his confidence is more fully gained and he submits to whatever treatment is necessary without resentment. The occasional patient, who is maniacal or delirious, does not interfere with the general plan; and his management need not differ from that of similar cases in a general hospital, having delirium as a complication."

I was surprised at the reference in your quotation to "solitary confinement in cells." I did not suppose that the insane were now treated as dangerous criminals or wild animals in any country. The good effect of treating the insane as you would other sick people cannot but be apparent to any one who has tried the method, as well as the great advantage of caring for recent cases in a large open ward, where the presence of others serves to attract the attention of the patient away from himself. But in order to appreciate the significance of such methods, one must rid himself of the metaphysical conception of what is constituted in insanity and of all mediæval ideas as to its treatment. The "mind" is not an entity, but the functioning which it represents is purely physical, and it is the expression of the sum of all activities comprehended in life.

H. A. Tomlinson, M.D.

St. Peter State Hospital, St. Peter, Minn.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 3, 1901.

ROBERT F. WEIR, M.D., PRESIDENT.

Address of the Retiring President.—DR. WILLIAM H. THOMSON, on retiring from the presidency of the academy, delivered a short address, which was largely reminiscent, and which pointed out the many advances made in medicine and the great responsibility of the physician. A very recent illustration was cited to show the important rôle now played by blood examinations. A woman had come to him with an obscure mass in the abdomen, near the liver. She had been supposed to be suffering from malaria, but this had at once been excluded by a microscopical examination of the blood. This examination had shown, however, such a marked hyperleucocytosis that an exploratory operation had been advised, and done. The operation revealed extensive adhesions about the liver, and a gall bladder containing seventy-six stones and a quantity of pus.

Inaugural Address of the President.—DR. ROBERT F. WEIR delivered this address. He said that his admission to the Academy of Medicine in 1881 had occurred at an important epoch, *i.e.*, when the prosperous New York Journal Association was merged into the academy. This had led at the time to his being vice-president of the academy. The academy had been carried through troublous times with great tact and ability by the late Dr. Fordyce Barker while occupying the presidential chair from 1879 to 1885. To Dr. A. Jacobi was due great credit for having divided up the work of the academy into sections. The section meetings he considered exceedingly important, though he was well aware that some looked with dismay upon the very prominent part they had taken in the work of the academy. A question of no little importance was, Why did the membership of the academy grow so slowly? The answer was perhaps to be found in the amount charged for dues, and this suggested that it would possibly be found advisable to modify the rules in regard to them. The lack of interest in the general meetings as compared with the section meetings was probably because of the system by which the work of the sections was carried on almost independently of the academy.

Presentation of a Portrait.—A portrait of the late Dr. John Hoskins Griscom was presented to the academy by his daughter, Frances Griscom Parsons. Dr. Griscom was an original fellow of the academy, and its vice-president in 1854. He died in 1874.

Memorial Address on the Life of Dr. Lewis Albert Sayre.—DR. LEROY M. YALE read this address. He said that Dr. Sayre's connection with hospitals dated back to 1853, and that he had been actively connected with Bellevue Hospital for thirty-one years. Throughout his early life he had taken an active interest in medical societies, and as but few were in existence at that time, he had come to be one of the founders of many of them, notably of the New York Pathological Society and of the American Medical Association. His first hip-joint exsection had been done in 1851, and was the first operation of the kind in this country. To understand fully the position of Dr. Sayre in 1866 it should be recalled that at that time there was almost no teaching of orthopædic surgery, and that joint diseases were treated either by a clumsy workman under the rather vague directions of the surgeons, or by a more skilled workman who essayed to treat joint diseases mechanically, though having little or no knowledge of the nature of such diseases. While it was too soon to express a positive opinion regarding the influence of Dr. Sayre on the medicine and surgery of his time, it was safe to claim that in the future whoever would go over the history of American surgery would find that Dr. Sayre had taken an active part at every stage in its progress.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, December 27, 1900.

J. RIDDLE GOFFE, M.D., CHAIRMAN.

Spina Bifida; Treatment by Injections of Iodine.—DR. E. A. AYERS presented a child six weeks old, with a spina bifida. It had been born by the breech. He had operated on December 12th. The tumor was about the size of a mandarin orange. The vertebral arches were wanting over two of the vertebræ. The sac was transparent, and the cauda equina could be seen floating in the fluid beneath the skin. He had operated by injecting ℥ xxv. of pure tincture of iodine. The injection had been made in the thicker portion of the skin at the side in order to prevent leakage. The site of the puncture and the entire sac had been painted with collodion daily for several days. For two days after the operation the child had had opisthotonos. The tumor had been very greatly reduced in size. According to the statistics of this operation there were about forty per cent. of recoveries. He had operated about three times by opening the tumor, and all the cases had terminated fatally. On account of the constitutional condition of the child —the tendency to marasmus—and the fact that the mother would not leave the child in the hospital where it could be properly cared for, he did not think the outlook was very good.

Congenital Hypertrophy of the Cervix and Bilateral Salpinx in a Girl of Seventeen Years.—DR. A. BROTHERS said that at the age of fourteen the womb had been noticed to be projecting from the vulva. A diagnosis of prolapse of the uterus had been made, and Alexander's operation had been done by an eminent gynæcologist in one of our hospitals. This had given the girl no relief. She had finally come under his observation on November 3, 1900. The cervix was found projecting one inch from the vulva, and the anterior and posterior vaginal walls were also prolapsed. The uterus was decidedly enlarged, and palpation revealed bilateral pyosalpinx. On November 10th the uterus and ovaries had been removed by him; the patient had left the hospital on the sixteenth day, and was now perfectly well. More than one-third of the uterus was found to consist of cervix. This hypertrophied cervix had evidently been overlooked two years ago when the Alexander operation had been done. The bilateral salpinx had almost surely resulted from infection by the indiscriminate use of the uterine sound by medical practitioners who had examined her.

Early Ruptured Ectopic Gestation.—Dr. Brothers also presented specimens from three cases of intraperitoneal hemorrhage, presumably from extra-uterine pregnancy.

DR. A. PALMER DUDLEY strongly condemned the resort to vaginal hysterectomy in the case of the young girl with congenital hypertrophy of the cervix. Two healthy ovaries, he said, had been removed, yet it was quite possible in a case of non-specific pyosalpinx to wash out the tube and thus do conservative surgery. The tubes in this case should have been resected and washed out, or a portion left; then a portion of the cervix should have been amputated, and, if necessary, a hysterorrhaphy done to anchor the uterus in a proper

position. At the present day, a vaginal hysterectomy upon a girl of seventeen, in a case presenting no history of specific infection, was certainly a most questionable procedure. He made this statement, not as a personal criticism, but from a purely scientific standpoint.

Dr. Louis J. Ladinski asked for proof of the statement that this was a case of congenital hypertrophy of the cervix. He had under his care a girl of fifteen years who, when eleven years of age, had been presented to that section. Both body and cervix were greatly enlarged, and during all these years the girl had been suffering from menorrhagia and metrorrhagia. She had been curetted many times, and the scrapings repeatedly examined, but always with negative result. When this girl was not quite eleven years old the uterus had been as large as that of a woman of thirty-five, and he had come to the conclusion that the case was one of precocious maturity. The case just presented seemed to him probably a similar one of unusual development of the uterus.

Dr. Goffe also criticised the very radical method of treatment employed in this case. He would have preferred to attack the case by the vaginal route, doing conservative work on the ovaries and tubes.

Dr. Brothers said that the girl had not come to him with a diagnosis of congenital hypertrophy of the uterus, but with a protruding and eroded cervix, a purulent discharge, a temperature of 101° F., and a general septic condition. He had tried ventral fixation in other cases and had failed in properly fixing the uterus, and owing to the very bad condition of this girl it had seemed to him perfectly justifiable to do hysterectomy. In doing this for complete prolapsus he had followed in the footsteps of many authorities, chiefly foreign, and if he had erred, then it was because these teachers had erred.

Ruptured Interstitial Pregnancy.—Dr. L. J. Ladinski presented this specimen. For about three months previous to coming under observation there had been amenorrhœa and irregular hemorrhages and abdominal cramps. He had first seen the patient on October 4th at the Beth Israel Hospital. Her temperature at that time had been 101.5° and the pulse 108 and very feeble. The abdomen was greatly distended and tender, and apparently there was fluid in the lower part of the abdomen. There was in the right cul-de-sac a fluctuating mass which was intimately adherent to the uterus. There was a bloody discharge from the uterine cavity. The operation had been done under ether narcosis. When the abdominal cavity had been opened a quantity of dark blood and clots had escaped. The right Fallopian tube was ruptured and there was hemorrhage from the rent. Examination showed plainly that the case was one of interstitial pregnancy. The patient had made an uneventful recovery. In tubal pregnancy rupture usually took place before the second or third month, whereas in interstitial pregnancy the rupture usually occurred much later. By interstitial pregnancy was meant a pregnancy in the portion of the tube within the uterus; it was often confounded with cornual pregnancy. The differential diagnosis was not easy, but in interstitial pregnancy the round ligament would be found to the inner side of the sac, whereas in cornual pregnancy it was on the outer side.

Dr. Ladinski also presented for diagnosis a specimen removed from a woman forty-one years of age. She had given a history of uterine hemorrhage, nausea, and abdominal pain. A cystic mass could be distinctly felt through the left vaginal fornix. On October 20th she had been operated upon. The left ovary had been found cystic and the fimbriated extremity of the tube distended. A similar condition had been found on the right side, and both tubes were removed. The mass in the pelvis proved to be an encapsulated blood-clot. He had considered the case a tubal abortion, but it had been repeatedly examined and no chorionic villi found.

Multiple Myomectomy for Fibroids.—Dr. George Gray Ward presented seven fibroids removed from a widow forty-seven years of age. She had sought relief chiefly because of a marked irritability of the bladder. On abdominal section he had found that the irritability of the bladder was due to fibroids pressing deeply upon the bladder and preventing the proper distention of this viscus. As there was not a general fibroid condition of the uterus, myomectomy had been done. The interesting points of the case were the remarkably smooth convalescence and the complete relief of the bladder symptoms.

Vaginal Hysterectomy for Complete Prolapsus Uteri.—Dr. Ward exhibited this specimen, which had been removed by operation from a woman sixty years of age, who had been incapacitated from work and had been in wretched health because of the condition of the pelvic organs. She recovered from the first operation nicely, and three weeks later he had done an anterior and posterior colporrhaphy and a perineorrhaphy. When seen three months afterward there was no stretching of the scar in the anterior wall. This was probably largely owing to the fact that the patient would not keep quiet for a sufficient length of time.

The Glass-Ball Pessary.—For relief of the cystocele he had followed the advise of his old preceptor, the late Dr. Skene, and had inserted a glass-ball pessary. These pessaries could be worn with safety and comfort for an indefinite time by women who had passed the menopause, and in whom there were no longer menstrual or other irritating discharges.

Dr. H. J. Boldt said that he had been very unfortunate with this class of cases, except in the use of hysterorrhaphy, but in such a stout patient as Dr. Ward's he would also prefer the method adopted. According to his own experience, hysterectomy was not a good procedure, and the only satisfactory one was ventral fixation. The latter operation should be done in such a way as to give a broad and firm adhesion between the abdominal parietes and the uterus. As a rule, plastic operations would not be required after the ventral fixation. He had known one woman to improvise for herself a ball pessary out of beeswax. This she had worn for two or three years.

Dr. Goffe described a method of operating by making V-shaped incisions on either side and tucking the broad ligaments into these. In every case in which he had used this method a permanent cure had been effected.

Spontaneous Delivery of a Uterine Polypus.—Dr. Kinch, of Westfield, N. J., presented a specimen removed from a German woman twenty-nine years of age. She had menstruated regularly on July 1st, and on the 16th had again had a flow associated with abdominal pain. Two days later examination had shown the os dilated and a mass protruding. This mass proved to be a fibroma weighing eighteen ounces. It was detached and delivered with the aid of forceps. The patient rapidly recovered, and had since menstruated regularly and without discomfort.

Ectopic Gestation; Stump Infection; Perforating Gastric Ulcer.—Dr. Philander A. Harris, of Paterson, N. J., presented several specimens. The first was one of ruptured tubal abortion with death in twenty-seven hours. The rupture occurred about five weeks after the last menstruation. The second case was similar to the first, except that the patient had recovered. The third specimen was one of tubal rupture in the broad ligament, occurring in the sixth week after the last menstruation. The patient was operated

upon and recovered. The fourth specimen was one of rupture at the eighth week, and the fifth a pus tube and ovary removed from the other side of the same patient. The next specimen was a tube and cystic ovary. At the operation blood had been found pouring from the tube. He took the case to be one of ectopic gestation. The next specimen was the body of the uterus removed from a lady who had had the tubes and ovaries extirpated by the late Dr. Lusk some years before. The specimen was a good example of stump infection. The last specimen was one of perforating ulcer of the stomach. The woman had been admitted to the hospital with symptoms pointing to the possibility of an ectopic gestation, but while she was given ether preparatory to an exploratory laparotomy she had suddenly died. The autopsy had revealed the presence of a gastric ulcer and of four or five pints of pus in the peritoneal cavity. The examination of the pelvic organs was negative.

The Use of the Paquelin Cautery in the Uterine Cavity.—Dr. J. A. Schmitt read this paper. He said that of all the forms of intra-uterine therapeutics curettage took the first rank, but in the hands of the average practitioner it was an operation of questionable value. He maintained that the curette was a most dangerous instrument, and should be banished from the puerperium. In using the Paquelin cautery within the uterus he placed the patient in the side position and under narcosis. Short cylindrical vaginal specula of hard-rubber or glass were employed. Having determined the length and direction of the uterine canal by the use of the uterine sound, the canal should be dilated and irrigated, first with bichloride, and then with Thiersch solution. The red-hot cautery was then introduced and drawn successively over the different portions of the cavity, first over the anterior, then over the posterior surface, next over the sides, and lastly over the fundus. Bichloride irrigation and the tamponade completed the operation. This heroic treatment he thought should be restricted to those cases of puerperal sepsis in which, after careful examination, the conclusion had been reached that the site of the infection was within the uterus, and the more usual methods had failed to check the process. A number of cases were reported in illustration of the method and its results.

Dr. H. J. Boldt said that he understood that the reader of the paper made use of the cautery with great freedom, claiming that by experiments on pieces of meat he had demonstrated to his own satisfaction that it was difficult to perforate the uterus. To this comparison between the uterus and pieces of meat he would take exception, and would state very candidly that there seemed to be no great difference, as regards the liability to perforation, between the curette and the cautery, and every one knew how easy it was, even in the most careful hands, to perforate the uterus. This was especially true of the uterus in the class of cases in which the author employed the method chiefly, *i.e.*, in cases of septic endometritis. Again, he would like to know what was the condition of the uterus in such cases some months after having been subjected to the cautery. It was well known that when steam had been used in the uterine cavity it had, in some instances, completely destroyed the utricular glands.

Dr. A. Palmer Dudley said that if he remembered correctly this was not a new practice, the hot iron having been tried years ago by Sims, and found wanting. He raised the question whether the use of the hot iron within the uterus would relieve a salpingitis, or a cellulitis, or a lymphangitis in the pelvis in cases of sepsis. Supposing the hot iron did prevent the action of the gonococcus within the uterus, would it, he asked, prevent the multiplication of this organism in the tubes? He was also desirous of knowing what would be the functional condition of the uterus after such treatment. Of the two instruments, the curette and the cautery, he greatly preferred the curette.

Dr. Philander A. Harris said he would place this procedure on a par with the use of chloride of zinc and similar agents. He was of the opinion that even if the uterus were in the operator's hand and were split open, it would take some time to apply the Paquelin cautery thoroughly to every part of the interior of the uterus. After the septic process had spread beyond the uterus he believed the latter was no longer a fertile source of sepsis—indeed, the uterus appeared to sterilize itself in a few days.

Dr. E. A. Ayers said the author had not in the paper presented any evidence of the final results of the treatment. The latter was largely carried out by the sense of touch, for little could be seen when the cautery was introduced through the speculum, and it seemed to him really an experiment in vivisection, and one which should be condemned until strong evidence in its favor could be adduced.

Dr. Goffe said that the amount of destruction produced by the actual cautery seemed to be an unknown quantity, and if it did act efficiently it probably also destroyed useful portions which would not be replaced. The unfortunate consequences of eschars in the uterine cavity were well known and should lead one to be cautious about adopting such a method of treatment.

Dr. Schmitt closed the discussion. He said that he was not in a position to state the extent of destruction produced by the cautery; he could only say that the results of this kind which he had at first feared had not been met with in practice. He inclined to the belief that the endometrium was partly or wholly covered again with epithelium. Some remnants of the uterine glands were always left, and from these new epithelia and muscle probably developed. When the septic process had extended beyond the uterus he did not employ the method.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 14, 1900.

Eugene Hodenpyl, M.D., President.

A Case of Congenital Deformity of the Heart.—Dr. N. B. Potter reported this case, which occurred in a child supposed to have been perfectly well up to the age of two years. At this time there had been an attack of cholera infantum, and the attending physician announced that heart disease was also present. The speaker said that he had seen the child in a hospital last December, and at that time there had been marked clubbing of the fingers, associated with marked cyanosis and dyspnœa. There was also an otitis media on the left side. The child had, however, recovered, and had remained perfectly well up to October 1st. Symptoms of meningitis had then made their appearance, and death had occurred ten days later. The autopsy revealed an abscess, the size of a large lemon, in the right frontal and parietal regions. There was a basilar meningitis. The cultures from the abscess and from the meninges were sterile. It was remarkable that such a large abscess could exist for so long a time without giving rise to symptoms. Examination of the heart showed the right ventricle to be nearly absent. The blood came from the vena cava through the foramen ovale into the left auricle, and from there passed to the left ventricle and thence to the aorta. The blood supply to the lungs came from a branch of the aorta. A loud systolic murmur had been audible during life all over the precordium without any particular spot of maximum intensity.

A Case of Rupture of the Spleen; Malaria.—Dr. Potter also reported the following case: A sailor had been admitted to hospital with a chill, and had died shortly afterward in spite of large doses of quinine. The organism of æstivo-autumnal fever had been found in his blood before death. At autopsy, a rupture of the spleen in the posterior and superior portions had been found. It was the kind of rupture seen as a result of violence, though there was no history of such traumatism. He did not think the rupture of the spleen had been the cause of death. Less than one pint of blood had been found in the abdominal cavity. The spleen weighed one pound six and a half ounces.

Dr. David Bovaird said that this congenital anomaly of the heart was interesting, because of its peculiar association with abscess of the brain. This association had been noticed repeatedly, but so far no adequate explanation had been offered. This was the third case of the kind that he had seen.

Dr. O. H. Schultze reported several cases. The first was a case of apparent spontaneous rupture of the spleen occurring in a male adult suffering from malaria, reported by kind permission of Dr. E. J. Doulin. The deceased had been found dead in his room by the coroner's physician. From the fact that there had been well-marked post-mortem hypostasis in the frontal region, and in addition secondary hypostasis on the posterior aspect of the body, he had been led to believe that an interval of eight or ten hours had elapsed from the time of the man's death, until he had been turned into the second position. About two quarts of fluid but also clotted blood had been found in the peritoneal cavity. The source of this hemorrhage was a laceration of the spleen. This organ looked like a mass of thick chocolate, and no portion could be absolutely identified as the spleen except a small shred of capsule. Some of this softened tissue had been examined microscopically, and identified as that of the spleen. It contained a considerable quantity of dark pigment. A smear from the bone marrow had been made, and was exhibited to the society under the microscope. It showed quite a number of spheroidal bodies and pigment resembling melanin in the red-blood cells. This person was a steward, forty-five years of age, who was said to have suffered from malaria for about three weeks. There were absolutely no external marks of traumatism. This, in itself, did not warrant a diagnosis of spontaneous rupture of the spleen, but from the appearance of the softened tissue and the blood in the region of the spleen, he felt warranted in looking upon this as a case of malaria with spontaneous rupture of the spleen.

Dr. Schultze also reported the following case: A man thirty years of age had been admitted to Bellevue Hospital on August 22d. He had complained of severe pain in the epigastrium, and of having vomited on the preceding day. The bowels had not moved for four or five days, and the diagnosis of his physician had been intestinal obstruction. On the following night the operation of colostomy had been done, and no peritonitis had been noted at that time. The man had died very suddenly and unexpectedly about twelve hours afterward. At the autopsy there had been found a considerable degree of hemorrhagic pancreatitis with fat necrosis. The surface of the peritoneal fat showed throughout minute areas of fat necrosis. In some places this fat necrosis extended some distance below the surface of the tissue. The mistake in diagnosis was very pardonable, as the condition had often been confounded with intestinal obstruction.

Dr. Schultze presented a third case. The subject was a man about forty-five years of age, who had been brought to Bellevue Hospital by the Hudson Street Hospital ambulance suffering from epigastric pain and vomiting. He stated that he had been pushed against a wagon and run over, but the autopsy had shown no evidence indicative of injury. He stated that at the Hudson Street Hospital he had been catheterized because of retention of urine, and that he had been bleeding since that time. There was some bleeding from the meatus, and on several occasions while in Bellevue Hospital it had been necessary to catheterize him. In the intervals of catheterization a small quantity of blood had been passed. It was said that the passage of the catheter had been very difficult, but there had been no infiltration of urine or any hemorrhage into the perineum. On the third day external urethrotomy had been performed, and the bladder had been explored digitally with such vigor as to cause laceration of the prostatic urethra. At autopsy the bladder contained blood clot about two ounces in amount, but no blood had escaped through the wall. A large amount of fluid had been found in the peritoneal cavity, and examination had proved it to consist mostly of bile mixed with serum. There was absolutely no jaundice of the skin or of the conjunctiva. The fæces presented a clay color as in jaundice. It was evident that there had been a leakage of bile into the peritoneal cavity, and this was found to have come from the right hepatic duct close to the liver. In the retroperitoneal tissue posterior to and below the pancreas there was a large mass to which the greater curvature of the stomach and the transverse colon were adherent. On separating this adhesion, the pancreas was exposed, and a large cavity containing fluid and decomposed tissue of a green color opened. On section, the pancreas was normal. Close examination seemed to show peri-pancreatic fat necrosis. Whether the leakage in the right hepatic duct was to be explained on the score of injury or whether the necrosis of the fat proceeded along the adipose tissue in the hilus had not been determined. Laceration of the hepatic duct, he thought, must be very rare. The connection of traumatism with this case was very indefinite, and rested solely on the patient's statement that he had been run over.

Dr. Schultze also presented a specimen of cyst of the stomach as a pathological curiosity. It had been found in a woman about forty-five years of age, who had died from causes entirely independent of the stomach. The tumor projected about as much into the cavity of the stomach as on the peritoneal surface. It was situated about half-way between the greater and lesser curvature in the anterior part of the wall. On section, the tumor had been found to be embedded entirely in the layers of the muscularis. It resembled somewhat, in the gross, a cyst adenoma, but microscopical examination had failed to confirm this. It contained only large blood-vessels, connective tissue, and considerable areas of a substance resembling mucin.

Dr. Warren Coleman spoke of the case of hemorrhagic pancreatitis. The patient had entered Bellevue Hospital while the speaker was acting as substitute for Dr. W. G. Thompson. The patient had been seized a day or two previously with vomiting and intense pain in the epigastric region, darting toward the left side, though on admission to the hospital the pain was located chiefly in the right hypogastric region. The diagnosis of the physician who sent him to the hospital was intestinal obstruction. There was some tenderness on the right side, and two of the physicians who saw him thought there was rigidity of the muscles. The physical examination, however, was especially difficult, because of the thickness of the abdominal walls. The patient's temperature was 103° F., and the pulse rate 140–150. The characters of the pulse were very significant—rapid, small, feeble, and thready—a condition of heart action not consonant

with a temperature of 103° F. of only a few days' duration. These characters should have suggested pressure stimulation of the solar plexus, but did not at the time. In view of the patient's condition and the possibility of the existence of appendicitis, operative interference was decided upon, and the case transferred to the surgical division of the hospital.

DR. GEORGE P. BIGGS said that he had presented two similar cases to the society some years ago. The symptoms had been almost identical with those just emphasized by Dr. Coleman. Both had been diagnosticated as appendicitis, and one had been operated upon. The great rapidity and weakness of the pulse had been noted in one of these cases, and also the presence of marked dyspnœa.

Death from Ether Anæsthesia.—DR. HARLOW BROOKS reported this case. The patient was a man thirty-six years of age, of good habits and free from syphilitic taint. He had received a compound fracture of the forearm which exposed both the wrist and elbow joints. When picked up he had not been in a condition of shock, and had been seen by a surgeon about three hours afterward, at which time there had been no urgent symptoms. The intention had been to amputate the arm the next morning. The man had passed a good night, and about eleven o'clock the following morning had been prepared for the operation. No lesion of the heart and lungs had been found, and the urinary examination had been negative. Squibb's ether had been used, and it had been taken without much struggling through what is known as the "butcher-sleeve cone." Plenty of air had been admitted with the ether, and the pulse had improved under the first inhalations of ether. While the arm was prepared the pulse flagged, and for this reason a hypodermic injection of strychnine and whiskey had been given. About twenty minutes after the beginning of the anæsthetic surgical anæsthesia had been reached, and the amputation was begun by an incision through the skin. The conjunctival reflex had disappeared at this time, the voluntary muscles were flacid, and there was every indication that the anæsthesia was complete. Just as the skin was incised, the respirations became noticeably slower, and there was some retching. A drachm of fresh ether was given, and soon the respirations became more natural. Five minutes after this the respirations suddenly ceased at the end of full inspiration, and the heart action ceased two or three minutes later. There was no cyanosis, but the anæsthetic was at once stopped, the throat cleared out, the epiglottis pulled forward, and artificial respiration performed. Strychnine and ether were given hypodermically at first, and the limbs were elevated. Air could be forced into the lungs, but there was no spontaneous respiration. Death probably occurred about eight minutes after the first symptoms of danger had appeared. About four ounces of ether had been used. A very careful autopsy had been made. There was no indication of previous disease. There was no injection of the blood-vessels of the respiratory tract in any part. The lungs were not congested or œdematous. At the autopsy, which was done about three hours after death, there was no odor of ether about the lungs. The ventricles of the heart were contracted as one would naturally expect from the mode of death, although the right auricle was moderately dilated. There was a small calcareous nodule on the posterior surface of the left-hand flap of the mitral valve. The valves of the right heart were normal. The heart muscle showed a moderate fibroid myocarditis, which was most marked in the papillary muscle of the mitral valves. The intima of the arch and the intima of the coronary arteries were the seat of quite extensive arteriosclerosis. This sclerosis stopped short with the arch of the aorta. All the smaller vessels of the body seemed to be normal, even on microscopical examination. The connective-tissue increase was of the adult form, and there was no indication that the condition was a progressive one. He had come to the conclusion that the condition was a functional arteriosclerosis occurring in an athlete's heart. The kidneys were like fibroid kidneys, yet on section this connective-tissue increase was not so apparent. There was only a slight connective-tissue increase of the adult form, and it was not progressive. The liver and all the other organs were normal. There was nothing distinctly abnormal in the central nervous system. A most noticeable thing in the nerve cells was an unusually plentiful deposit of coarse, brown pigment—a lesion not considered to be of special pathological significance. Careful examination of the ganglion cells by Nissl's method showed only slight and occasional degenerative lesions. The cells of the medulla were also normal. This careful examination precluded the possibility of an embolus or of discoverable lesion in the ganglion cells. The cause of death was apparently the result of the action of the anæsthetic upon the nerve cells; but, owing to the short duration of the etherization, it was hardly to be expected that any lesion would be produced which could be recognized after death by our present methods. Many surgeons were of the opinion that death from anæsthesia was most commonly the result of some obstruction in the respiratory passages, as for instance an accumulation of mucus. He had been surprised to find that most authorities agreed that the heart continued to beat for some time after respiration had ceased when death occurred during etherization. The case presented was one of death from respiratory failure from the action of the ether on the respiratory centre, or possibly by poisoning of the respiratory muscles. The case was most instructive as showing that death from ether anæsthesia might occur in a person apparently perfectly healthy, and when the conditions were most favorable for etherization and for resuscitation.

DR. J. H. LARKIN asked if fat emboli had been looked for in the brain and in the other organs. The association of the sudden death with a fracture seemed to make such a question pertinent.

DR. BROOKS said that the autopsy had been a complete one, and that a very careful and patient search had been made for fat emboli, but nothing of the kind had been found.

DR. SCHULTZE asked what had been the condition of the lymphatic system.

DR. BROOKS replied that there was no enlargement of the lymphatics, though it was looked for in every part of the body. The spleen was not much enlarged.

A Case of Tuberculous Endometritis, Salpingitis, and Peritonitis in an Infant of Twenty Months.—DR. GEORGE P. BIGGS reported this case. Five months prior to death a painful swelling had appeared on the right side of the abdomen, accompanied by constipation and gradual emaciation. On admission to the New York Hospital there was a large, tender mass in the right side of the abdomen, thought to be an inoperable tumor of the kidney. Death occurred about one month later. At the autopsy this tumor had been found to be a mass of fæces. The rest of the peritoneal cavity was protected by adhesions in which were many tubercles. An old perforation with rounded, smooth edges established free communication between the fecal cavity and the middle portion of the small intestine. There were a few characteristic tuberculous ulcers in the lower portion of the ileum. The mesenteric glands were enlarged and partially caseous. The involvement of the lungs was limited to a few recent miliary tubercles. The specimen presented consisted of the uterus and its appendages. The wall of the body of the uterus was 4 mm. in thickness, and its

inner 2 mm. was distinctly caseous and showed small areas of hemorrhage. The appendages were embedded in a mass of adhesions containing many tubercles. The Fallopian tubes were enlarged and contained caseous material. Only the surface of the ovaries was involved. The case was apparently one of primary intestinal tuberculosis with perforation and the formation a large fecal cavity, the process in the genital organs being secondary. The process in the uterus must have been a fairly old one, as shown by the extensive caseation.

A Case of Tuberculosis of the Bile Ducts and Solitary Tubercles of the Cerebrum.—Dr. Biggs also reported this case. The patient was a girl of three years. One year before death the child had had a sickness diagnosed by the attending physician as consumption. From this she apparently entirely recovered. Seven weeks before death the cough returned, and with it gradual loss of flesh. The physical signs were those of general bronchitis with scattered areas of broncho-pneumonia. The temperature did not go above 101.5° F. The day before death the patient had a convulsion with twitching of the entire left side of the body. At the autopsy, numerous tubercles were found in the kidneys, spleen, liver, lungs, and lymph nodes. The bronchi contained much muco-pus, and the lungs showed many areas of tuberculous broncho-pneumonia. In the brain there were two solitary tubercles, the larger of which measured 2.3 by 2 by 2 cm., and occupied the anterior portion of the left gyrus fornicatus. The smaller tubercle was in the left cuneate lobe. In addition to the distinct tubercles there were found throughout the liver many cysts 1 to 6 mm. in diametre, the contents of which were grumous material of greenish or yellow color. The gall bladder and larger bile ducts were normal. On microscopical examination the cyst walls showed typical tuberculous tissue. The presence of bile pigment and small remnants of mucous membrane proved the involvement of the bile ducts.

Dr. Northrup asked what was the condition of the bronchial lymph nodes in the first case.

Dr. Biggs replied that they were slightly enlarged, but were not tuberculous.

Dr. Northrup said that in two hundred cases of tuberculosis in infants and small children, collected by Dr. Bovaird and himself, there had been just three in which the evidence that the process was oldest in the mesenteric lymph nodes was manifest. He had presented a few specimens of tuberculous liver in infants in which it had been conspicuous that the bile ducts were very much thickened and dilated, and evidently the seat of tuberculosis. It did not seem to him that this class of lesions was unusual in infants.

A Case of Duodenal Ulcer of Embolic Origin.—Dr. Lewis A. Conner presented a specimen taken from a man of about forty-five years of age, who had sustained a traumatic amputation of the middle third of one leg. There was such serious infection that amputation at the knee had been done by Dr. Stimson at the Hudson Street Hospital. This wound had shown gaseous decomposition, but after severe infection lasting several days the man had recovered from the operation. After an interval of several days he had suddenly vomited enormous quantities of blood, and had died within a few hours. The termination of the case had been startling and most unexpected. At the autopsy a thrombosis of the entire length of the femoral vein had been discovered. This had been concealed during life by the dressing. There was also an embolus in a large branch of left pulmonary artery which, curiously enough, had given rise to no symptoms. In the duodenum immediately below the pyloric ring was a recent ulcer 3 cm. in diameter, and projecting from the centre of the base of the ulcer was a minute embolic plug completely filling the lumen of a small twig of the superior pancreatico-duodenal branch of the hepatic artery. The case was of unusual clinical interest, for the embolus, small enough to pass through the pulmonary capillaries, had found lodgment in the duodenal mucous membrane. The very large gastric hemorrhage seemed to him rather unusal in a case of duodenal ulcer. Again, this ulcer must have developed rather rapidly, because from the time of the accident to death was not more than three weeks. This ulcer must have formed and gone through the wall of the duodenum in the course of a few days. This was the second or third case of gastric or duodenal ulcer in which he had found an occluded artery in the base of the ulcer.

A Case of Large Carcinoma of the Prostate.—Dr. Conner also presented a soft carcinomatous tumor of the prostate taken from a man of seventy, who had died within a few hours after entering the hospital. He had presented symptoms of uræmia. A large, elastic tumor had been found in the right iliac region. At the autopsy the whole pelvis had been found filled with an encapsulated, lobulated elastic tumor, measuring 15 by 12 by 11 cm. The bladder had been lifted up out of the pelvis, and its mucous membrane was not involved in the growth. The rectum also had escaped. The kidneys were much diseased, and one ureter was dilated as a result of obstruction.

Dr. C. A. Herter said, with reference to thrombosed vessels in ulcers of the duodenum, that he did not think it at all uncommon to meet with hyaline thrombosis in vessels of ulcers of the stomach. He had seen these a number of times, and they seemed to play an important part in the formation of the ulcer.

Dr. I. Levin asked if there had been a complete obstruction of the urethra, and if the case was of uræmia from obstruction, or of coma connected with carcinoma.

Dr. Conner said that the kidneys showed that death had been unquestionably due to uræmia. There had been no retention of urine, and little or no obstruction in the urethra. The large mass in the right iliac fossa was an encapsulated metastasis. Metastatic growths were found along the retroperitoneal glands and in the bronchial lymph nodes.

A Case of Diabetic Coma.—Dr. C. A. Herter made some remarks on this case, which he had seen only at autopsy. The patient was a well-nourished woman about sixty years of age, who had entered the hospital in a stuporous state. She had soon become comatose. The urine contained a large amount of sugar. The case having been supposed to be one of diabetic coma, a quantity of sodium bicarbonate was infused into the venous system. The patient rallied slightly, but soon became comatose, and died within twenty-four hours. At the autopsy the brain showed considerable œdema. There was no thickening of the pia or any of the ordinary indications of chronic alcoholism. The lungs were normal. The heart muscle was pale. The liver weighed 1,617 gm. and was moderately fatty. The bile ducts were pervious. The pancreas was soft and very small, weighing only about half an ounce. The spleen was of medium size and appeared normal. The kidneys were large and pale, and the cortex was somewhat fatty. The suprarenals were normal. The urine in the bladder contained many granular and hyaline casts. The urine was examined with a view to ascertain whether all of the bases were neutralized by the known acids of the urine. If the bases were in excess, this excess must be due to the presence of organic acids in the urine, which had served to neutralize the bases. The blood and the cerebro-spinal fluid were also examined. The

simple atrophy of the pancreas was interesting. Of forty cases reported by Hansemann in which pancreatic disease coincided with diabetes, thirty-six were cases of simple atrophy of the pancreas. Dr. Herter said that his experience had been that simple atrophy was extremely common in diabetes. The proteids of the blood were removed by means of alcohol and the filtrate was treated with Fehling's solution. The result showed only a very small quantity of sugar. It had been thought for many years that the blood contained normally 0.1 to 0.3 per cent. of sugar, but these observations of Claude Bernard had been recently called in question, the reducing substance in the blood being thought to be not sugar but a substance called jecorin. It was probably an actual compound of dextrose with lecithin. If this theory were correct, it would explain why the blood normally contained no sugar, or only an exceedingly small percentage. The cerebro-spinal fluid showed more reducing substance than the blood, but it was not entirely clear that this substance was sugar. The urine contained 16.73 per cent. of the nitrogen of ammonia. This ammonia usually ran from 1 to 4 or 5 per cent. of the total nitrogen, varying somewhat with the diet. Such a high percentage of the nitrogen of ammonia, the urine not having undergone decomposition, indicated that the ammonia intended, under normal conditions, for synthesis with carbonic acid for the formation of urea, was diverted by the acids present, and was used for the neutralization of these acids. If this did not occur, death in coma would take place at a much earlier stage of diabetes. It was only when the quantity of acid was so great that the ammonia could not effect a neutralization that the acid took out the sodium, lessened the acidity of the blood, and led to coma. It was calculated that 10 gm. of oxybutyric acid and 33 gm. of sugar were excreted in twenty-four hours, thus making an enormous proportion of oxybutyric acid for the quantity of sugar present. In looking over other cases that he had studied, he found in one that there had been 20 per cent. nitrogen of ammonia and 25 gm. oxybutyric acid in twenty-four hours about one month before the patient went into coma, and the day before coma 21 per cent. of the nitrogen of ammonia and 23 gm. of oxybutyric acid. In a second case of coma the nitrogen of ammonia was 20.88 per cent. and the oxybutyric acid 27 gm. He had studied a few cases of diabetes in which coma had not occurred. One of these cases was now in Bellevue Hospital under Dr. Loomis' care. There were 27 per cent. of the nitrogen of ammonia and 24 gm. oxybutyric acid, and this had led him to give a bad prognosis, and on investigation he had found that the patient had been stuporous for the past few days. In another severe case there had been 16 gm. of oxybutyric acid and 20 per cent. of the nitrogen of ammonia. In still another case there had been 13 gm. of oxybutyric acid and 16 per cent. of nitrogen of ammonia. By changing the diet the nitrogen of ammonia had fallen to 11 per cent. and the oxybutyric acid to 8 gm. He had now under observation a case of diabetes that had lasted for fifteen years. At present there was about 5 per cent. of sugar in the urine. It contained 3.62 per cent. of nitrogen of ammonia and 1.8 gm. of oxybutyric acid. As there had been only a slight change in some months, the outlook was fairly good. Whenever the nitrogen of ammonia reached the neighborhood of 20 per cent. one must look out for coma. It was, however, a far less reliable index than the balancing of the acids and bases. This unreliability was particularly noticeable when the acid excreted was comparatively small in amount.

Dr. Conner asked if diacetic acid was no longer considered to be of importance in these cases.

Dr. Herter replied that he had said nothing about diacetic acid, because it was only one of the acids, and probably seldom amounted to more than 10 per cent. of the acids present. Unless the urine was very fresh it was impossible to study this acid. He believed beta-oxybutyric acid was the chief acid.

Primary Carcinoma of the Lung with Multiple Metastases.—Dr. E. Hodenpyl presented specimens from this case. The patient was a man fifty-five years old who had been previously well. He had been ill for five months with cough, dyspnœa, and pain in the left chest before coming under observation. There was dulness over the upper lobe of the left lung with very distant bronchial breathing and absence of voice and vocal fremitus. Puncture of the pleural cavity and examination of the sputum had proved negative. A diagnosis of probable tumor of the lung was made. The man had had two or three slight hæmoptyses. During the last month he had become delirious. At the autopsy a new growth had been found in the left lung. The costal pleura on that side was very greatly thickened, though not involved in the new growth. There was also a fairly acute pericarditis. The suprarenal capsules had been replaced by a new growth, and the pancreas was studded with large nodules. There was a new growth in the right occipital lobe of the brain. The other lung was entirely normal. Microscopical examination showed the growth to be a large alveolar carcinoma.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 12, 1901:

	Cases.	Deaths.
Tuberculosis	249	182
Typhoid fever	56	13
Scarlet fever	270	12
Measles	99	2
Diphtheria and croup	277	69
Smallpox	17	3

Tea and Coffee as a Cause of Insomnia.—Sir James Sawyer, Birmingham, Eng., lecturing recently on insomnia, said: "The effects of the consumption of tea and coffee in causing sleeplessness are well known. This effect is so obvious that patients usually remedy it for themselves. As you well know, tea in the form of an infusion or of a decoction is generally used in civilized countries as the daily beverage of the people. Tea leaves contain an alkaloid which has been called theine, and coffee seeds contain caffeine, and theine and caffeine have been shown to be identical, and both these leaves and these seeds contain only principles. With regard to tea what may be called its physical action appears to depend upon the joint action of its theine and of the volatile substance which tea leaves contain. What is called green tea is produced by drying the fresh leaves on a heated iron plate, until they become shrivelled; while black tea is manufactured by placing the leaves in heaps and allowing them so to lie while they undergo a kind of fermentation, after which they are dried. Green tea and black tea are powerful cerebral stimulants, exciting the mental faculties and the cerebral circulation, and tending to prevent sleep. Coffee, too, is a cerebral stimulant and antisoporific. It is sometimes used in need for these properties to counteract the effects of opium and its derivatives, and of other narcotic poisons. Some

people are extremely susceptible to the sleep-preventing effects of tea and coffee, others by use do not feel such effects, even when considerable quantities of the beverages are consumed. In all cases of bad sleeping you should make sure that tea or coffee is not taken to excess near bedtime."

The Neurotic Form of Enuresis.—This according to Amat (*Bull. gén. de thér.*, November 8, 1899) has several varieties and demands distinct treatment. In the first variety the vesical muscular fibres are too sensitive to distention; and although this is kept in check during the day by the will it leads to incontinence as soon as the patient drops asleep. The drugs indicated for the relief of this condition are the bromides, chloral, opium, belladonna, and antipyrin. In the second variety there is proper æsthesia of the vesical and urethral mucous membrane, a condition manifested by the passage of a catheter, and which is best treated by the ammonio-sulphate of copper. In a third variety the vesical sphincter is not irritable but weak, as shown by the ease with which a catheter passes through the membranous portion of the urethra. For the relief of this condition strychnine, rhus aromaticus, and more especially electricity are indicated.

Formaldehyde Gas for Disinfecting Books in Libraries.—For some time the belief has been current, doubtless not without good foundation, that diseases are contracted by handling books in public, which have become infected with the germs of some disease. The New Jersey authorities have been the first to take preventive steps, owing to a case of scarlet fever, which had been shown to be transmitted by the agency of a book in a travelling-library. Professor Mitchell, of the New Jersey State board of health, has been conducting a number of experiments with formaldehyde gas, using kindergarten toys and public school books, and so far it has been found the surest destroyer of microbes, working quickly and effectively. This has been demonstrated to the satisfaction of the experimenters, but the experiments are being continued to discover what is the least amount of the formaldehyde gas that can safely be used, not only to kill the germs, but to make the books germ-proof, at least for a time.

Mental Disease and Toxæmia.—Sir S. Dyce Duckworth lecturing on the above subject says: "Mental health must surely be dependent on the integrity of the brain cells and neurons. Psychic endowment, no less than ordinary nerve energy, requires a normal condition of the machinery for its functions. The nuclei of the myriad cells, as physiological centres, their plasmic environments, the processes of their cell, their fibres, and their collaterals must be intact, and the subtle metabolism at once securing nutrition and dispensing energy may not be disturbed or prevented without manifest disturbance of psychic and ordinary nervous rhythm." Sir Dyce Duckworth then went on to describe the various phases of mental disorder which depend on the toxæmic states, and said that the origin of the toxins by which they are caused is at least threefold. They may be said to be generated within the body (auto-intoxicants) or by the malign working of microbes introduced from without, or by impregnation with poisons of various kinds, including those resulting from habits of alcoholism, chloralism, cocainism, and morphinism. In the majority of cases of insanity, probably, there is a hereditary predisposition to the disorder, but in some cases a previously normal brain may be so damaged by toxic influences as to a manifest aberration, as may be seen in the varied forms of uræmia, in the autotoxy of diabetic coma, or in that which depends on acute atrophy of the liver. The effects of these auto-intoxications are as certain as those of poisons taken by the mouth or hypodermically, and the chemical functions of the brain cell are disordered in precisely the same manner.—*Hospital.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended January 11, 1901:

		Cases.	Deaths.
Smallpox—United States.			
Alabama, Girard	December 31st	*	
Phœnix	December 31st	*	
District of Columbia, Washington	December 29th to January 5th	6	
Florida, Jacksonville	December 29th to January 5th	1	
West Tampa	December 29th to January 5th	2	
Georgia, Columbus	December 31st	*	
Kansas, Wichita	December 29th to January 5th	12	
Kentucky, Lexington	December 29th to January 5th	2	
Louisiana, Shreveport	January 2d	2	
Maryland, Baltimore	December 29th to January 5th	1	
Minnesota, Minneapolis	December 22d to 29th	3	
Nebraska, Omaha	December 22d to 29th	6	
N. Hampshire, Manchester	December 29th to January 5th	18	
New York, New York	December 29th to January 5th	13	
N. Carolina, Caswell Co	December 21st to 31st	77	
Ohio, Ashtabula	December 29th to January 5th	1	
Cincinnati	January 4th	1	
Cleveland	December 29th to January 5th	39	1
Portsmouth	January 5th	3	
Pennsylvania, Allegheny City	January 7th	1	
Pittsburg	December 29th to January 5th	11	
South Carolina, Greenville	December 29th	1	
Tennessee, Memphis	December 29th to January 5th	2	
Utah, Salt Lake City	December 29th to January 5th	34	
Washington, Tacoma	December 29th	1	
* Reported present.			
Smallpox—Foreign.			
Austria, Prague	December 8th to 15th	22	
British Columbia, Nanaimo	December 15th to 21st	3	
Vancouver	December 21st to 31st	2	
England, London	December 15th to 22d	1	
West Hartlepool	December 9th to 15th	1	
France, Paris	December 15th to 22d	..	8
India, Bombay	November 21st to December 4th	..	1
Calcutta	November 24th to December 1st	..	7
Madras	November 23d to 30th	..	1
Russia, Moscow	December 29th to January 5th	6	1
Odessa	December 8th to 15th	41	10
Scotland, Glasgow	December 15th to 22d	72	1
Uruguay, Montevideo	December 1st	1	
Yellow Fever.			
Colombia, Cartagena	December 17th	..	1
Cuba, Cienfuegos	January 8th	..	1
Matanzas	January 3d	1	
Mexico, Vera Cruz	December 22d to 29th	..	5
Cholera.			
India, Bombay	December 4th	..	10
Calcutta	December 1st	..	33
Madras	November 30th	..	3
Straits Settlements, Singapore	November 17th to 24th	..	64
Plague.			
China, Hong Kong	November 25th	..	1
India, Bombay	December 4th	..	70
Calcutta	December 1st	..	23
Japan, Osaka	December 4th to 13th	3	
Wakayama Ken	December 4th to 13th	5	
Yuasa	December 4th to 13th	Reported.	

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. By William H. Howell, M.D. Royal octavo, 553 pages. Illustrated. W. B. Saunders, Philadelphia, Pa.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY, 1900. 8vo, 552 pages. Illustrated. Vol. XXIV.

STATE BOARD OF HEALTH OF MASSACHUSETTS. 8vo, 824 pages. Wright & Potter Printing Company, Boston, Mass.

A MANUAL OF MEDICINE. By W. H. Allchin, M.D. 8vo, 380 pages. Illustrated. The Macmillan Company, New York.

ON SOME CIRRHOSES OF THE LIVER. By Walter Butler Cheadle, M.D. 12mo, 109 pages. With illustrations. Smith, Elder & Co., London.

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Original Articles.

EARLY DIAGNOSIS OF MAMMARY TUMORS.[1]

BY GEORGE F. SHRADY, M.D.,

NEW YORK.

THE necessity for making an early and accurate diagnosis of a suspected malignant tumor cannot be too strongly urged. In advanced cases of carcinoma there need be no question as to positiveness regarding their nature, but then, oftentimes, the suggested remedy is too late for hopeful application. It is for lack of appreciation of the initiatory signs of malignancy in a given growth that the general practitioner, who is first consulted, postpones his opportunity until he is forced to see that he has been misled from the start. Particularly is this condition of affairs manifest in the frequently occurring tumors of the breast which, in doubtful conditions, present so many puzzling questions for ready answers.

In the effort to give a somewhat practical turn to a part of the subject, to which more attention may be directed than is ordinarily given, I purpose to discuss partly on the basis of personal experience some of the debatable points which so frequently stand between positive opinions regarding benignancy on the one hand and malignancy on the other. While we are forced to admit, on general principles, that all mammary tumors are bad, and that the majority of apparently harmless ones turn out disastrously, there is still a reasonable number that are innocent in character from beginning to end. The greatest question of all in this discussion hinges upon the possibility of drawing the dividing line in its proper place. This is as important in regard to the earliest possible operation that can be made in a doubtful and threatening growth, as in those fewer cases in which the patient can be assured of safety without such radical treatment. We thus span also the border line between the extremes of positive declaration that an operation may be unnecessary on one hand or useless on the other. When the most experienced surgeons are liable at times to err in this particular, it proves the more that the general practitioner should not trust to ordinary generalizations in offering opinions. Although it is a good rule to refer all morbid growths to experts, he can often, by appreciating certain salient clinical features, avoid positive contradiction in the final verdict, or, at least, save himself the mortification of being charged with neglect in allowing malignancy to entrench itself under his very eye.

If we start with the study of a well-developed cancer of the breast, we can perhaps obtain a working basis for comparison with similar growths minus the malignancy. There are the growing stony tumor embedded in the gland substance, the puckered adherent skin, the characteristic orange-peel look of the latter, the retracted nipple, and the enlarged axillary glands. Every one should know the nature of such a disease when fully developed so soon as he sees it. But it is the condition short of this in one particular or another, that causes the careful man to stop and think. There is nothing to help his conclusion beyond the growth itself. In incipient carcinoma there is no diathesis present that can give him a desired clew, as all varieties of temperament and of physique are on a common plane of predisposition. It is the absence of all the cardinal marks of cancer save tumor that may often argue for benignancy. Upon a decision pro or con depends the saving of the breast by simple removal of the growth or cutting away breast, axillary glands, and all contiguous tissue. If we preserve the mamma when it can be done, everything is saved for patient and surgeon. It is perfectly legitimate to aim at such a possibility, although it is never allowable to shut our eyes to sterner facts in other directions.

There is, of course, much to influence us in the diagnostic way in reference to age, although all tumors in old women are not necessarily malignant. The fact is exceptional, it is true, but the interest in the present study is precisely in such directions. One patient of mine dying at seventy-five years of renal trouble carried a fibro-glandular tumor for thirty years, the growth undergoing no degenerative change during that period. Similar cases have occurred in the practice of others.

Chronic circumscribed mastitis, although it takes its place in the list of innocent infiltrations, is often mistaken by the novice for a more serious trouble, but generally speaking its distinctive marks can be readily recognized. It is the only form of so-styled tumor which does not respond to the tumor test. There is an increase of substance; it is irregular, nodular, diffusive, often multiple, but conveys no sense of projection and condensation to the gentle pressure of the outspread hand upon the breast surface. This fact may be explained, in part at least, on the score that the conditions of difference between the sound and the affected parts are those of degree rather than of kind. Then, again, separate involvement of different areas of breast tissue is never the rule in cancer. Curiously enough, grasping the affected parts laterally gives a distinct impression of more or less extensively diffused and increased hardness, which is always the cause of great anxiety to the patient when the real cause of the phenomenon cannot be reasonably explained. A proper diagnosis generally depends upon the fact whether or not the induration is more or less isolated and tends to increase. In the former case there is always a suspicion of incipient malignancy, especially if the swelling increases in a patient who has passed the climacteric. Exceptions to this rule are, however, generally allowable when the infiltration is centred around the site of an old abscess scar or a discharging breast sinus. It is in these single and more or less circumscribed deposits that cancer is said to develop so frequently. This fact would appear to give color to the probability that, instead of malignancy having been induced by mere interstitial changes, it was such from the beginning. If the contrary view obtained, that a confessedly innocent infiltration always invites cancerous deposit, there would be no law against a simultaneous malignant invasion of the separate indurations having similar conditions of receptivity. I

[1] Read at the meeting of the Practitioners' Society, January 4, 1901.

have never seen cancer develop in a breast in which distinctly isolated points of induration have existed, although such occurrences have been noted by others. The latter fact, however, is no argument against the supposition that the particular malignant growth may be entirely independent of a benign growth in the same or other breast.

Another point worthy of note in this connection is that mastitis, when quiescent for months, seldom takes a distinct neoplastic tendency afterward. I can recollect no exception to this rule in my experience. Clinically speaking, simple chronic interstitial mastitis as such has not shown any disposition, so far as my observation has gone, to convert itself into carcinoma. It has always seemed to me that it should be one thing or the other from the very inception of the trouble.

As there are no clinical means of distinguishing a fresh patch of mastitis from a commencing carcinoma, the only way to clear up doubts in either direction is to study the case carefully and note whether or not there is any progressive development of the affected part. "In no branch of morbid pathology," says Sheild, "are mistakes more commonly committed by too confident observers than in this," and he further states that in doubtful cases even the microscope may fail to draw the line between actual benignancy and commencing malignancy, especially when the epithelium of the tubules or acini shows a disposition to cell proliferation.

It is a pity that we have no means of prognosticating such cases on the basis of what may be called a cancerous predisposition. Heredity does not help us much in this direct line of inquiry, although on general principles it should give us a reasonable hope of answering a difficult question. The theory of parasitic origin is far from being substantiated. The only arguments in its favor are those of analogy. The disease is not communicable. So far as we know at present, it originates locally in isolated areas, and certain collections of epithelial cells are seized with an insanity of proliferation which defies all ordinary laws of control. Many authors ascribe this proclivity to purely protoplasmic influences, as if in our present state of knowledge that could mean anything more than a virtual admission of our inability to explain anything. It is merely another way of admitting the embryonal origin of the process which nevertheless is involved in like obscurity as to relations of cause and effect. Thus far we know merely that embryonal cells have multiplying powers of their own, their malignancy being in proportion to the low scale of their development. It is not, however, the purpose of this paper to discuss questions of pathology except in an incidental way so far as they may explain some of the difficulties in early diagnosis.

Adenomatous tumors of the breast, occurring as they do mostly in younger women, are typically benignant growths. Being more condensed and circumscribed than the contiguous mammary tissue, they always respond to the tumor test. Although they are sometimes deeply and firmly incorporated with the gland substance, they are usually quite movable under smooth and healthy tissue. This ofttimes multiple character is also significant of their comparative harmlessness, as well as their ready and painful responsiveness to menstrual impressions, and above all their very slow growth. While the presence of these negative features regarding the suspicion of malignancy are significant enough in typical cases, there is in the doubtful ones, in which leading signs are wanting, often much difficulty in making positive diagnoses. This condition applies most particularly to the more or less embedded and fixed varieties. Often a definite opinion in such cases hinges upon the demonstration of the disconnection of the tumor with the gland proper. Although this may not always be possible, I am convinced that it can be done in most instances by firmly steadying the breast and by making efforts to move the growth independently in different lateral planes. Even in the stalked and embedded fibro-adenomata there are generally one or more directions in which limited mobility can be obtained when the growth can be fairly grasped and isolated. It can easily be seen that this diagnostic sign is not common either to cystic growths or to chronic mammary infiltrations and certainly not to carcinomatous deposits. The only exceptions that occur to me are those of lipoma and enchondroma, which, besides being very rare, have other characteristics not easily escaping ordinary observation.

The fibro-neuromatous tumors, which for benignancy may be classed with the adenomata, are not of common occurrence, are generally of small size, have severe pain as a leading element, and, so far as I know to the contrary, are always superficial and very freely movable under healthy skin. It would hardly be conceived that any error in diagnosis should be made in such cases, although I call to mind two instances in which amputation of the breast was resorted to for supposed cancer.

It is with the likewise embedded cystic tumors, however, that the greatest difficulties in diagnosis are often encountered. While it must be admitted that the only absolute test of correct opinion is the aspirating-needle and the withdrawal of fluid, there are other points to be considered in connection with physical signs which if not equally conclusive are in their way strongly corroborative of suspected conditions. With a typical retention cyst, it is easy to understand why it should have a more or less globular form and why pressure on its most prominent projection should give a peculiar and significantly elastic feel. The latter symptom, apart from the aspiration, is a characteristic and extremely valuable diagnostic sign. It is never obtained, so far as I can attest, by other than this direct form of intercepted pressure. Sometimes it is entirely absent, especially when the growth is very deeply situated, and occasionally under such conditions even aspiration fails to find fluid. Almost every surgeon of large experience has met with dry taps under such circumstances. In the discussion of Dr. Bull's paper on cystic tumors of the breast, recently held before this society, such cases were related. Dr. McBurney gave instances in point. In one he was so sure of carcinoma that aspiration was not deemed necessary, and in another a careful preliminary exploration with the needle was without result. I have had a like experience in similar cases.

Why aspiration should sometimes fail it is somewhat difficult to explain. Probably in certain cases even a good-sized needle may be plugged by a punched-out portion of a thick cyst wall or clogged by densely viscid fluid, and in others the cyst itself may be simply transfixed or skirted by a too deeply plunged needle.

Taking chances, however, of occasional failure in the procedure mentioned, it is not likely that all the other significant signs of cyst are absent. In one instance of "dry tap" the marked globular shape of the tumor when the patient was under ether very effectually confirmed my previous suspicion of its real nature.

It is well to recollect in this connection that a discharge of yellow fluid from the nipple is a very important item in cystic disease, as is also the occasional rapid disappearance of the swelling. This is probably due to a more or less direct communication with adjacent ducts which when obstructed from any cause may give opportunity for a reaccumulation of fluid. Sheild is of the opinion that "sudden alteration in

volume of a tumor of the breast is always a sign of cystic formation." I have noted two instances of disappearance of retention cysts, in one of which it was clearly due to rupture of the wall by direct injury to the part. It need not be mentioned that all cysts are not necessarily benign in character. We meet with them in the villous and soft forms of cancer, as well as in sarcoma, and occasionally an ordinary retention cyst will develop malignant degeneration in the inner surface or in the substance of its walls. Under such circumstances the fluid is almost invariably either deeply tinged with blood or contains decomposing or broken-down tissue material. Encountering one such case years ago has influenced me in advising the resection of the cyst wall in all doubtful cases, rather than the simpler and more generally practised method of aspiration.

Sarcomata of the breast, comparatively infrequent in themselves, are very apt in one way or another to compass many of the physical characters of the benign growths. In their inception they may closely resemble embedded adenomata in firmness, shape, and outline; the only elements of suspicious malignancy being their composite character, rapid growth, multiple cyst formation, and their irregular and boggy softening. In the latter respect they resemble soft carcinomata, although these forms of cancer usually break down in their centres only. It would hardly be supposed that these softened areas would be mistaken for single or multiple abscesses, although they are known to have been freely incised on such a presumption. Palpation, as a rule, does not give any distinct sense of fluctuation, but rather a mushy and yielding feel that is quite characteristic when once it is duly appreciated. Then, again, aspiration quickly discloses the true nature of the pathological process of neoplastic changes.

When we admit the fact on one hand of the breast having been extirpated for cancer when a mere chronic abscess existed, and on the other hand of acute suppurating carcinoma having been allowed to go to the bad without operative interference, we are impressed with the necessity of more accurate study of their differentiating conditions. It is generally admitted that in obscure cases of abscess the diagnosis is often extremely difficult. The symptom of fluctuation which is associated with suppuration is in the deep abscesses often entirely absent. The expansive and irregular infiltration of the tumor usually gives the impression of another and more significant process. The persistence of the tumescence without elevation of temperature or marked tenderness on pressure are suspicious circumstances of grave import, especially in older women who may be past the climacteric period. Even the pitting of the overlying skin by finger pressure—the pathognomonic sign of suppuration—may be wanting, as well as the abrasion or crack in the nipple which so commonly offers an entrance for the primary infection. As a rule, however, there is always more or less throbbing pain, and the skin of the affected part is more or less œdematous. Of course, the absolute necessity of aspiration in order to clear up all suspicions of imprisoned pus need not be urged.

In studying the question from the standpoint of excluding malignancy we may also view the situation in a more or less practical way by noting such inclusive phenomena as may justly arouse suspicions in opposite directions. It is then that we can duly appreciate the true significance of those initiative signs which give us our first warnings of the gravity of any given case. Among these I would class the dimpling of the breast, often the first thing noticed by the patient, as perhaps the most significant of all the early physical phenomena of cancer. In the large majority of cases it is always present and when found is in itself almost pathognomonic. The nipple at this stage is not involved, as a rule, nor is the overlying skin otherwise implicated in the usually puckered way, as it is later on. Not very infrequently this indentation of the skin due to the involvement of the fibrous processes, which radiate in different directions of the healthy gland, is restricted to the nipple, thus accounting for retraction of that organ as an exceptionally early symptom. The depth of the growth is seemingly no bar to the development of the dimple in question, as in many cancers which have a submammary origin it is very plainly manifested.

Regarding the tumor test in these cases it may be said in general terms that almost invariably it can be clearly demonstrated by placing the patient in the recumbent position and stroking the breast with the flat of the hand. From personal experience I am able to state that I have never yet failed to detect a carcinomatous tumor in any portion of the breast when this important means of diagnosis was carefully applied.

The hard fixed tumor as associated with the condition named and the occasionally darting pains are, in my experience, the earliest possible signs of cancer that are usually called to the notice of the general practitioner by the anxious patient. The latter, as a rule, generally discovers them very accidentally. She comes to him for advice and comfort, and he very often gives both, to her utter detriment. Neither party to the contract wishes to believe in grave outlooks, and both are content merely to watch and wait for future developments. The results are such as are often seen by the surgeon when on his first consultation he recognizes the widespread character of the disease and its comparative hopelessness of cure by operation.

Enlarged axillary glands, valuable as are their indications of cancerous infiltrations, are not in themselves of special or absolute value in a strictly diagnostic sense, inasmuch as we see them in chronic mastitis, abscess, chancre of nipple, simple eczema of the latter organ, and even in adenomata and inflamed cysts. Generally, however, in advanced cases of carcinoma, when the nodules are significantly corroborative elements of diagnosis, there is not that degree of sensitiveness on handling that is noted with the more innocent involvement of these parts. Besides, they do not give the impression of such distinct hardness, fixidity, and chain-like arrangement as in malignant cases.

Although this condition cannot, by itself, be classed among the first signs of malignancy, the deeper portions of the axilla are usually very early involved, notwithstanding the enlarged glands may not be felt at the time. In fact, we have no means of proving how soon the infiltration may take place in any given instance. Under some circumstances it would appear to be an almost simultaneous involvement with that of the gland itself.

This, after all that can be said on the subject on hand, brings us to the true moral of our story. It is re-emphasizing the necessity of early and accurate diagnosis in all cases of breast tumors. Mammary growths, as a class, can never be trusted. The weight of evidence is so strongly on the side of malignancy, threatened or pronounced, that no conscientious practitioner can afford to have any doubts as to the responsibilities he should assume. There is hardly a "simple tumor," so called, which, when discovered in the breast, may not eventually become malignant. The man who takes the chance of an exception to this rule must of necessity be very sure of his ground. On such a possibility all rational and timely treatment necessarily depends. No question of diagnosis in any other disease has a more practical bearing on ultimate results. Fully ninety per cent. of

breast tumors in older women are probably malignant, and the remaining ten per cent. are very objectionable tenants. A mammary neoplasm is bad company, no matter how we may argue to the contrary. It is the leaven in the lump which may at any time assert itself.

If it were necessary to emphasize any further the necessity for accurate diagnosis in each individual case, it should be added that the surgeon who is to operate should, above all others, place himself beyond the chance of possible error. The only absolutely sure way to do this is by an exploratory examination of every tumor before its actual extirpation is attempted. This is the rule with every careful operator. No matter how plain the case may appear to be, there is no argument against being doubly sure. In one instance, when no doubt as to correctness of diagnosis seemed possible, when the stony fixed tumor was there, when the skin was dimpled, when the axillary glands were enlarged, and when even previous aspiration was a cheat and a snare, I have happily by such means saved a condemned breast by the simple enucleation of an inflamed, thickly walled, and deeply embedded cyst.

The strongest side of the argument for safety is the removal of all growths, whether in young or old. It is only a question of saving the breast in the case of benign tumors, and of sacrificing the entire organ and its varied lymphatic connections on the other. Even in adenomata there are the best of reasons for this course, considering the oftentimes great suffering during the parturient and lactating periods, and the additional fact that the subsequent engrafting of malignancy is by no means an absolute impossibility. No tumor of the breast can be considered a trivial affair. The first thought of the victim is that of probable cancer, and in the great majority of instances, with age on the side of the argument, her suspicion is reasonably well founded. The main obstacle to the definite settlement of the question is the family physician himself, who too often calms reasonable fears and postpones judgment until the disease entrenches itself beyond the hope of its radical and absolute conquest. Thus the chance of the earliest possible diagnosis is denied the anxious patient and the first irretrievable step is taken toward an utterly hopeless prognosis.

8 East Sixty-sixth Street.

SOME FURTHER WORK ON THE MOSQUITO-MALARIA THEORY, WITH SPECIAL REFERENCE TO CONDITIONS AROUND NEW YORK.[1]

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The capacity of mosquitos (or "gnats") of the genus Anopheles to convey the parasites of malaria from man to man is now conceded. The history of the discovery and the biology of the process have been written and rewritten. The object of this paper is not to reiterate these well-known facts, but to describe some fragmentary work of my own during the past season (in so far as the results of it bear usefully on the facts already known), and to comment on the conditions peculiar to the environment of New York. My paper will touch on (1) the local species of Anopheles and their natural history. (2) Inoculation experiments. (3) The incubation period of malaria. (4) Prophylaxis and eradication of the malaria endemic in our own locality.

First. The general biology of the American Anopheles has been already admirably set forth in an exhaustive publication by the Entomologist of the Department of Agriculture, Dr. L. O. Howard.[1] This bulletin—No. 25, New Series—left nothing of importance to be added up to the date of its issue last August.

Of the three species of Anopheles native to North America and described in this pamphlet, I have found two around New York, A. quadrimaculatus Wiedemann and A. punctipennis Say.

As regards the names, A. quadrimaculatus is the same mosquito, apparently, as A. maculipennis Meigen and A. claviger Fabricius. Ficalbi,[2] whose devotion to the scientific study of mosquitos has recently produced two exhaustive and useful volumes, appears to make out a fair claim to priority for the name claviger given by Fabricius in 1805. It would save confusion to allow this claim at once and drop the wasteful and ridiculous excess of names we are using. As a physician, however, I have no part or lot in a controversy about zoological names.

The structural differences between Culex and Anopheles should now be familiar everywhere. A good working rule is that Anopheles has palpi as long as the proboscis, and (what is perfectly true for our local species) spotted wings. As regards the angle made by the body of the resting insect with the wall, I have given the matter some original study, and I believe that a degree of inclination is generally present, but not, in our species, so marked as has been claimed. When resting on a perpendicular wall Anopheles will often incline its body at an angle of 15° or 20° with the wall, but more than 45° is rare, particularly with A. quadrimaculatus. A. punctipennis hangs, as I have observed it, at a somewhat greater angle than A. quadrimaculatus; but, unfortunately, certain of the Culex species, particularly when well-fed and hanging from ceilings, sometimes assume the same posture, and relying on this sign alone, I have not infrequently caught Culex for Anopheles, discovering the error only when I had a bright enough light to see the palpi or wings.

Anopheles was never found without Culex, oftenest C. pungens; rarely C. tæniorhyncus. A. punctipennis is abundant in certain parts of Bronx Borough (particularly Jerome Park). A. quadrimaculatus appears to be universally distributed in our suburbs. Since I learned how and where to look for it, I have found it nearly coextensive with all the cases of fresh malaria that I had leisure to go and look into. It was present in such widely separated places as Passaic, N. J., Tuxedo, N. Y., Fordham, and Jerome Park. Dr. Robert T. Morris informs me that he observed it in Mt. Vernon, November 18, 1899; and many beautiful specimens, both male and female, were kindly sent me all the way from Easthampton, Long Island, by Dr. Fred. P. Solley.

In respect of Easthampton it ought to be at once stated, on Dr. Solley's authority, that till last summer no native malaria has been known there for many summers past, in spite of the large number of malarial mosquitos. This admits of two explanations: one, that no malarial case has been recently imported there to start an infection among the mosquitos; another, that the nights are cold. The residents of the town are said to sleep under blankets all summer; and if this is so, the night temperature must be considerably below the minimum (77° F.) at which the malarial

[1] Read before the Section on Medicine, New York Academy of Medicine, January 15, 1901.

[1] Prof. B. Grassi's recent book, "Studi di un Zoologo sulla Malaria," is said to be equally valuable for the Italian species. I have seen only reviews of it. Ficalbi's "Revisione Systematica delle Culicidæ Europee," Firenze, 1896, is a work of vast scope, covering the whole European Culicidæ. Papers by Dr. Albert Woldert in the Journal of the Am. Med. Assoc., 1900, are also of great value in practical work.

[2] Ficalbi: "Venti Specie di Zanzare (Culicidæ) Italiane," Firenze, 1899, p. 93.

bodies are believed to develop in the stomach of the mosquito.[1]

The same conditions have been often observed in Italy,[2] and in the East Indies.[3]

It ought to be mentioned also in fairness that I could in three cases find no Anopheles either in houses or vicinities where fresh cases of chills and fever had recently developed. Two of these cases were kindly shown me by Dr. N. B. Van Etten, of Tremont, and a third by Dr. F. W. Shipman, of Mt. Vernon. Two afternoons were spent in trying to discover adult or larval Anopheles in or around the houses in question, but neither could be found. Newly made streets were near at hand, however, and the up-turned and ill-drained soil could have easily caused rain-pools of long enough duration to hatch one set of eggs. Moreover, judging by the accounts of the workers on the British Malaria Expedition to West Africa, who usually found Anopheles absent from houses in the daytime, my success in all the other cases was hardly to have been looked for.

As to *habitat*, Anopheles was found always in buildings, oftenest on the walls and ceilings of recently used bedrooms, and far most abundantly in the foul and ill-ventilated bedrooms of the poor—among whom, it is needless to say, malaria works its greatest mischief. The house females were usually gorged with blood, and sluggish enough to be easily caught. They were numerous in old-fashioned latrines.

For weeks and weeks I have looked for the adults out of doors—along the margins of pools, in damp rushes, and under trees near houses where they were numerous. They were never to be found—having apparently nothing of the daytime voracity that makes Culex such an intolerable pest. The males I found were caught in houses also. They were usually present in the proportion of about one to twenty females—sometimes absent entirely for several days during those parts of the day when I could look for them.

How early in our spring the females begin to bite is uncertain; for those that have found a warm berth during the winter in a tight cellar or a greenhouse the early March sunshine is probably stimulus enough. The following case is presumptive evidence.

A. N——, forty-nine years old, a shrewd old German gardener, from Larchmont-on-the-Sound; he was positive he had not had a day's illness with chills and fever for eight years. On the 16th of last March he was taken with a severe chill, and a few days later I found characteristic tertian parasites in his blood in vast numbers. My theory is that he had been stung by mosquitos in his bedroom or greenhouse about two weeks before his first chill, let us say March 1st. Of course, if any one disputes this and thinks the attack was a relapse, I have nothing to allege in answer except the patient's own history.

An immense number of these cases in early spring are undoubtedly "hold-overs" from the year previous. Indeed, so far as I have examined the literature, there is very scanty evidence that Anopheles infected in the fall retains its parasites in a viable condition through the winter. Gosio[4] and many other Italian observers have not found a true case of primary infection before June 15th, when new-born Anopheles had had time to develop parasites from the relapsing cases of the year previous.

As to how late in the fall Anopheles is still to be found, Dr. Morris' observation has just been quoted. I found them still in one house in the Bronx on November 6th—one or two males also. On Christmas day, in a draughty, cold underground cellar (temperature about 40° F.) in the yard of the same house, I caught a dozen or more—all females—mostly punctipennis, a few quadrimaculatus. They were in complete hibernation, and had to be knocked from the wall as though dead, but in a glass tube under the warmth of the hand they revived. I looked in vain on that day for males. So far as I know, the hypothesis of the Italian workers, that only fertilized females survive the winter, is true.[1] On January 13, 1901, in the same cellar females were still numerous—no males.

I append here some notes on a large batch of Anopheles quadrimaculatus reared from the egg in the city last August. Artificial conditions vary so from the natural that such data are only of relative value. These I give for what they are worth. Gravid females were confined in a wine bottle with a little faucet water, Saturday, 11th August. Larvæ were found active Tuesday the 14th. On the evening of August 29th or morning of the 30th, the first pupa appeared, and on the evening of the 31st, the first imago (male). The second pupa (31st August) died; the third pupa appeared on the 2d of September, A.M.; the third imago on the 4th of September, A.M.

The weather for the most of August was damp and intensely hot. The larvæ received nothing to eat for the first few days. In this time they fairly gutted the dead bodies of several adult females accidentally left in the dish with them. They afterward fed well on green ooze (algæ) and almost any kind of slime from stagnant frog-ponds.

The time from egg to adult thus observed is certainly not more than nineteen days. Better food and care of the larvæ would doubtless have further shortened the period. In natural pools in midsummer with us, the eggs probably develop fully in twelve to fifteen days. For Italy and the tropics the interval is doubtless further shortened, though breeding experiments described by Ficalbi (*l.c.*) were slower than mine.

A curious fact in the dietology of Culex is that, particularly on Long Island and the Connecticut shore, vast swarms of male insects appear around dwellings at times and completely cover a portico or fill a room or an out-house. These are called by the laity "fuzz-bills," and are well known to be perfectly harmless, never biting. I have not been able to find out that this has ever been noticed with males of the genus Anopheles.

Second. Inoculation experiments. As to the several species of malarial parasite endemic in and around New York, some useful observations have been published by Dr. F. P. Solley (Presbyterian Hospital Reports, 1898). Dr. Solley's account is incomplete in respect of the æstivo-autumnal infections, which are by no means rare. Among the laborers on the Jerome Park reservoir alone, I found a houseful of them.[2] The tertian cases are the commonest, the quartans being so rare among us that I have not been able to satisfy myself of a single authentic attack. As compared with the tropical cases all our local fevers are benign. They are, however, often prostrating, and usually hard to cure, relapsing readily if the remedies are too soon laid by, and often reducing strong men to an extremity of wretchedness and anæmia. The crescents are usually uninfluenced by quinine.

The new classifications of the malarial parasite promise to work much improvement in our knowledge; they are, however, as yet unsettled, and in this paper

[1] R. Koch: Deutsche med. Woch., September, 1899; Celli: Supp. al Policlinico, No. 48, 1900. The latter does not yet consider the minimal temperature definitely settled.

[2] Celli: *L.c.*

[3] R Koch: Deutsche med. Woch., 1900.

[4] Il Policlinico, April and May, 1900.

[1] The wonder is that any of them can survive the intensity of northern winters. The Rev. Gilbert White was gently urging this question over a century ago: "Why the juices in the small bodies and smaller limbs of such minute beings are not frozen, is a matter of curious inquiry."—"Natural History of Selborne."

[2] See also Dr. G. L. Peabody, MEDICAL RECORD, January 5, 1901.

I have used only the old terms. The next Zoological Congress will perhaps agree upon a single set of names.

The main aim of my inoculation work has been to ascertain what species of our native Anopheles carry the specific germs of the several forms of our native malaria. The work has been prosecuted among many interruptions, and I have had to attend to every detail of it in person, being without an assistant. Very modest claims are made for its value. It is recounted principally in the hope that other men may be induced to take up the questions raised, and assist in bringing them to a satisfactory conclusion.

For avoidance of error the following rules were adopted. No mosquitos should be used except those that had been reared from the egg or that had been confined long enough after being at large to give ample time for earlier accidental infections from man, birds, or other animals, to disappear as coccidium bodies from the stomach wall. Inoculated mosquitos were incubated at a temperature of 80°–85° F., and fed when necessary on cane-sugar solution. They were found to live most quietly in partly lighted incubators, and were confined in large test-tubes an inch in diameter, stopped with absorbent cotton. The sugar solution was supplied on small swabs, the insect being thus much less likely to get legs or wings stuck while feeding. Dissections were mostly made on the third to the fifth day after the bite. Both the local species were used. I succeeded after repeated experiments in inoculating A. quadrimaculatus with the tertian parasite. Three bites gotten from a man with a moderate number of crescents all failed. Dr. W. S. Thayer has already announced successful inoculations of A. quadrimaculatus with tertian and crescent parasites at Johns Hopkins Hospital.[1]—Of my stock of home-bred mosquitos an immense majority of those finally reaching the imago stage were males; of the females that would bite none "took."

With the first cold nights in the early fall the number of available hospital patients fell off rapidly, and it became much harder, even after a week's starvation, to make the mosquitos bite. Further work had, therefore, to be put off till next summer.

Coccidium bodies and infected glands were very hard to find in gorged mosquitos caught in rooms where fresh malarial cases had been sleeping—only one infection in about sixty dissections. In expectation of better success later, nothing was generally used in the earlier dissections except decinormal salt solution, and consequently some beautiful stomach infections spoiled before either drawings or photographs were made.

I felt discouraged at the small number of positive results, and went back to further study of the literature to find the cause. It was about this time that the first report of the commission from the Liverpool School to Sierra Leone came to my hands, and I was consoled to learn that the British workers had had precisely the same trouble. They offer several explanations. One is that certain Anopheles enjoy a natural immunity. Another and, I think, more correct reason, is that the conditions of the experimental bite are too artificial. To the mooted question I would add that in the tertian cases around New York, the sexual forms of the parasite (the "gametes") are undoubtedly rare, even in chronic and relapsing cases in which they are commonly said to be abundant, and that the use of quinine by the laity is so common that many of the parasites are already moribund before the patient comes to the experimenter's hands. I also hazard the conjecture that the gametes may be more numerous in the peripheral blood by night than by day. I have not, unfortunately, had the leisure at night to make any of the laborious studies that would be necessary to prove this.

[1] Philadelphia Med. Journal, May 5, 1900.

No one can realize without experience how much labor, time, and patience have to be expended to get any satisfactory results. It was not thought just to the patients to withhold quinine longer than was needed to examine the blood and establish the type of the fever curve. At this critical time the mosquitos, even when absolutely starved for six to eight days beforehand, would often refuse to bite. From twenty mosquitos starved for from four to eight days, I have frequently been unable to get more than two or three feeble bites. Sometimes they puncture the skin deeply in several spots and then pull away without sucking a particle of blood. Once a mosquito drew up just a "cropful" of blood (as I found on dissection a few hours later) and no more. Out of fifty or seventy-five bites I noticed but two cases in which just after the bite bloody serum was voided instead of water, though this was frequently noted by the workers in West Africa. No mosquito that had a "chipped" wing or a lame or absent leg would ever suck blood, though they would live indefinitely in tubes on sugar water.

I observed no "black spores" whatever in any of my successful dissections. There is a tendency now to believe that these bodies, as first described by Ross, may be explained in some other way, *e.g.*, as degeneration forms.

Whether a *single* infected mosquito can infect a man by biting is an interesting point which I tried to investigate with Dr. Cyrus W. Field, interne at the Presbyterian Hospital, who voluntarily offered himself. He was taken ill fourteen to sixteen days after his first bite with a chill and diarrhœa, from which he got well without quinine. No parasites were found in his blood on two examinations.

This point should be investigated further, for it has important practical bearings. Grassi's impression[1] seems to be affirmative. Bignami and Bastianelli[2] state that a single mosquito is even capable of inoculating several people, and these perhaps with more than one type of parasite. The writers do not, however, explain whether this is a normal or an exceptional occurrence.

Precisely how long an infected Anopheles remains dangerous is another interesting point, on which I have at present no definite data. I have already mentioned the doubtfulness of the survival through the winter of parasites in infected insects.

There are perhaps some exact notes already published on both these points in the Italian literature, much of which is unfortunately very inaccessible.

Of an immense number of malarial cases seen and examined during the summer, I found only one (a boy of seventeen, living on Tenth Street) who had apparently acquired his disease on Manhattan Island. Every one of the others had caught it elsewhere, or from the history could be supposed to have done so. I have not so far found a single Anopheles in Manhattan Borough, though of course no pretence is made that the search was thorough.

What other mosquitos will be found inculpated is a highly important field for American workers.

Anopheles crucians, of course, already bears a heavy *onus*. Other native species of Anopheles than the present three may be discovered when entomologists and physicians have given the matter further attention. Dr. Howard's remarks at the American Medical Association at Atlantic City last spring, urging that Psorophora and Megarhinus should be looked after, are just as timely now as then. Megarhinus is a southern genus: I have not so far been able to find Psorophora in the vicinity of New York. The genus Aedes appears to be rare, but it should not be dismissed

[1] Il Policlinico, Supplem., Anno vi., p. 1508.
[2] Tenth Cong. Soc. Ital. di Med. Intern.

without investigation. Nor should we feel absolutely sure that none of our native species of Culex can exceptionally carry the infection till at least C. pungens, C. tæniorhyncus, and C. triseriatus have been further examined. With C. pungens I have made a dozen or more inoculations, always with negative result.

Third. As to the period of incubation between the bite and the chill I have one valuable case to report.

Mrs. H. S——, East Seventieth Street, housewife, an intelligent and entirely credible patient. She had not been out of the city for several years before. She went to Fordham on the last Friday in August, to care for her sister, who was ill with malaria. She spent one night there and returned home next day. She was badly bitten by mosquitos. On the afternoon of the second Friday following (precisely fourteen days) she came down with a hard chill, which recurred Sunday and Tuesday and Thursday following. On this last day, when she finally sought medical advice, her blood was swarming with typical tertian parasites. A visit to the Fordham address given disclosed the interesting fact that the sister mentioned and her entire family (several children) had had chills and fever, and all but one had improved or recovered on Warburg's tincture. I inquired along the same block and found that there had been a veritable epidemic of malaria on that street for several squares. The mosquitos found were C. pungens in great abundance and A. quadrimaculatus in smaller numbers, all gorged with blood. The block was close to fresh excavations made for a sewer, and in the sunken centres of several vacant squares in the vicinity duck-pools of dirty water were seen.

Coldclough (W. F.)[1] reports from Oporto, Portugal, a case in which the exact period of incubation (from bite to chill) was definitely found to be eighteen days. The type of organism was unfortunately not determined. These cases are merely mentioned incidentally. The literature of the subject is extensive.

Fourth. Prophylaxis and eradication. Coming finally to this most important topic of all, a brief review of the literature alone would consume an entire evening. Important observations from original workers in all parts of the tropics are appearing daily, and the problem, for the tropical disease, seems to be gaining rather than losing in complexity. Some reports speak hopefully of the extermination of Anopheles; other observers (Koch,[2] for example) claim that Anopheles cannot be destroyed totally, and that the only hope for relief lies in rigid quarantine of infected human beings from the approach of the dangerous mosquitos, and systematic curative and prophylactic use of quinine, searching particularly for chronic and obscure cases and those among native children.

I wish to remark only upon our own local problem, which can be viewed with much more cheerfulness than the tropical one.

As a fair example of what may be locally accomplished I cite a small outbreak of malaria in a suburban New York town last summer. In August I was requested by one of the resident physicians to go there, examine the ground, and advise means of prevention. The conditions were briefly these:

Around a large pond in the vicinity of the town four or five fresh cases of malaria had recently developed. The first case was that of a coachman who had caught malaria elsewhere and had relapsed. From his quarters in a long row of stables at one side of the pond the infection had passed along to other stablemen and servants on the same side to the distance of a quarter of a mile from the original site. A quarter of a mile in another direction across the pond one other case appeared in a small child. A. quadrimaculatus was fairly abundant in every bedroom in that area in which a proper search was made. The breeding-places seemed to be segregated pools at the edge of the pond (the pond itself contained fish), and post-holes and excavations. These last were numerous, as many buildings were going up.

The following practical measures were recommended: (1) Extermination as far as possible, by a party of men sent out for the purpose, of all Anopheles found in houses and systematic introduction of screens in windows and doors. (2) Filling in of the smaller breeding-places, and drainage of the pond. (3) Continuous seclusion of every malarial patient by netting or otherwise from the bite of mosquitos while he had germs in the capillary blood; if possible, the sending away of the cachectic cases till danger of relapse was certainly passed.

These measures were intelligently put into operation at once; and the results were as prompt as they were gratifying. Not a single new local case of malaria developed. Anopheles disappeared promptly from houses where it had been previously a night terror, and Culex was greatly diminished in numbers. The local authorities expect during the coming spring to carry out the same measures even more rigidly, and believe that both mosquitos and malaria will entirely disappear there.

Inside the Greater City of New York the Health Department should take the following official steps:

(1) Require malarial cases to be reported, as scarlet fever and diphtheria are now. Malaria is at least as dangerous as scarlet fever; economically, it is far more of a scourge, for it affects adult bread-winners as well as children.

(2) Send an inspector to every infected house, who shall instruct the people to kill all the Anopheles in the house, to provide the windows and doors with screens, to isolate the patient with particular care from mosquitos, and to cause all the standing water in the vicinity to be drained or heavily petrolized. Rigid treatment with quinine should be insisted on, and the drug furnished gratis to those unable to pay, as diphtheria antitoxin is now supplied.

I believe that in a summer or two it would be possible by these measures to reduce the number of local cases by more than ninety per cent. If our Health Department could be induced to take these steps, even tentatively, and enforce them for two years, much useful attention would be attracted to the work, and the results, if even only half so encouraging as I have claimed, would intimately touch the health and material prosperity of every part of the temperate zone.

Of immense interest and value in this connection is the work of the Italians, Fermi and Tonsini, on the Island of Asinara.[1] This island is north of Sardinia, and is inhabited only by convicts. After a close study of the malarious localities measures were taken for (1) destruction of mosquito larvæ (petrolizing pools and emptying tanks and tubs completely twice a month); (2) destruction of adult mosquitos in the convict dormitories with pyrethrum powder, "zanzolina,"[2] chlorine gas, etc. (3) Protection of habitations against mosquitos by netting in doors and windows. Results in one season: Anopheles almost

[1] Lancet, October 20, 1900.

[2] See the masterly and largely convincing series of reports forwarded last year from the German and Dutch East Indies and published *seriatim* in the Deutsche med. Woch., 1900.

[1] Lancet, October 20, 1900, translated from Annali d'Igiene Sperimentale, 1900.

[2] "Zanzolina" is made of chrysanthemum powder, valerian root, and "larvicide." The last is an aniline dye. The smoke from the burnt powder paralyzes mosquitos in an hour (about a tablespoonful to a room of thirteen cubic yards) and eventually kills them. Doors and windows must be shut. The smoke is not disagreeable or injurious to the human air passages. Clavenzani, Il Policlinico, Supplemento, anno vi., p. 761.

never found (and Culex much more rarely than formerly) in dormitories. Not a single local case of malaria, the new cases, nine in number, being all importations or relapses. The previous year there were ninety-nine cases, forty-four originating in the island.

Still more instructive and convincing are the recent accounts from Grassi and Celli[1] of the efforts made to protect the railway employees of Italian railways passing through the dreadfully malarious regions of Lazio (Latium) and Salerno in southern Italy. Briefly, the precautions taken were these:

Employees were required to stay indoors from sunset to an hour after sunrise. The doors, chimneys, and windows of dwelling-houses and stations were fitted with wire screens, and a kind of "storm-door" or vestibule (also of wire gauze) was placed before each entrance. Night workers were provided with masks for the face and thick gloves (of cotton or chamois) for the exposed parts of the forearms and hands. The inside walls of the houses were painted white in order that any Anopheles that might accidentally enter could be seen and killed. This was all. But the results during the past summer have been miraculous. While houses and villages around sickened to a man with the gravest types of malaria, practically not a single case of fresh malaria appeared in the protected stations. Experiments by Celli (*l.c.*) even on the straw huts of the lowest class of the peasantry were nothing short of marvellously successful.

As to more general prophylactic measures, public education is urgent. The present obstinately erroneous views of the origin of "mosquito fever" should be more earnestly contested by the physician. The little pamphlet on "Prevention of Malaria," issued early last year from the Liverpool School of Tropical Diseases, could be made very useful. It has been reprinted or reviewed extensively in America. The doctor should be able to tell Culex and Anopheles apart, and warn his patients not to pass the matter off —as they now universally do—with a jest. As Dr. Patrick Manson (to whom the world owes a great debt in the work attending the discovery of the etiology of malaria) has so earnestly urged,[2] protection from the bite of mosquitos at night in the bedroom is the greatest essential. As long as this is thoroughly accomplished, the existence of Anopheles, infected or uninfected, in a given region (at least in the temperate zones) is not much more significant than the presence of Culex. I say "not much more" advisedly, for daytime infections can occur. They are, however, rare.

Speaking for our own environment, the more I have considered the suburban conditions and the character of our soil and drainage, the more dubious I feel whether Anopheles can be more than reduced in numbers for years to come.

Public works and private buildings in our suburbs are constantly going forward. The coincident upturning of undrained earth and the formation of rain-pools are ceaseless. The present plan of raising miles and miles of streets above grade, and leaving the owners to fill in the squares at their leisure has created thousands of sunken squares in Bronx, Queens, and Brooklyn, where great ponds of stagnant water stand for half the year. Over these a green scum is forming by the middle of June, and if Anopheles does not find these pools, nothing but Providence has prevented it. A rain pool in midsummer anywhere, lasting about two weeks, is all one insect needs to make one thousand. Anopheles, like Culex, can breed with equal readiness in sluggishly flowing streams where fish are absent, and not even an advanced degree of putrescence or contamination seems to kill them.

[1] Il Policlinico, Supp., *l.c.*
[2] Lancet, September 29, 1900.

At the same time, for the reasons already stated, I believe that our local malaria can speedily be eradicated by attacking the problem from other directions. We shall need (1) systematic governmental measures along the lines I have suggested; and (2) ready ability on the part of medical advisers generally to make the microscopic diagnosis in irregular and obscure cases.

For much courtesy and kind assistance I wish to make acknowledgments to the following gentlemen, besides those already named: Dr. Robert J. Carlisle; the House Staff and Visiting Physicians of the Presbyterian and Bellevue Hospitals; the House Physician of Fordham Hospital; Dr. Charles F. Roberts, of the Board of Health; Dr. L. O. Howard, of Washington, D. C.; Dr. E. C. Rushmore, of Tuxedo; and the Editor of the MEDICAL RECORD.

121 EAST TWENTY-SIXTH STREET.

THE CAUSATION, PREVENTION, AND TREATMENT OF GOUT.[1]

BY ALEXANDER HAIG, M.A. AND M.D. OXON., F.R.C.P. LOND.,

AUTHOR OF "URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE."

GOUT is not a constitutional disease due to any defect in the formation or functioning of the body. It is a form of diet disease due to food poisoning. It follows from this that it can be cured by leaving off the poisonous foods, and prevented by omitting such foods from the diet of the young. Gout is rheumatism, and rheumatism is gout. The arthritis of both is due to the irritation produced by uric acid.

Causation.—When the possibility of introducing uric acid into the body and blood by swallowing it like other poisons was neither understood nor believed in, it was naturally concluded that gout was not due to poisoning but was a constitutional defect or disease.

I believe I was the first to point out in a paper in the *Journal of Physiology*, vol. xv., published in 1893, that the experiments on which these erroneous beliefs were founded had serious flaws in them, flaws which were due to the generally prevailing ignorance of many of the conditions that control the solubility of uric acid in the blood, and its excretion in the urine. But once these conditions had been followed a little more closely and in experiments extending over considerable periods of time, it soon became evident that one had only to administer a few grains of uric acid while taking care to keep the blood in a condition to dissolve them and hold them in solution, to find them appearing with the greatest punctuality in the urine grain for grain as administered.

As will appear later on, we can do much more than this now, and can actually watch the passage of this administered uric acid through the blood, by noting its effects on the circulation.

This knowledge at once raised two questions: (1) How much uric acid is introduced into the body in the food of any ordinary day? (2) Will the uric acid thus introduced suffice to account for all the uric acid of disease?

The answer to the first question is, I think, that from five to seven grains a day of uric acid may be easily introduced in ordinary diet in such things as tea, coffee, soup, meat extracts, fish, and meat.

The answer to the second question is that these quantities if all retained in the body will mount up and form four to six ounces of uric acid in the year, and though under ordinary circumstances nothing like the whole of this amount is retained in the body, such

[1] Read before the Cambridge Medical Society at their November meeting, 1900.

an extensive introduction going on year after year for thirty or forty years with even quite a small retention, will easily furnish all the uric acid that we ever see inside a human body.

One other fact we have to bear carefully in mind is that introduced uric acid interferes with the solubility and so with the excretion of the uric acid that is formed in the body. For every one forms uric acid every day in about the relation of thirty-five grains of urea and one grain of uric acid for each ten pounds of body weight, and the man who suffers from gout probably forms no more uric acid in relation to urea than any one else does.

On the other hand, if the reverse were true, if the gouty man from some defect in structure or function formed more uric acid, either relatively or absolutely, than any one else, this would go on in spite of diet and drug treatment, and it would be impossible either to prevent or cure gout or other uric-acid diseases.

As a result of this effect of introduced uric acid on the solubility of uric acid in the blood, a man who forms ten grains of uric acid a day, and introduces other four or five grains each day in his food, will probably fail to excrete all the uric acid he has to deal with, and will soon accumulate a more or less large store in his body. On the other hand, the man who forms ten grains a day, but introduces only one grain a day, may very probably excrete day by day all the uric acid he has to deal with, and may consequently never form a store or accumulation at all. In other words, all the uric acid of formation does no harm provided that a large amount of introduction is not added on to it.

I must guard against misunderstanding by saying that the above is true only when no more than the physiological allowance of albumen is taken (*i.e.*, that which suffices to produce from three to three and one-half grains of urea per pound of body weight per day). But if this quantity be exceeded, there will, of course, be an increased formation both of urea and uric acid, but still in the relations of one to thirty-five; and as a large nitrogenous metabolism means for obvious reasons a diminished alkalinity of the blood, some of the formed uric acid may be retained and produce an accumulation.

It is necessary, therefore, to look to two points: (1) To introduce into the body as little uric acid as possible. (2) Not to take more than a physiological allowance of albumen.

Probably a considerable number of those who are gouty to-day have for years been breaking both these rules, and their sufferings are the result of their doing so. Still of the two, introduction is by far the larger and more important factor, so that we are justified in saying that gout in this country is due to poisoning by animal flesh and tea.

Speaking generally, the muscles of animals may be said to contain uric acid to the extent of from two to seven grains to the pound, and their viscera (liver, kidneys, etc.) from five to twelve grains to the pound, and these quantities are introduced into the bodies of those who swallow them.

Then the alkaloids of tea, coffee, and cacao are, as is well known, xanthins, and these are for physiological and pathological purposes equivalent to uric acid; and several other vegetable substances, as peas, beans, and lentils, contain considerable quantities of xanthins, some of them even twice as much as meat. And as regards the xanthins I have shown that their administration produces just the same effects as the administration of uric acid.

We have thus seen where the uric acid comes from; we have now to see how it acts, and for this purpose we may divide its effects into two classes: (1) The local irritation it produces in the joints and fibrous tissues (gout). (2) The general symptoms, often called gout in the blood, the circulation conditions, high blood pressure, etc.

The first has always seemed to be fairly simple, for uric acid is an irritant of tissues, especially when it is in solution; thus Ebstein showed years ago that uric acid in solution with phosphate of sodium produced irritation of the cornea when injected into it, while the phosphate solution alone produced no irritation.

Then Pfeiffer, of Wiesbaden, made some interesting experiments by injecting urates in suspension under the skin; and then he found that when alkalies were taken the urates caused local irritation; but if acids were taken the irritation diminished. In other words, the urates in suspension caused little irritation, but when they were got into solution with the alkali the irritation was increased.

And this is exactly what we see in our daily work, for drugs, like iodides, sulphur, and lithia, which diminish the excretion of uric acid in the urine, nevertheless relieve the pains of chronic arthritis.

Under some conditions also the use of alkalies may make the pains of arthritis worse: that is, when the alkali merely suffices to increase the solubility of the urate but not to remove it from the focus of irritation. The more powerful solvents, the salicylates, relieve not because they get the urates into solution, but because they remove them from the irritated joints and from the body. (See "Uric Acid," ed. v., Fig. 62.)

On the other hand, we see the biurate of sodium lying deposited in various parts of the human body without the smallest sign of irritation or inflammation round it. Hence we see that urates in solution are irritating, but urates deposited are not.

Another fact which points the same way is that the biurate of sodium takes two to three days to be thrown down from its solution in serum, while wine will often produce an attack of gout in as many hours, even before the patient leaves the dinner table; obviously, then, this attack of pain cannot be due to the throwing down of the biurate which has not had time to take place, but it must be due to a concentration of uric acid in the part, either in solution or in colloid form.

The biurate is a subsequent result of the gout attack, and with the throwing out of the biurate the irritation and inflammation subside, and we find it weeks, months, or years afterward lying perfectly quiet in the tissues, its owner having possibly forgotten all about the attack of gout he once had.

In the blood at the time of the gout attack we have to deal with uric acid or urate containing more or less alkali, and either in solution or colloid form like that which is thrown out from solution in phosphate of sodium on cooling or treating with a dilute acid. And it is the concentration of this urate in either strong solution or colloid form in certain fibrous tissues that produces the local irritation and pain. And the reason it so generally selects the fibrous tissues is that these being less vascular than many other tissues and less well supplied with alkaline blood, have greater difficulty in keeping up their alkalinity, and when this is diminished by any local cause, as cold and wet, or by a general cause, as the taking of acid wines or beer, the urate of the blood is rendered less soluble in these tissues and is retained there probably in colloid form, producing more or less local irritation according to the amount present in the tissues, and the time during which it is able to act.

Then the rule about the action of drugs is this: that all substances that increase the power of the blood to hold uric acid in solution tend to remove it in solution from the joints and fibrous tissues, and to diminish the irritation in them; while, conversely, all substances that diminish the power of the blood to hold uric acid in solution tend to cause its retention and accumula-

tion in the joints and fibrous tissues, and to increase the irritation in them. And when we come to deal with the blood and circulation, we shall see that all substances that increase solubility increase the amount of uric acid in the blood, while all substances that diminish solubility diminish the amount in the blood. We shall also see that the quantity in the urine always corresponds with the quantity in the blood, and that our power of control is so great that we can make the quantity in either fluid almost anything we like.

The chief substances that increase the solubility of uric acid in the blood are alkalies and salicylates, and heat has a similar effect, as it increases the passage of acids out of the body in perspiration, thus acting like a dose of alkali and increasing the alkalinity of the blood; these tend to prevent the irritation of fibrous tissues by uric acid, or to diminish such irritation when present by removing and excreting the uric acid.

The chief substances that diminish the solubility of uric acid in the blood are the acids and many metals that form insoluble compounds with uric acid, and cold naturally has the reverse effect to that of heat, preventing the excretion of acids in perspiration and diminishing the alkalinity of the blood.

Hence, the arthritis of gout or rheumatism (for both are due to uric acid) may result from exposure to cold, or cold and wet, the taking of acid wines or beer, or contact either internally or externally with many of the common metals, such as mercury, lead, zinc, and copper, etc.

Second. The general symptoms of gout depend chiefly on the fact that uric acid controls the capillary circulation of the whole body. It is probable that being in solution with phosphates in the blood, it is under certain circumstances thrown out in the circulation as bulky colloid masses, more or less similar to those obtained when a solution of uric acid in phosphates is either cooled quickly or treated with dilute acids; and the control of the capillary circulation is probably due to the capillaries being obstructed by the colloid granules. (For fuller treatment of these points I must refer to my work on "Uric Acid.") But be this as it may, the fact remains that a careful measurement of the rate of the capillary circulation by the methods that I shall show presently is an absolute guide to the amount of uric acid in the blood; for the capillary circulation not only varies from morning to evening in accordance with the physiological variations in the excretion of uric acid, and the amounts in the blood and urine, but it can be made to vary at any time and in any direction at pleasure by altering the quantity of uric acid in these fluids—which it is quite easy to do.

Perhaps a few definite figures will make this more easy to understand, and we have now also an absolute guide to the amount of uric acid in the blood in the number of granules precipitated in a drop of that fluid drawn from the end of the finger by the addition to it of a drop of a twenty-per-cent. solution of ammonium chloride. These granules bear a relation to the red cells in physiology of say 1:8 in the morning, 1:18 or 1:20 in the evening, there being much more uric acid in the blood and urine in the morning, as is well known. In pathology they may be anything from 1:1 in Bright's disease to 1:40 in fevers, and by the action of salicylates they may be made 1:5, 1:2, or even 1:1 in the first few hours on the drug, and they fall to 1:50 or 1:70 the day after it has been left off, corresponding exactly with the fluctuations in the excretion of uric acid in the urine. Then in physiology it is possible, by feeding uric acid, to make the day's excretion in the urine vary from twelve grains up to thirty grains, and the granules in the blood alter in the corresponding ratio.

Lastly, we must remember that obstructed capillaries in front, with a strong heart behind, means of necessity high blood pressure in the vessels between them, and this is the explanation of the uric-acid headache, to which I used to be a martyr, and in this disease the high blood pressure causes undue pressure within the skull, and pain is the result.

I have called the return of the blood into capillaries blanched by pressure the "capillary reflux," and a careful measurement of the time this takes is the measure of the quantity of uric acid in the blood, and all the other phenomena, the number of granules in the blood and the blood pressure, vary with this.

Thus, the capillary reflux measured by a metronome beating half-seconds is in the morning six or more half seconds, in the evening three or four half-seconds, and we get the following grouping of events:

	Capillary reflux—half-sec.	Blood pressure—mm. Hg.	Granules in blood.	Uric acid relation to urea in urine.
Physiology, morning.....	6	120	1 : 8	1 : 18
Physiology, evening	4	100	1 : 18	1 : 30
Fevers	2–3	70–80	1 : 40	1 : 50
Bright's disease.....	10–14	170–180	1 : 2	1 : 15

There is one other easily observed result which agrees with those just mentioned in every way, and that is the urinary water; for obstructed capillaries in the skin and slow capillary reflux are the index of similarly obstructed capillaries throughout the body, and obstructed capillaries in the kidney mean that the water of the blood has difficulty in passing through the kidney into the urine; hence it follows that the urinary water under all conditions varies in the reverse direction to the uric acid excreted along with it: if the uric acid is rising the water is falling, and vice versa, for excess of uric acid in the urine means, as we have seen, excess in the blood, and excess in the blood means obstructed capillaries throughout the body, and obstructed capillaries in the kidney mean scanty excretion of water from the blood.

Hence, the urinary water is not only scanty in the morning and profuse in the evening, the reverse of the uric acid, but it follows every fluctuation in the excretion of this substance throughout life, whether due to physiology, drug action, or pathology, and by controlling the uric acid we can also make the urinary water anything we please. It thus furnishes us with a ready index of what the uric acid is doing and with one more easily observable proof of the enormous power which this substance has in controlling the circulation, and so the physiology and pathology of the body throughout life. And, as I have said already, by means of drugs or feeding uric acid, we can produce results similar to almost any of the above at pleasure.

Lastly, these changes in the quantity of uric acid in the blood and the alterations in the rate and completeness of the capillary circulation, affect the quality of the blood itself, and thus uric acid is the cause of all the common forms of anæmia. Thus, the blood decimal, which is obtained by dividing the percentage of hæmoglobin by the percentage of cells, is not only found to vary up and down from morning to evening with the above factors, but by means of drugs on the one hand, or feeding uric acid on the other, it also can be made almost anything we like, as with the capillary reflux, the blood pressure, the granules, and urinary water mentioned above. And this has led me to produce a card for the approximate estimation of the blood decimal from the color of the tongue, gums, etc., because of the valuable information we thus obtain as to the quantity of uric acid that is or has been passing through the blood. Thus, while the capillary reflux will tell us the quantity of uric acid in the blood at any given moment, and enable us at once to

distinguish between Bright's disease on the one hand and fever on the other, the blood decimal will tell us whether much uric acid has been passing through the blood in hours, days, or weeks, according to the intervals at which we examine it, and I commonly make use of the card to tell me from the color records it gives whether patients I see only after intervals of weeks or months are doing well or otherwise, *i.e.*, whether their blood decimal is going up steadily, the general result of stopping the introduction of uric acid, or whether it is stationary or descending, owing to their having perhaps a very large store of uric acid in their bodies which is constantly passing through the blood.

We have seen, then, as regards causation:

(1) That gout is due to poisoning by flesh and tea and similar substances, which introduce uric acid into the body in very considerable quantities.

(2) That the uric acid so introduced may not only remain in the body, but may prevent the excretion of the uric acid formed in the body.

(3) That as a result the body becomes more or less saturated with uric acid, which may irritate its fibrous tissues (gout or rheumatism) or may obstruct its capillaries, causing high blood pressure and defective capillary circulation and their results, such as the great group of circulation diseases, the uric-acid headache, epilepsy and mental disease, anæmia, Bright's disease, Raynaud's disease, etc., all of them being mere results of the enormous influence which uric acid exerts on the circulation of the body by obstructing its capillaries.

(4) That all these diseases, which have been called by so many names, fall into two groups: (*a*) the local group, and (*b*) the circulation group; of which the latter is by far the more extensive and important, so that what we used to call gout and rheumatism become almost insignificant by comparison.

In the future they will all, I hope, be called uric-acid poisoning, and be recognized as due to unnatural food.

The proof of this lies in our new possibilities of prevention and cure; for real knowledge of the real truth always means power, and when there is no power there is no real knowledge.

Prevention follows so simply from the above considerations that it need not detain us; it consists in removing from the diet of the young all substances which contain a notable quantity of uric acid. This is, I believe, not only invariably successful in warding off the above forms of poisoning, but it conduces through its circulation effects to a glorious development of both mind and body, to which in the past we have been strangers. And when the change has been made future generations will look back on our records of sorrow, suffering, and degradation with amazement.

Treatment.—This, again, follows simply from causation, and we have only two things to do: (1) To cut off the poisons that have been the cause of the trouble, so that introduction shall as far as possible cease. (2) To provide for the elimination of the poison already in the body.

Diet meets the first indication, and for its alterations and the methods of carrying them out I must refer to my book on "Diet and Food." It is merely necessary to see that a proper quantity of albumens is taken in relation to the weight, and that these albumens are got from substances that contain little or no poison.

One result of thus altering the diet will be that the body will gradually clear itself of the accumulated uric acid it contains, for uric acid introduced interferes, as we have seen, with the elimination and excretion of uric acid formed or contained in the body.

It follows that all diseases due to excess of uric acid in the tissues or blood will slowly get better as the result of altering diet alone. And this we find to be the case, joints slowly get less stiff and painful, recurrent attacks of irritation gradually get less painful and prolonged, till at the end of eighteen to twenty-four months such manifestations often cease. On the side of the circulation similar slow changes ensue, the capillary reflux gradually quickens, the blood pressure falls, the color improves, and the blood decimal rises in value: in some cases even in six months the capillary reflux and blood pressure may have moved more than half-way to normal, and by the end of twelve to eighteen months the blood decimal ought to have gone up at least twenty per cent.; I say ought, for this depends in part on nutrition, and if the albumens are deficient the decimal may remain stationary or rise but little; hence, by my color card I can gauge not only the quantity of uric acid, but the sufficiency of the food. It is, therefore, only in a few special cases that we need to use drugs at all, for in the majority Nature will put things right if you free her from the poisons by ceasing to swallow them. Acute arthritis is one of these conditions, and the drug (a salicylate) that is used in the acute arthritis called rheumatism is, in my opinion, the best drug for all these forms of arthritis. The only points that require attention are to give the salicylates alone (or, if with other drugs, not on any account with alkalies, which interfere with their action), and also to give enough of them. And one of the best proofs that the arthritis of acute rheumatism is due to uric acid is the fact that while the arthritis is at once subdued by a salicylate in proper doses and alone, it may not be subdued at all, but may be even made worse if the salicylates are given with alkalies, or if the patients are kept hot and allowed to perspire, conditions which increase the alkalinity of the blood. Hence, also, salicylates are of but little use in the acute arthritis of hot climates, or in this country in very hot weather, unless special precautions are taken to keep the patient cool.

If rheumatic fever was due to a microbe, as some suppose, and if the salicylates acted as antiseptics merely, then they should produce as good effects in hot climates as in cold, and with alkalies as without. Clinical experience, however, does not show this to be the case, and the explanation as regards uric acid is simple enough, for salicylates with alkalies, or in conditions of heat and perspiration, are not solvents of uric acid, and do not increase its excretion in the urine; but given with acids or in cold weather, which diminishes the alkalinity of the blood, they are good solvents of uric acid and greatly increase its excretion in the urine. My old law, formulated some years ago, was, "all substances which increase the solubility of uric acid in the blood do good in the arthritis which is due to it"; but under some conditions salicylates are not solvents, and therefore do harm—not good. Alkalies are solvents by themselves, and salicylates by themselves; but the two together are not solvents, do not increase the solubility and excretion of uric acid, and therefore do harm instead of good. Every one knows that salicylates act much better and with greater certainty in acute arthritis with high temperature than in chronic arthritis with normal or subnormal temperature; and the explanation is again simple, for fever means quickened metabolism with its result, increased acidity of the urine, and diminished alkalinity of the blood, conditions which favor the solvent action of salicylates.

In subacute and chronic conditions we have to do all we can to diminish the alkalinity of the blood, which is high, in order to favor the best action of salicylates. Exactly the same holds for the acute arthritis of gout: give salicylates alone and plenty of

them, and on no account with alkali or colchicum, as these increase the alkalinity of the blood.

Again, do not when giving salicylates cut off wine and cut down meat; my gouty patients are told to keep on with both as usual, for both tend to keep up the acidity of the urine and diminish the alkalinity of the blood, which is what we want with salicylates. The time to alter to a uric-acid-free diet is later on when the salicylates have cleared out most of the uric acid and can be left off, as the arthritis has gone. If for the same reason I am called to see a case of gout that has already had colchicum, I feel that I see it too late to give salicylates; the field has been spoilt for them. Possibly by giving acids and wine, and, perhaps, some opium with the salicylates to counteract the evil effects of the colchicum, they may still succeed; but this cannot be counted on with certainty. If the colchicum has obviously produced much depression, and if for any reason the wine, opium, etc., cannot be given, it is better, in my experience, to continue the colchicum and alkalies, and not to attempt to give salicylates at all. These latter are far the best drugs if the conditions favor their action, but there are other conditions (debility, heat, perspiration) in which they can only do harm and make the arthritis worse.

What has to be always remembered is that acute conditions with fever and high acidity of urine favor the best action of salicylates; while conditions of debility with normal or subnormal temperature, perspiration, and all that favors perspiration (as hot climates) with slightly acid or alkaline urine, are most unfavorable to their action as solvents. And this holds for all diseases that are due to uric acid and not merely for arthritis; and, in all, the reaction of the urine may be taken as a useful guide as to whether it is right to administer or to withhold these substances.

My own rule in chronic arthritis is to give wine and a generous diet (by no means strictly free from uric acid) and some salicylic acid, which has (as we should expect) more power than any of its salts to overcome the low-acidity conditions of subnormal temperature and debility. Some opium may be given with the salicylic acid to aid its action, and this is specially indicated if there is increased action of the bowels, which should be restrained. One need not expect very prompt action in chronic conditions, but still within two or three weeks there should be some improvement.

The only other conditions of which I need mention the special treatment, besides the arthritis we have been considering, is the high blood pressure of chronic gout due to a large excess of uric acid in the blood. As this may be a danger to the vascular system itself, to the brain and other important nervous structures, or may seriously injure the nutrition of the skin, liver, or kidneys, it may require prompt treatment by drugs, which will hold it in check till the diet has had time to act. Many drugs are available for this purpose, all those, in fact, that in one way or other diminish the solubility of uric acid in the blood, and clear it out of that fluid. And it matters not how you clear it, for as the uric acid in the blood and urine diminish, the capillary reflux will quicken, the blood pressure will fall, the blood decimal will rise, the urine will increase, and it will be quite evident that the fall of blood pressure is not due to debility or a weak heart, as the patient will be stronger and able to do more than in the condition of high blood pressure, and will feel buoyant and cheerful.

The drugs I have most commonly used to clear the blood of uric acid are the iodides, as iodide of sodium, more or less aided by the chloride and bromide of ammonium and chloride of sodium, which I sometimes call sea-water mixture; a little mercury given with iron to prevent salivation may be also taken along with them, as in the treatment of Bright's disease, described in "Uric Acid"; in fact, these dangerous high-blood-pressure conditions are practically equivalent to Bright's disease, whether there is albumin in the urine or not. Several other things act in exactly the same way as other metals (copper, zinc, silver, gold) or lithia, and may succeed best in special cases; but I have more often used the things first mentioned.

I shall not go further into the drug treatment of the circulation diseases of uric acid here. I will only say in conclusion that in using any of these drugs or metals to clear the blood of uric acid you may often illustrate for yourselves the pathology of arthritis by producing an attack—the uric acid which you drive out of the blood may go into the fibrous tissues or joints and the whole series of changes above described in the blood and its circulation and in the urine may be easily observed as they pass before you. The patient will say he has had a relapse of his gout, and you will know why he has had it.

THE NON-MYXOMATOUS CHARACTER OF NASAL POLYPI.[1]

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MR. CHAIRMAN AND GENTLEMEN: In accepting your invitation to present a short paper before this meeting, I have done so with the hope of saying more forcibly and emphatically some things which I have, until lately, supposed were too well known and too universally accepted by rhinologists for explicit reiteration. I refer to the necessity of regarding nasal polypi[2] as pendent tissue in the nose, which has assumed that shape because of the effusion of serum into it from the blood-vessels. I had supposed that no one now used the word myxomatous in connection with these growths except in a Pickwickian sense.

It is of small consequence what name is attached to any phenomenon of nature, so long as it does not lead to confusion of thought. We all use the word adenoid, and we all know exactly what is meant by it, although the etymology of the word is very far from clearly indicating the histological structure or the anatomical locality of its occurrence. With the mistaken use of the word myxoma, however, there appears still to linger a mistaken conception of the condition to which it refers in the nose. Many very competent rhinologists, and even some familiar with histological work, conceive of this condition of the nasal mucosa as a new growth of tissue, a proliferation of embryonal branching cells in a homogeneous mucoid fluid of a different chemical and tinctorial reaction from ordinary serum with a little mucin in it. Now such is not the case. While in the fluid of a polyp there is some mucin derived from glandular structure the polyp may contain, while here and there by careful focussing an occasional embryonal new connective-tissue cell may be seen, there is little or no new formation of tissue, but on the contrary a separation of the fibres of the pre-existing subepithelial stroma by serous effusion. In not a few cases these stroma fibres are so scanty or the effusion of serum is so directly under the epithelium that the coagulated fibrin threads form the sole framework of the tumor holding a few leucocytes in

[1] Read before the Southern Section of the American Laryngological, Rhinological, and Otological Society, at Richmond, Va., December 1, 1900.

[2] It is hardly necessary to say that I here refer to the ordinary gelatinous polyp, and that I am aware that the word polyp is strictly only referable to external conformation and not to internal structure. What I have to say refers also as well to the so-called polypoid degeneration in the nose.

their meshes. I shall not go further than this into the histology of the subject. I have elsewhere done so exhaustively. As for the histology of the so-called true myxoma, that may be found in all the text-books on pathology. In not one of them will you find any drawing illustrative of their structure which has been made from an intranasal growth, though nasal polypi occur more frequently than all myxomata of all other localities put together—perhaps more frequently than all other benign tumors put together, Zuckerkandl asserting that they are to be found once in every eight or nine bodies on the post-mortem table. Surely if real myxoma occurs in the nose, one typical enough for text-book illustration ought to be found in a place where they are apparently so common rather than elsewhere, being in all places exceedingly rare, acording to Virchow.

In the few minutes which are allotted to me, I am going to review hastily the salient historical points in this matter, so that from another standpoint than the one from which I have hitherto spoken of the subject there will remain no doubt as to my assertion that a very pernicious error has crept into the common conception of these growths.

I need only mention that polypus is a term meaning many feet, used by Hippocrates ("De Morbis," ii.) to designate five kinds of morbid intranasal states, only one or two of which would now be called by that name. The first feeble attempts at pathological differentiation is to be noted in Galen, who speaks of nasal growths thus ("Definitiones," No. 370): "Sarcoma is the unnatural growth of flesh in the nostrils, and a polyp is a kind of sarcoma. A sarcoma differs from a polyp in size and structure." It is plain, therefore, that Galen's idea was that of a new growth of tissue. It is unnecessary to follow exhaustively the various interpretations of this Galenic pathology throughout ancient medical history. Suffice it to say that the Arabians described a form of polyp in the nose which they called a hemorrhoid, considering it analogous to the vascular tumors at the other end of the alimentary canal. We recognize in this, of course, our vascular hypertrophy. When the pre-Renaissance physicians translated the Arabian works into execrable mediæval Latin, polypus was frequently rendered scorpio, because, I presume, that was the kind of a many-footed animal with which they were most familiar.

It is not until the last years of the seventeenth century that much advance may be noted over the pathology of Galen. Dionis,[1] a French surgeon whose work was published in 1707, says—and the statement was probably not original with him—it is proper to make a distinction between the two kinds of polypi. One is an excrescence formed by the engorgement of the glands which line the walls of the pituitary membrane, and the other is the "extension of this membrane gradually elongated." About this time Boerhaave could account for the formation of polypus only by supposing that "the nasal passages and the nasal mucous membrane become clogged with mucus and cannot discharge the humors contained in it." To add a touch of humor to this arid narration, it may be noted that Juncker,[2] a fluent and distinguished medical writer, in 1721 insisted that, according as the moon fills or wanes, the nasal polyp increases or diminishes in size. Without discussing astrological influence, we may see that the conception of the polyp had thus early changed to that of a water-logged membrane. Gorter,[3] in 1742, embodies the idea more clearly thus: "It seems sufficiently evident that the pituitary membrane is separated from the bone, often carious, in the cavity of the nostrils, so that it makes a pendulous sac, either simple or multiple, according as this membrane is separated from one or more depressions of the small bones, which sacs swell with secretions collected in the cellular lamellæ of the membrane." It is unnecessary to quote from Morgagni,[1] who published his great work twenty years later, in order to show that his conception of the structure of the œdematous polypus of the nose was the same.

We may take a leap across a hundred years to the remarks of John Watson, surgeon to the New York Hospital, who in 1842 published a paper called "An Inquiry into the Pathology and Treatment of Polypous Tumors of the Nasal Fossæ":[2] "Soft polypi . . . arise from obstruction or obliteration of the ducts of the muciparous follicles and consequent retention and accumulation of the mucus within these; they lead to thickening, consolidation, or infiltration of the mucous membrane and subjacent cellular tissue; they acquire their pendulous position and pedunculated attachment by the yielding and growth of the tissues enveloping the mucous accumulation, and by the naturally loose attachment of the pituitary membrane here to the subjacent parts." He drew his ideas from Chelius' "Handbuch der Chirurgie,"[3] first published shortly before this, in which it is asserted that they arise as œdematous swellings of the separate folds of the mucous membrane hypertrophies together with the submucous tissue at certain localities.[4] Thus far, since the disappearance of the Galenic pathology, there has been nothing said in regard to the proliferation of tissue, and it is evident that the common-sense view of the pathogenesis of nasal polypi prevailed in this country as well as abroad in the earlier years of the past century.

On referring to an early (1854) American edition of Paget's "Surgical Pathology," we find he classes nasal polypi among the fibro-cellular tumors (p. 386), and in this class he also puts those growths shortly afterward described by Virchow under the name of myxoma. All modern pathological nomenclature and classification dates back to the "Morbid Tumors" of Virchow, who, after the vicissitudes of more than fifty years on the stormy German ocean of pathology, may still be felicitated on having the clearest head in Europe.[5] In the "Krankhafte Geschwülste" (ed. 1863, p. 417), having previously described myxoma in other publications, he dwells upon the relationship it bears to the retrograde metamorphosis of fatty tumors and of fat tissue, being frequently therefore found in connection with lipomata, a kind of tumor, so far as I know, never observed in the nose. He distinctly states that myxoma "in adults is relatively infrequent even in the atrophic metamorphosis of fat tissue in the mucous membranes." It is not the place here to enter into a discussion if Virchow was right in setting up this class of growth as separate heterogeneous tissue proliferation. It may be that myxoma is only a variety of connective-tissue proliferation infiltrated with serous exudate.[6] I am not able to speak as to that. What I desire to insist upon is that the ordinary nasal polyp

[1] Dionis: "Cours d'Opérations de Chirurgie."
[2] Juncker: "Conspectus Chirurgiæ."
[3] Gorter: "Chirurgia Repurgata."

[1] Morgagni: "De Sedibus et Causis Morborum," 1762.
[2] Am. Journ. of the Med. Sciences, 1842, n. s., iii., p. 325.
[3] P. 530, seventh edition, 1852.
[4] I have not been able to see the original of Frerichs' dissertation "de Polyporum Structura Penitore," 1843, but he is said to have first pointed out that the epithelium covering nasal polypi was the same as that of the surrounding mucosa (Heymann's "Handbuch").
[5] See his late address at the Medical Congress in Paris, Virchow's Archiv, Bd. 162, Hft. i.
[6] In his address referred to above, he remarks incidentally as to this matter: "Es ist ein blosses Spiel mit Worten, wenn man junge pathologische Zellen und Gewebe embryonale nennt." Some account of the question of the doubt as to Virchow's classification of myxoma may be readily found in Councilman's article on "Myxoma" in Wood's "Reference Handbook of the Medical Sciences."

is not essentially a proliferation of embryonal tissue or of any other kind of tissue, nor is it a metamorphosis of tissue. I need only refer in passing to the remarkable mistake made by Billroth,[1] in ascribing the structure usually found in rectal polypi to those found in the nasal cavity. He says he examined twenty cases of nasal polypi, and they were nearly all adenomatous in structure. This, of course, we know is wrong; they frequently contain no glandular structure at all, and never, in the ordinary polyp, are the glands more abundant than in the normal mucosa.

It needs only a reference to a few of the modern text-books on pathology to show that the definition of Virchow, in spite of much well-grounded criticism, is still universally accepted, and yet in not a few of them has crept the idea that the structure of the nasal polyp conforms to it. Billroth,[2] Cornil and Ranvier (1884) follow him explicitly. Birch-Hirschfeld (1887) speaks of nasal polypi as soft fibromata or myxofibromata (vol. ii., p. 381), but evidently he had no experience of his own with these growths, because in his description of myxoma (vol. i., p. 151) he describes them in the sense of the others. He misquotes Hopmann, who, as we shall see presently, directly repudiates the idea of myxoma of the nose. Weichselbaum (1892) gives a characteristic woodcut and the usual description of true myxoma. Ziegler (ed. 1895) says that nasal polypi are made up of œdematous connective tissue and mucous tissue, and must therefore be ranked among the fibromata and myxomata (vol. ii., p. 625), but he differs in no way from other pathologists in his description of the latter (vol. i., p. 397), which are always combined, he says, with the histological forms of other tumors. Delafield and Prudden, in the last edition of their "Pathological Anatomy," state that it is frequently difficult to distinguish between the two; but in the illustration they give of the structure of a mucous polyp of the nose, there is no resemblance to the picture they give under a higher amplification as typical of myxoma.

Evidently, therefore, while the pathologists are united enough as to the characteristics of myxoma, they have accepted the authority of others as to the occurrence of it in the nose.

When we attempt to find who was responsible for the introduction of the term into nasal pathology, we are baffled by the apparent insidiousness of the process. It seems to have crept in through its use by writers who were either unfamiliar with the myxoma of Virchow or else unfamiliar with the histological details and the pathogenesis of nasal polypi. Too frequently it has been indiscriminately used by writers unfamiliar with both.

The first mention of a myxoma occurring in the nose which I have been able to find is a report by S. W. Gross in 1871.[3] We find here the myxomatous error in full bloom.

A glance at the text-books on the nose, which began to appear first a quarter of a century ago, convinces one that the term if not the conception of Virchow was well established in the literature of the subject. Michel, indeed, who published in 1876 the first[4] extended work of modern date on the diseases of the nasal cavity, does not, so far as I can see from the translation of Shurley, speak of the polypi as myxomatous, and his conception of their etiology and pathogenesis does not coincide with the view of their being a new growth of tissue. Cohen, whose work first appeared in 1879, accepted the classification of myxoma. Stoerk, in 1880, did not use the word in connection with them, but in Bosworth's first edition in 1881 they are so referred to. Zuckerkandl[1] very curiously fell into the serious error of Billroth, quoting him with assent in saying they are adenomatous, but he makes no reference to them as myxomatous. Notwithstanding the great value of Zuckerkandl's early work (1882) in intranasal pathology, his histology was lamentably deficient—a criticism which his later edition in 1893 cannot be said entirely to escape, although he modifies his views somewhat as to the adenomatous character of nasal polypi. Beverley Robinson, in his treatise on "Nasal Catarrh," the second edition of which appeared in 1885, refers to nasal polypi as myxomatous. Morell Mackenzie, whose work still remains, after fifteen years, the most indispensable of all the laryngologist's library, begins his chapter on nasal polypi by saying they are new formations nearly always of a myxomatous character.[2] I will not pursue text-book literature into more recent time. Suffice it to say that in nearly all of the special works on the nose this error in nomenclature, if not in conception, still exists.

It is to Hopmann we are indebted for the first serious attempt to dispel it.[3] In 1885 he refuted not only the mistake of Billroth as to their adenomatous nature, but, quoting from the German translation of Mackenzie's book, he denied the latter's assertion as to the myxomatous character of nasal polypi. They are, he asserted, to be looked upon as soft, œdematous fibromata. I have to object in this definition only to the use of the word fibroma, which would indicate a preponderating new growth of fibrous tissue, a condition which does not obtain in the ordinary nasal polyp. While the amount of fibrous tissue varies between *nil* and a condition which might well be given the name of fibroma, the vast majority of polyps consists simply of the normal amount of loose areolar tissue infiltrated and stretched with serous exudate. After I had published,[4] in 1893, a paper on the structure of nasal polypi, being then unfamiliar with the literature of the subject, I received a letter from Chiari, who drew my attention to the fact that in 1887,[5] "on the ground of a histological examination of twenty-three nasal polpyi, polypoid hypertrophies, and papillomata, I came to the conclusion that also in nasal polypi it was only a matter of serous infiltration of the hypertrophy of the mucosa." In many subsequent papers abroad this view has, I think, been incontrovertibly established—most conclusively, I think, by Hajek[6]—and it has been urged in this country by Swain,[7] John Mackenzie,[8] and others.

This return to the former conception of the nasal polyp is the only possible way, and is necessarily a preliminary to the understanding of nearly all the intranasal morbid processes. In numerous publications I have based many observations on this view of it, as have other workers in the same field. Nevertheless in many publications abroad as well as in America nasal polypi are still spoken of as myxomatous.[9] It

[1] "Ueber den Bau der Schleimpolypen," 1854.
[2] "Surgical Pathology," 1882.
[3] Vide Trans. Path. Soc. of Philadelphia, 1874, p. 219.
[4] Deschenups in 1804 published a treatise on the "Diseases of the Nasal Cavities."

[1] "Normale und pathologische Anatomie der Nasenhöhle," edition 1882, p. 76.
[2] Am. ed., 1884, p. 245.
[3] Monatschrift für Ohrenheilkunde, 1885, June, p. 161. It is less clearly combated in his paper in Virchow's Archiv, 1883, No. 93, p. 213.
[4] New York Medical Journal, November 4, 1893.
[5] "Erfahrungen auf dem Gebiete der Hals- und Nasenkrankheiten."
[6] Arch. f. Lar., 1896, Bd. iv., Hft. 3.
[7] "Nasal and Other Polypi," New York Med. Journ., March 12, 1898.
[8] "Pathological Anatomy of Ethmoid Disease," New York Med. Journ., 1897, p. 107.
[9] The most recent paper dealing with this subject exhaustively is that of Cordes (Arch. f. Lar., Bd. xi., Hft. 2). There is very little to be found in it which has not been stated previously by other observers, but it is a very satisfactory confirmation of much work done by others, the publications of which are scattered through rhinological literature.

seems, therefore, that the error amounts to more than a simple unfortunate phraseology.

I am well aware that this same mistake has been made and the same confusion exists in the pathology of other regions of the body—that myxo is applied to a vast number of tumors which are not myxomatous at all, but simply œdematous. I do not know, however, that it has called such a halt elsewhere to the understanding of pathological processes as it has in the nose. At any rate, with this I am not here concerned. My object in this paper has been to do what I can toward banishing this benumbing idea from nasal pathology, for it is there especially that inflammatory and other pathological changes consist of, or are complicated with, this serous effusion.

An Inquiry into the Rôle of the Domestic Animals in the Causation of Typhoid Fever.—William Royal Stokes describes a series of experiments in which he endeavored to produce infection through the natural route and by natural means by simply allowing the various animals to take in very large quantities of typhoid bacilli in their daily food. Although at least five hundred colonies from the fæces were carefully tested, he was not able to demonstrate the presence of any typhoid bacilli in two chickens, two white rats, two rabbits, two guinea-pigs, one calf, and two pigs. Although he has not employed a large number of animals, he feels justified in expressing the opinion that the typhoid bacillus cannot, as a rule, maintain its struggle for existence in the intestines of the domestic animals. He therefore concludes that the dejecta of animals play no considerable part in the distribution of typhoid fever.—*Maryland Medical Journal*, November, 1900.

Defective Metabolism in Relation to the Mucous Membranes.—H. D'Arcy Power finds a class of patients with various disturbances of the mucous membranes, referable, in his opinion, to defective metabolism. Sometimes the buccal mucosa becomes dry and studded with discrete masses of hypertrophied epithelium. In one case associated gastro-enteric symptoms made it evident that the alimentary canal was similarly affected, as was also the vagina. The patient suffered for three weeks from emaciation due to anorexia, but was cured in three days with benzoate of ammonium. In other cases he finds defective activity of the mucous membranes. One such case has been under his care for several years. All the mucous surfaces are alike affected; the buccal, nasal, and genito-urinary surfaces being always dry, unless stimulated by an occasional catarrh. The condition appears to be congenital and systemic in its origin, not due to a local neurosis. Such general conditions call for remedies of extended activity, and among these pilocarpine in small doses should have a foremost place. It not only increases the general metabolism of the body, as shown by the rise in the excretion of urea, but it specifically affects the mucous membranes and glands. Lastly, he refers to the value of capsicum as a promoter of systemic metabolism, as well as a local stimulant. We know that it increases alimentary leucocytosis, and possibly in this way it affects general nutrition. Its possibilities in this direction are not utilized to the extent they deserve.—*Pacific Medical Journal*, November, 1900.

A Death from Nitrous-Oxide-Gas Anæsthesia.—Thomas C. Evans reports this case. The patient was a girl of five years. The operation was the removal of some large adenoid growths. The child was not well nourished and was a mouth breather. In operations on the mouth, when nitrous oxide is used, a mouth gag is necessary on account of the masseter spasm. In this case, after two or three inhalations the gag became loosened and dropped out of the mouth. The anæsthetic was stopped and the gag replaced. The child was semi-conscious and not at all cyanotic. After two or three inhalations the anæsthetist said that the child was ready for the operation. This consisted in a curettage of the nasopharynx. As the first pass was made with the curette and no hemorrhage occurred, the operation was abandoned and the child was suspended by the heels and artificial respiration begun. Only ninety seconds had elapsed from the first inhalation of the gas. There was no obstruction in the larynx, as the operator's finger was passed into the relaxed trachea. For three-quarters of an hour efforts at resuscitation were continued, but to no avail. Nitroglycerin, strychnine, and also a one-hundred-gallon can of oxygen were prepared. Artificial respiration, inflation, and other means of getting oxygen into the lungs were tried, but there was no attempt on the part of the heart to perform its functions. The pupils were widely dilated. Death was probably due to cardiac paralysis. The child had had measles about a month before the operation and the writer believes that diphtheria followed. This may account for the cardiac paralysis. The amount of gas used was about one-third the quantity usually necessary for the anæsthesia sufficient for such an operation.—*Pediatrics*, December 1, 1900.

Some Atypical Cases of Acute Rheumatism.—G. Miranda reports a number of cases observed on the ship *Fieramosca*. It was characterized by the sudden appearance of œdematous swelling and redness on the dorsum of the foot and around the ankle, accompanied by pain on pressure, and sometimes by spontaneous pain, which was not communicated to any of the adjacent articulations. Sometimes œdema was the only symptom present, but in many cases a more intense form followed, the articulations, however, not becoming involved. Treatment, which consisted of the internal administration of somewhat large doses of preparations of salicylic acid and local applications of ichthyol ointment and salicylic acid, was in every case successful. The rheumatic trouble was accompanied by tonsillitis, acute coryza, and visceral disturbances in the majority of cases, or at the very least by redness and burning in the pharynx, and troubles of deglutition.—*Annali di Medicina Navale*, November-December, 1900.

Section of the Posterior Spinal Roots for the Relief of Pain in a Case of Neuritis of the Brachial Plexus.—Morton Prince describes the case of a man who had paralysis of almost the entire left upper limb, as the result of neuritis following an accident. Division of the posterior roots of the fifth, sixth, and seventh cervical nerves on the left side was performed on account of intense and persisting pain in the thumb and forefinger and corresponding half of the middle finger, back and front; and of less intense pain extending like a half bracelet around the back of the wrist, and from the middle point of this bracelet up the middle of the forearm to the olecranon. The operation gave complete relief from this pain in the upper left limb, but caused Brown-Séquard's paralysis, the motor weakness being on the left side. This paralysis was probably due to hemorrhage within the spinal canal or pressure from granulation tissue or callus. Pain, lasting some months, developed in the neck after the operation, and was probably from an injury to a nerve in the part. The palmar surface of fore and middle fingers was not anæsthetic. The absolute anæsthetic strip along the radial edge of the forearm was probably in part or wholly due to the division of the fifth root. A remarkable partial

restoration of sensation in the anæsthetic area was attributed to overlapping nerve supply from adjoining root areas.—*The Journal of Nervous and Mental Disease*, December, 1900.

The Treatment of Senile Pruritus.—Arthur Jaenicke's method of relieving this obstinate affection, which always tries the patience of both patient and physician, is to brush the affected portion of skin with a soft brush till a plentiful desquamation of the epithelium has been produced. At first this is repeated three times a day for four to five days, after which time the material which can be brushed away is very small in amount, and the frequency of the treatment may be correspondingly diminished. Longer than two days should not, however, be allowed to elapse between successive brushings; bathing is also sure to be followed by a relapse.—*Centralblatt für innere Medicin*, December 1, 1900.

Three Varieties of Membranous Anginas Produced by Microorganisms Other than the Klebs-Loeffler Bacillus and their Sanitary Significance.—William G. Bissell draws the following conclusions from the cases he reports: (1) The streptococcus pyogenes and the micrococcus of sputum septicæmia can produce membranous anginas, accompanied by physical disturbances sufficient to result in death. (2) The oidium albicans produces pseudo-membranous exudates easily mistaken for a Klebs-Loeffler inflammation. (3) The only positive means of determining a Klebs-Loeffler infection is by microscopic methods. (4) From the sanitary standpoint, as regards quarantine, anginas due to the streptococcus pyogenes, micrococcus of sputum septicæmia, and the oidium albicans, require little consideration.—*Buffalo Medical Journal*, December, 1900.

Casts without Albumin and Catarrhal Nephritis.—In a series of twenty-three consecutive cases L. L. Skelton found casts without albumin in twelve. Three were of cirrhosis of the kidney, and albumin had been present at a previous stage of the disease. In the remaining nine the casts were mostly catarrhal in character, a few hyaline casts and an occasional granular cast being present. All of these cases failed to give any history of albuminuria, and none was found on examination. Skelton regards such casts as the expression of an irritated kidney—a kidney making an effort to rid itself of irritating material and being unequal to the task, a catarrhal inflammation being the result. Such irritants may include the various salts of the urine, products of intestinal fermentation, toxins of various constitutional fevers, sugar, bile, pus from the lower portion of the genito-urinary tract, and cases of uncompensated heart diseases, when the failure in the circulation has not reached the stage accompanied by physical signs. In hepatic obstruction to the circulation and in abdominal tumors, the failure of circulation is the cause of the catarrhal nephritis and precedes and merges into cyanotic induration.—*Chicago Clinic*, November, 1900.

Clinical Considerations upon Chancre and Cancer.—Charles Warrenne Allen states that not only do patients now and then present themselves with a primary specific granuloma of the lip in the belief that they are suffering from beginning cancer which they know to be not uncommon in this situation, but it unfortunately happens from time to time that surgeons are led to operate upon this, as well as upon other forms of syphilis here located, in the belief that they are removing malignant growths. The clinical features are at times so similar that a period of observation becomes necessary in order to obviate mistake. They possess in common the feature of occurring with greater frequency upon the lower than upon the upper lip, and in his own experience are both more frequent in men than in women, though statistics are given by some observers to show that women suffer from lip chancre more often than do men. Age is a factor in distinguishing from epithelioma, but not an important one. Still, generally speaking, chancre occurs in youth and cancer in old age. The chancre is much more rapid in its development and the involvement of neighboring lymph nodes is much more prompt, more pronounced, and more painful or tender, though not more persistent. If, as not infrequently happens, the chancre is not indurated at the base, the question of cancer may not arise, although it is possible for a beginning cancer to be quite soft. In a chancre of the lip remaining soft throughout its course the neighboring lymph nodes beneath the jaw are quite as firm as in the indurated form.—*The Post-Graduate*, December, 1900.

Paroxysmal Delirium: a Short Study in Auto-infection.—W. C. Hollopeter reports a series of cases in which the following points are brought out: First, the fever incident to intestinal auto-intoxication has no classified train of symptoms, varying in intensity and regularity according to the nervous mechanism and heredity of the child. Second, the symptoms manifested by auto-intoxication affect the nervous system so variously that it is a question whether a classification by reason of localizing the seat of intestinal irritation can ever be brought about. Third, the symptoms manifested by intestinal ptomains frequently express themselves in symptoms suggestive of typhoid fever, meningitis, and malarial fever, so frequently that without differential diagnosis many cases are thus treated.—*International Medical Magazine*, December, 1900.

The Use of Suprarenal Extract in Diseases of the Middle Ear.—L. S. Somers has found that excellent results may be obtained in acute catarrhal otitis with congestion of the membrane, but without perforation, by the use of suprarenal both in the canal and freely sprayed over the nasopharynx, the tubal opening becoming pervious when it had before resisted treatment, and rapid drainage of the catarrhal secretion in the middle ear took place. In chronic cases, in which sclerosis of the lining mucosa is marked and the ossicles are rigid from fibrous adhesions, the results have been unsatisfactory, not any of his cases responding to the usual good effects of the drug. Of course, this can be readily understood from the physiological action of the suprarenal, and in this class of ear affections it is not indicated unless there be some temporary congestion, which it will remove.—*Therapeutic Gazette*, December 15, 1900.

A Case of Cerebral Tumor with Psycho-Paralysis.—M. Devic and Charles Gauthier report the case of a woman in whom, at autopsy, was found a glioma situated in the posterior half of the left frontal and the anterior portion of the temporal and sphenoidal lobes. The development of this tumor may be divided into two periods: the first, which lasted about six months, was characterized by psychic phenomena—progressive mental impairment, loss of memory, increasing difficulty in understanding and in expressing herself, an attack of ambulatory automatism; the second stage lasted six weeks, and was characterized by an increase in the psychic symptoms, with right hemiplegia with aphasia, and, toward the last, cephalalgia and vomiting. Diagnosis was impossible in the first period, difficult in the second. The authors give at length their reasons for the diagnosis of glioma, which was verified at the autopsy.—*Archives générales de médecine*, December, 1900.

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THE TREATMENT OF PULMONARY TUBERCULOSIS IN HOSPITALS AND AMONG THE POOR.

WHILE acknowledging the importance of sanatoria for the treatment of pulmonary tuberculosis and the successful results therein obtained, Burghart (*Berliner klinische Wochenschrift*, 1900, Nos. 27 and 28) pointed out, in a recent address, that such establishments are as yet not sufficiently numerous for the reception even of all cases in which improvement to the degree of economic recovery is possible within a reasonable time. Besides, there are some patients who are unable to enter such institutions because they cannot afford to give up their work or will not submit to separation from their families, or because the prejudice of the family prevails over the decision of the physician and the patient. There are, thus, a large number of cases of tuberculosis of hopeful prognosis that will require the care and the treatment of the practitioner in hospital and in private. In more advanced cases in which recovery cannot reasonably be hoped for, treatment will be required for special symptoms, and a summary of the measures employed at the first medical clinic of the University of Berlin is given by Burghart.

When fever is present in a case in which noteworthy improvement is likely to take place, the patient should, if possible, be kept in bed until the febrile manifestations have remained in abeyance for several days. Should febrile elevation of temperature take place on arising or on walking about, the activity should be restricted or even be interdicted for a few days. In hopeless cases the treatment should be less rigorous, and everything should be done that will mitigate the severity of the symptoms and sustain the courage of the patient. Accordingly, he may be permitted to get out of bed, as cough, pain, sweats, and the sense of weakness and malaise are often thereby lessened. Should simple rest in bed not suffice for the control of the fever, sponging with cool water in the evening or even also during the day may be practised. Antipyretics should be avoided if possible, but in severe cases pyramidon, quinine, or phenacetin may be employed in hourly doses of gr. iss. until five doses are taken.

Slight and occasional sweating will require no treatment, especially if it occur only during the day. The profuse colliquative sweats, especially at night, however, demand therapeutic intervention. Internal remedies are employed only if unavoidably necessary, and of these camphoric acid is to be preferred. Cool sponging in the evening with simple or with aromatic vinegar or with water diluted with citric acid or with alcoholic solutions, often yields satisfactory results. A solution of menthol and alcohol (one or two per cent.) has recently been recommended for this purpose. A small amount of alcohol given at night will frequently control sweating. Sage-tea, taken cold, sometimes has a similar effect. Formalin-alcohol (ten per cent.), with the addition of three or four per cent. of oil of peppermint, may also be employed, being applied to small areas of the trunk at a time.

Diarrhœa is sometimes due to the unaccustomed use of milk, to errors in diet, or to exposure to cold, and it may yield to the withdrawal of milk, correction of the diet, and administration of mucilaginous drinks, such as strained oatmeal, barley water, or even cocoa or bilberry wine. Mutton broth exerts a favorable influence, and scraped meat is constipating. Hot poultices or inunctions with warm oil or applications of cotton to the abdomen are simple and useful domestic remedies. Should drugs be required, resort may be had to decoctions of salep, small doses of bismuth alone or together with extract of opium, tannalbin, tannigen, dermatol, or a few drops of tincture of opium. If rectal tenesmus be distressing, suppositories containing gr. ¾ of extract of opium may be employed. Should the diarrhœa be due to tuberculosis of the bowel or to amyloid degeneration, more powerful agents will be required, such as creosote, inunctions of creosote-vasogen, and starch enemata.

Pain of sufficient intensity to affect the general condition should be relieved, if possible, by hot poultices or inunctions of warm oil or a mustard plaster. Local pain, particularly of the pleura, may be relieved by fixation of the painful area by overlapping strips of adhesive plaster, or a flannel bandage, or a specially made jacket of felt. Under other circumstances resort will have to be had to drugs, such as dionin, opium, morphine.

In the event of hemorrhage the patient should be kept cool and quiet, both physically and mentally, and be given bland food in not excessive amounts. Inquiry into the history and physical examination should be deferred. An ice bag may be placed over the suspected seat of hemorrhage or over the heart. The movements and activities of the patient should be restricted as fully as possible. Food should be given in small amounts frequently, and a minimum of fluid should be permitted. To aid in securing tranquillity small doses of narcotics may be given, as, for instance, gr. $\frac{1}{12}$ morphine subcutaneously. Among drugs employed as hæmostatics, hydrastis, ergotin or ergot, lead acetate, with or without a small amount of opium, may be administered. Subcutaneous injections of gelatin (one per cent. in one per-cent. saline solution) have recently been recommended for the control of hæmoptysis. If the hemorrhage has been profuse, subcutaneous infusions of from 200 to 300 c.c. of from one-and-one-half to two-per-cent. solution of sodium chloride

will be indicated, and if necessary they should be repeated.

In the prophylaxis especial care should be given to the treatment of bronchitis, pleurisy, pneumonia, and such other diseases as predispose to the development of pulmonary tuberculosis. Association with patients suffering from this disease should particularly be avoided. In those with a tendency to catarrhal disorders the bodily resistance should, so far as possible, be increased, and efforts in this direction may in many instances be begun in childhood. Especial attention should be given to the relief of scrofulosis and chlorosis. Excessive indulgence in alcohol is to be avoided in the presence of tuberculosis. The air to which the tuberculous patient is exposed should be pure and free from dust or moisture, and if possible a life in the open air should be pursued. Domestic and personal cleanliness must, of course, be observed. Adequate sleep should be secured, and to this end palpitation of the heart and nervous irritability may require cold affusions or packs, or cool sponging at night, or application of an ice-bag to the precordium, the administration of tincture of valerian or bromide, or even trional. During the day inhalations of camomile tea, at times expectorants, together with discipline, will be required to allay cough. During the night inhalation of Ems salt may be practised, and if necessary small doses of codeine or morphine be administered. Irritative cough due to laryngeal involvement will require local treatment.

The diet should preferably be a mixed one. Amply nutritious food should not be given too frequently. Cane sugar or beet sugar in daily amounts of from ʒ iii. to v. may often be given with advantage when other foods cannot be taken in sufficient quantity. The appetite should be sustained in part by moral suasion, in part by the palatability of the food, and by the use of acid foods or hydrochloric acid and pepsin or bitters before meals. Creosote is of service in the same direction. Removal from home to a hospital may also have a good effect. Small doses of alcohol are useful occasionally as a stimulant.

All accessible tuberculous lesions should receive local treatment. With this object in view agents may be employed by inhalation for astringent purposes (tannic acid), or to liquefy mucus or allay irritation (Ems salt, sodium bicarbonate, ammonium bicarbonate, oil of peppermint, camomile-tea, etc.), or for ozonizing purposes (turpentine), or for caustic purposes (lactic acid, from one-half to one per cent.). Inhalations thrice daily for from fifteen minutes to two hours of watery solutions of formalin (from one-fourth to two per cent.) dropped on gauze, together with gtt. v. of oil of peppermint, may also be practised with advantage. Tuberculin, tuberculocidin, antiphthisin, and the serum of Maragliano have not received general acceptance and application, nor has the use of hetol (sodium cinnamate) become popular, while pulmonary juice and glandulen have not yet established themselves.

Of other remedies that have been recommended creosote is the most serviceable. As a result of its administration appetite is improved, peristalsis is stimulated, the gastro-intestinal contents are disinfected, and possibly the toxicity of the tubercle bacilli is diminished. Creosote has further a disinfecting influence upon the other bacteria in the lungs. Its use renders possible the ingestion of increased amounts of food and its better digestion, and thus favors the nutritive conditions, diminishes morbid secretion, and deprives the tubercle bacillus of its adjuvants. Creosote itself may be employed, or guaiacol, or the carbonate, valerianate, or acetate of either. The initial dose may be small, but the amount should be gradually increased to the point of tolerance. Creosote should not be introduced into the empty stomach or in concentrated form. It may conveniently be given in the form of gelatin-coated or sugar-coated pills or in gelatin capsules; and to the latter a small amount of cod-liver oil may at times be serviceably added. Should creosote disagree, or should it become necessary to intermit its administration for a time for any reason, it may be combined with vasogen and be painted upon the surface.

THE INFLUENCE OF THE SPLEEN UPON PANCREATIC DIGESTION OF PROTEIDS.

ALTHOUGH it is believed that, in addition to its hæmolytic and hæmogenetic functions, the spleen takes some part in proteid metabolism, knowledge on this point is not so clear or so full as it might be. In spite, however, of the important rôle played by this organ in the human economy, its presence is not absolutely essential to the continuance of life, as its successful removal in numerous instances demonstrates. Probably we have here an exhibition of vicariousness of function, the duties of the extirpated organ being assumed by other tissues of cognate activity, *e.g.*, the lymph glands and the bone marrow. It does appear, however, that the results of certain studies by two distinguished Swiss physiologists, Schiff and Herzen, demonstrating the functional relations between the spleen and the pancreas, are not so generally known as they should be. These are considered in a recent communication by H. F. Bellamy (*Lancet*, October 27, 1900, p. 1185).

It has been shown experimentally in dogs that there occurs for a certain time during full digestion a constant rise to maximum digestive power of the pancreatic juice, which is succeeded by an equally constant fall to minimum. The maximum is attained during the eighth hour after the ingestion of a meal, the minimum from the thirteenth to the eighteenth hour. In fasting animals, on the other hand, the pancreatic juice possesses little or no peptonizing power. Further, the spleen becomes enlarged four or five hours after a meal, subsequently to return to its normal size. Now it has been found, on careful experimentation on animals, that the tryptic activity of the pancreatic juice is much less pronounced in animals from which the spleen had been removed or the organ was ligated at its hilus. The conclusion was, therefore, reached that in the presence of the congestion of the spleen that takes place during active digestion, some sub-

stance is produced in the organ that confers upon the pancreas the power of forming its peptonizing ferment.

At a later period it was shown that the digestive glands produced zymogens, which in due process of physiological activity are transformed into the enzymes or ferments proper. It was then suggested that the formation of the supposititious substance generated by the spleen, or internal secretion, consists in this transformation of the zymogen of the pancreas—that is, the conversion of trypsinogen into trypsin. That this is so, was demonstrated by adding to an infusion of pancreas from a fasting animal—containing, therefore, zymogen in abundance and but little ferment—an infusion of spleen from an animal at the height of digestion, with the result that trypsin developed in large amount; while corresponding digestive activity was not exhibited by either infusion alone. That this result is not due to oxygenation was shown by the fact that it was not brought about when blood from an indifferent artery or vein or of the splenic artery of a fasting animal was used, instead of the splenic infusion, although it did occur in a slight degree both when blood from the splenic vein of a fasting animal and when blood from an indifferent artery or vein, as the splenic artery, of a digesting animal was used; but in most pronounced degree when the blood from the splenic vein of a digesting animal was employed.

To compensate for the nutritive deficiency that would be entailed by loss of the internal secretion of the spleen and its influence on peptic digestion, spleenless animals, it has been found, require a larger amount of food than normal animals, increased stimulation of digestive activity being, among other effects, brought about in this way.

RELATIVE MERITS OF SLOW SAND AND MECHANICAL FILTRATION.

The fact that efficient filtration is the only true safeguard against typhoid fever is being slowly but surely borne in upon the minds of the American public. As to the best system of filtration, opinions vary in this country; up to the present, mechanical filtration has held sway. However, it would now appear that this mode of cleansing water of deleterious matter has been weighed in the balance and found wanting. Certain it is that in European cities and in American cities in which sand filtration has been established the mortality from typhoid fever has decreased rapidly. The initial cost of slow sand filtration is more than that of mechanical, but probably this is counterbalanced by the greater working expense of the latter method and by the quicker deterioration of plant. Mr. Gallinger has recently presented in the senate the report made by a special committee of the Medical Society of the District of Columbia upon the relative merits of slow sand and mechanical filtration, which contains valuable information on the subject. It is shown that, putting aside the economical merits of the question, the relative aspect of the two systems, viewed from the standpoint of public health, slow sand filtration exhibits an undoubted superiority. It appears that mechanical filters have accomplished little in reducing typhoid-fever death rates. The mortality rates from this disease are compared between five American cities using the mechanical devices, and five cities in Europe using water from sand filters. The results are as follows: Europe—Berlin, 5 per 100,000; Breslau, 9 per 100,000; Hamburg, 9 per 100,000; Rotterdam, 2 per 100,000; The Hague, 5 per 100,000; average, 6 per 100,000. United States—Davenport, 26 per 100,000; Atlanta, 43 per 100,000; Chattanooga, 48 per 100,000; Quincy, Ill., 58 per 100,000; Knoxville, 59 per 100,000; average, 46.8. That is, the American rate was almost eight times as great as the foreign rate. Concerning the comparative bacterial efficiency of the systems, the report says difficulty has been experienced by some in reconciling the comparatively slight failure of the mechanical filter in bacterial efficiency with its marked failure in diminishing the prevalence of typhoid fever, but by experiments made with water from the Potomac filtered by both methods the sand filter easily demonstrated its superiority in getting rid of bacteria. At the annual convention of the American Society of Civil Engineers held on July 3 and 5, 1900, Dr. Ad. Kemna (Antwerp, Belgium) said in part: "The action of sand filtration is essentially a biological one. The mechanical action of straining is obvious; but as microbes are smaller than the interstices between the grains, this action alone does not account for their retention, and it is absolutely inadequate for the reduction of the dissolved organic matter. Various theories have been proposed. The one which considers reduction as a fermentation is consistent with the greatest number and the greatest variety of facts. . . The fact should be emphasized that sand filtration is not an artificial or theoretical process; that it is a natural process, especially because that process is exactly like what goes on in the purification of streams, which invalidates the sentimental argument against purified river water." Mr. Walter Hunt, engineering director of the Grand Junction Water Works Company, London, England, which use sand filters, at the same meeting spoke as follows: "After all, the greatest testimony as to the quality of any water is found in the statistics in regard to the health of the community supplied. The admirable way in which the water supply of London is conducted, for instance, can be so shown. When the death rate in the metropolis is, as it was a week or two ago, something between 12 and 13 per 1,000, and when the average for the year continues from year to year to be something between 17 and 19, and when, too, the very small amount of typhoid fever which we have in this enormous city is noticed, the inference that the filtration of water is carried out in a very admirable way, and that the community has no need to fear in regard to the quality of that water, seems fully justified. We are able to deal with it absolutely well by sand filtration, taking out something like from 98.99 per cent. or 99.999 per cent. of the microbes, and the chemical analyses as made by Sir William Crookes and Professor Dewar, and also by the government analyst,

Dr. Thorpe, are most satisfactory." Sand filtration has been proved in instance upon instance to be effective in checking the spread of typhoid, and, after all, this is the most convincing testimonial to its merits. Its primary cost is greater and it requires more space; but, on the other hand, mechanical filtration is more expensive to operate and requires the greatest care in the artificial chemical processes which constitute the system. Sand filtration is a natural process and has given better practical results than any form of mechanical filtration yet in vogue.

COFFEE DRINKING IN THE UNITED STATES.

THE use of coffee in the United States has attained enormous proportions and so long as it is not consumed to excess its universal consumption is a healthy sign. At any rate, the habit is preferable to that of alcohol; but, as with alcohol, the bounds of discretion may be passed, and when this occurs coffee may and often does exert extremely deleterious effects. In the MEDICAL RECORD, January 12th, Dr. Leszynsky reviews the subject from this standpoint, and shows where coffee is useful and where it is harmful. It is pointed out that caffeine, to which is due the larger part of the physiological action of coffee, is an absolute poison to some persons, while on others no injurious effect whatever would seem to be produced. The former class are of the neurasthenic type. The advice is wisely offered that coffee should never be given to young children. With regard to the symptoms of acute and chronic coffee poisoning, Dr. Leszynsky remarks that between these conditions there is a peculiar difference. In the former, when coffee is taken in large doses by persons unaccustomed to its use, it produces excitability to the degree of delirium, etc. In the latter, which is of greater importance on account of its more frequent occurrence, the toxæmia manifests itself as a depressive form of neurasthenia. In brief, the symptoms of chronic coffeeism are indicative of interference with the nutrition of the cells of the cerebro-spinal system resulting from overstimulation and auto-toxæmia, and correspond very closely with the symptoms of chronic alcoholism, for which it is often mistaken. The fact is undoubted that coffee has an injurious effect upon many people, and it is also as undoubted a truth that excessive indulgence in the beverage so loved of our European ancestors does good to no one. At the same time it is to be hoped that coffeeism may not become prevalent among Americans and that its toxic effects have been somewhat exaggerated. The habit which is followed by some persons in this country of drinking two or three cups of coffee at lunch or dinner when eating meat is greatly to be deprecated, as it must, in the nature of things, disturb digestion and will, if persisted in, permanently weaken the digestive powers. Coffee, partaken of judiciously, is an excellent form of liquid refreshment; but we would add the saving clause, that it must be of good quality and properly made: the latter being almost an art in itself.

KOCH ON MALARIA AND BLACKWATER FEVER.

PROFESSOR KOCH has recently made some noteworthy pronouncements on the origin of malaria and the most efficient mode of treatment, which, albeit somewhat belated, will be listened to with great respect. He declared that he was convinced the mosquito acted as the intermediate host of the malarial-fever germ and that the only specific for that complaint was quinine. It is to be regretted, however, that in making this statement he seems to have quite ignored the researches and conclusions of the Italians, Bignami and Celli; and, above all, those of Manson and Ross. To a person who was unacquainted with the subject it would appear that Dr. Koch was propounding original views. However, it must be satisfactory to all concerned, and especially to Ross and Manson, that their work has received the seal of approval from so distinguished an investigator as the German scientist undoubtedly is. Another conclusion reached by Dr. Koch, that quinine is the cause of blackwater fever, has been received not only with scepticism by those physicians who have had experience in tropical diseases, but in the case of many with absoluted disbelief. Dr. Manson said a short time ago that Koch's view of the quinine origin of blackwater fever was altogether untenable; that blackwater fever was an intense form of malaria was not borne out by facts—the infection was usually a mild one. He thought the idea that it was due to a special type of malaria parasite, possibly resulting from passing through a special form of mosquito, or that it was a disease sui generis as had been held, was not improbable. The *Indian Medical Gazette* of a recent date says that Dr. Nuttall, of Cambridge, some time ago sent to the editor of the *Deutsche medicinische Wochenschrift* a criticism of Koch's which was refused publication in his absence. The Indian journal goes on to say that Professor Koch seems to be regarded in Germany as a sort of medical Kaiser whom to criticise is "lèse majesté."

THE GREATEST ADVANCE IN SCIENCE IN THE NINETEENTH CENTURY.

THE *London Spectator* says that there can be little doubt that nine men out of ten if asked what was the greatest idea which science had introduced into the world in the nineteenth century would answer "evolution." On the whole, we think they would be right. Darwin holds in the scientific world of the ninteenth century the place which Newton had taken in the seventeenth; with a patience and an insight conjoined only once in an age, he gave a clear and persuasive account of the way in which one step in the great world process of evolution might have come about. The nineteenth century will ever be remembered as the age which established the doctrine of evolution, and Englishmen will be justifiably proud to think it will be coupled to all time with the name of Darwin. When evolution is mentioned three other names will immediately occur to one's mind, those of Huxley, of

Spencer, and of Wallace. The publication recently of the "Life of Huxley" has aroused fresh interest in that philosopher, and, considering that he was a member of the medical profession, interest in him and his doings will partake of a somewhat personal nature. If it had not been for Huxley's unceasing labors in spreading abroad the Darwinian theory it is more than likely that evolution would have fallen flat or at any rate would not have attracted the attention of the general public so quickly and so widely as it has.

By some Huxley was known as the "great apostle of evoluton"; he termed himself Darwin's bulldog, and right ably did he perform bulldog work in exhibiting and making clear to the man in the street the true interpretation of the "origin of species." For long he had to contend against religious prejudices, and his famous discussion with the late Bishop Wilberforce will not be soon forgotten. The bishop, who was the most witty and eloquent English churchman of his time and who was commonly known by the not altogether complimentary sobriquet of "Soapy Sam," jeered Huxley for endeavoring to propagate so absurd an idea as that of evolution and wished to know whether it was through his grandfather or his grandmother that he claimed his descent from a monkey, to which Huxley retorted, "I asserted and I repeat that a man has no reason to be ashamed of having an ape for his grandfather. If there were an ancestor whom I should feel shame in recalling, it would rather be a man—a man of restless and versatile intellect—who, not content with an equivocal success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance, only to obscure them by a nameless rhetoric and distract the attention of his hearers by eloquent digressions and skilled appeals to religious prejudice." The verdict of posterity upon both Darwin and Huxley among thinking men, irrespective of their theological convictions, will assuredly be that they were scientists of the very first rank who shed lustre on the nineteenth century.

STATE ENDOWMENT FOR THE ADVANCEMENT OF MEDICAL SCIENCE.

In the *International Monthly*, May, 1900, is a forceful plea by Dr. D. B. St. John Roosa urging state endowment for the advancement of medical science. The history of the rise and development of medical teaching in New York is briefly sketched, and it is shown that up to comparatively recent times all the medical colleges have resembled joint stock companies rather than independent teaching institutions. The alteration which has been effected in the constitution of medical colleges, it need hardly be said, has been productive of nothing but good. As Dr. Roosa remarks, this is one step forward, but he argues that the universities and colleges which now have the complete control of the medical teaching cannot, from their own funds or from private gifts, properly equip them. In the first instance, every medical school should be connected with a hospital of a size sufficiently large to provide ample material for clinical instruction, and the time is coming when the public at large will appreciate this. Next, and as important, is the necessity for a laboratory. The reason why Germany and France have been so prominent within the past thirty years in scientific research is not because of the superior ability or the more enduring patience and perseverance of their students, but because of the especial opportunities for pursuing investigations provided by a paternal and far-seeing government. In order to diagnose correctly various obscure diseases, trained men are needed. This training can be acquired only by a long experience in laboratory work. But a properly equipped laboratory involves the expenditure of much money. According to Dr. Roosa, two kinds of laboratories are required: one such as that in the Pasteur Institute in Paris, and one like the Koch Laboratory in Berlin. He further contends that the State ought to provide sufficient funds for the adequate and thorough instruction of all the pupils in every medical institution already legally authorized and for such others as the increase of population may cause to be established under the regulation of the State. If this were brought to pass —and in a country so rich as America the difficulties in the way should be easily overcome—there is every reason to predict that American medical men would successfully compete with those of Europe in the investigation of disease and the saving of human life.

THE ILLNESS AND DEATH OF QUEEN VICTORIA.

The illness and death of Queen Victoria, in which so much interest has been manifested regarding relations of cause and effect, have been explained by the occurrence of two attacks of arterial thrombosis of the brain; one following the other at short intervals. The first seizure, accompanied with incomplete hemiplegia, was on January 16th, and the last, with increase of paralytic symptoms, a few days before the fatal issue.

From a pathological view the case followed a very ordinary course. It appears quite probable that the primary lesion was the parietal form of embolism consisting of adhesion of portions of the clot to the inner wall of the vessel, merely obstructing the blood current, and that afterward there was complete obliteration of the affected vessel by the formation of increased coagulum. All this is consistent with the symptoms of the malady as thus far detailed.

The somnolent condition which antedated the more pronounced symptoms of trouble was evidently due to sluggish cerebral circulation, and was the beginning of the end. It is well known that mental torpor in elderly patients is a common precursor of the brain lesion in question, inasmuch as a slow blood current invites the deposit of coagulum on the already roughened and atheromatous walls of the cerebral arteries.

If the reports as published are strictly correct—to the effect that hemiplegia was complete—it is easy to believe that a large portion of the motor area of the brain was involved in the lesion; especially did this appear to be the case in the final seizure.

It is quite probable also that a hemorrhagic infarction occurred at that time, inasmuch as the conditions of the original area of deficient blood supply gave ample opportunities for such a mishap. In fact, it is not unusual under such circumstances for the extravasation to become extensive enough to give rise to all the symptoms of profound apoplexy.

Although the distinguished patient was the fortunate possessor of a strong constitution, there was no guarantee against the degenerative tissue changes which occur to all elderly personages. While these metamorphoses go on almost simultaneously in all the vital centres, there is generally some specially weak spot in the organism which gives way first. Commonly, as in this case, it is the brain, which amply accounts for the frequency of apoplexy, cerebral thrombosis and embolism in the aged.

News of the Week.

The Women's Medical Association of New York City.—The Alumnæ Association of the Woman's Medical College of the New York Infirmary for Women and Children has, in view of the closing of the Woman's Medical College of the New York Infirmary, and the impossibility of new alumnæ entering the association, undergone certain changes of name and objects. It was deemed advisable to make the society a living force by adopting its present more comprehensive name, and making women physicians, graduates of regular schools at home and abroad, eligible to active membership. The president of the association is Dr. Elizabeth M. Cushier, and the secretary, Dr. Evelyn Garrigue, 18 West 103d Street.

Philadelphia County Medical Society.—At a stated meeting held January 9th, Drs. John H. Musser and A. O. J. Kelly read a paper entitled "Hæmoglobinuria Complicating Typhoid Fever" and related a case presenting this rare complication. Dr. William Osler, of the Johns Hopkins University, read a paper entitled "Perforation and Perforative Peritonitis in Typhoid Fever," in the course of which he made an earnest plea for a thorough study of the symptoms of this condition, in order that an early diagnosis may be made, and delay in operation may be avoided. At a stated business meeting held January 16th the following officers were elected for the ensuing year: *President*, Dr. George Erety Shoemaker; *First Vice-President*, Dr. Thomas H. Fenton; *Second Vice-President*, Dr. Francis Perkins; *Secretary*, Dr. Ellwood R. Kirby; *Assistant Secretary*, Dr. William S. Wray; *Treasurer*, Dr. Collier L. Bower; *Censor*, Dr. Frederick P. Henry. Reports of the directors, of the treasurer, of the censors, and of the publication committee were read.

Stony Wolde Sanatorium.—Having observed the lack of proper sanatoria for the care of working women and children suffering from tuberculosis, a number of ladies interested in charity formed a committee last September for the purpose of establishing the Stony Wolde Sanatorium. The officers of this committee are Mrs. George F. Shrady, chairman; Miss Gertrude Gold Shipman, secretary; Mrs. James Edward Newcomb, treasurer. The site now under consideration for this sanatorium is at Kushaqua Lake, on the Adirondack division of the New York Central and Hudson River Railroad. It consists of five hundred acres, has excellent water facilities, and is claimed to be ideal in nearly every particular. The sanatorium will be built on the cottage plan and the number of cottages erected will depend upon the amount of money subscribed. It is hoped that accommodations may be provided for one hundred patients. In the past three months there have been twenty-four applications for treatment in this sanatorium. All of these applicants were in the incipient stages of tuberculosis. The institution will be non-sectarian and under the control of the following board: Dr. Edward G. Janeway, Dr. Francis Delafield, Dr. George F. Shrady, Dr. Charles H. Knight, Dr. Charles M. Cauldwell, Dr. Arthur G. Root, Albany; Dr. Henry Hun, Albany, and Dr. James E. Newcomb.

Dr. Mary Moore Wolfe has been elected resident physician in the department for women of the Pennsylvania State Hospital for the Insane at Morristown, in succession to Dr. Susan Taber.

The Manhattan Dermatological Society of New York City.—A society with this name was recently organized in this city. The officers for the first year are: *President*, Dr. William S. Gottheil; *Vice-President*, Dr. Ludwig Weiss; *Secretary*, Dr. Jacob Sobel.

Cold Weather in Cuba.—At the time of the recent cold wave in this part of the country Cuba was visited with a severe "norther" which carried the temperature in all parts of the island to an uncomfortably low degree. This will render the mosquitos more or less quiescent and put an end to the lingering traces of yellow fever in Havana, just in time to make it more pleasant for the members of the Pan-American Medical Congress.

An Evident Misfit.—The Health Officer of the Port of Perth Amboy, N. J., has granted an interview to a reporter of the *Chronicle* of that place, in which he aired some heterodox views concerning vaccination. He said vaccination would not render any one immune against smallpox, and that the operation was putting poison into a person's body, giving him a distinct disease which sometimes caused more suffering than smallpox. He implied that compulsiory vaccination was a crime, yet said he would, in his capacity of health officer, vaccinate every person on any ship which might enter the port with smallpox on board. This remarkable health officer is entitled to hold any opinion concerning the efficacy of vaccination which he may please, but a sense of the fitness of things should lead him to retire from his official position before giving public expression to such misleading and dangerous views.

Twins Born in Different Centuries.—In a small town in Warren County, this State, twins were born, one a few minutes before midnight on December 31,

1900, the other a few minutes past twelve o'clock on the morning of January 1, 1901. The neighbors are quarrelling as to what day shall be celebrated by the couple as their common birthday, or whether the children, being born in different days, months, years, and even centuries, may be regarded as twins, or simply as brothers.

Epidemics in Southern New Jersey.—Many of the towns in the lower part of New Jersey are being ravaged by epidemics of scarlet fever and diphtheria. In numbers of places the schools have been closed, and in some even church-going and other assemblages have been abandoned.

The Smallpox in New York is well under control by the health board and only occasional cases are reported. From the beginning of the outbreak up to January 19th, one hundred and twenty-eight cases of the disease had come to the knowledge of the board of health. Ten of these cases resulted fatally. It was reported by the State board of health at the end of last week that there were seventy-five cases of the disease in this State, the greatest number being in Watertown and Schenectady.

A Druggist Mulcted for a Mistake in Dispensing.—A man of this city who sued a drug firm to recover $2,500 damages and $55 medical expenses incurred in the treatment of his infant daughter, on the ground that on a prescription calling for twelve tablets of calomel there were sold him a dozen strychnine pills, each containing one-twentieth of a grain, recently recovered a verdict of $500 in the Supreme Court. The child is now in perfect health, it was testified.

Insanitary Condition of Sing Sing Prison.—Five members of the State Prison Association, in company with a sanitary engineer, made an inspection of Sing Sing prison last Saturday. They found that the prison buildings are only four feet above tidewater, and that at high tide there is no outlet for the sewers. All the refuse is thrown back into the place, forcing gases into the prison. They condemned all the plumbing. The occurrence of over thirty cases of typhoid fever in the prison was the immediate occasion of the examination.

Jockeying the Doctors.—The profession is warned against a couple of men who, it is thought, are visiting physicians' offices, offering a large sum for the treatment of a jockey connected with a prominent racing stable, but endeavoring on the strength of it to secure among other things an advance in cash from the physician.

Arrested for not Reporting a Case of Smallpox.—A physician has been arrested in Brooklyn on complaint of one of the health officials charging him with having sent a false certificate of death in the case of one of his patients who had died of smallpox. The certificate alleged typhoid fever as the cause of death, and the case had also been reported as such while the patient was under treatment. The accused pleaded not guilty and was paroled for further examination. On the surface it would seem somewhat difficult to prove that the case was one of false certification rather than of faulty diagnosis. The latter is reprehensible, if not inexcusable, but it can hardly be called a crime.

Fire Damages Virchow's Museum.—As a result of a fire occurring in the pathological museum of the University of Berlin, on January 16th, a number of specimens forming a part of the Virchow collection were destroyed or greatly damaged.

The Epidemic of Influenza in this city seems to be, temporarily at least, on the decline, the cold weather having apparently caused its subsidence. During the week ending January 19th, there were eighty-two deaths from influenza, and forty-five in the previous week.

University of Pennsylvania.—Dr. Wm. G. Spiller has been appointed demonstrator of neuropathology and will conduct an elective course for a limited number of graduates and students for the study of the pathology of the central nervous system and the preparation and examination of microscopic sections.

A Plague Ship at Hamburg?—A despatch from Berlin states that the German steamer *Pergamon*, which arrived at Hamburg on January 15th from Smyrna, had a number of dead rats on board. This caused a suspicion that they had died from the bubonic plague. The rats are undergoing bacteriological examination.

Quarantine of the Cook County Hospital.—On orders issued by Commissioner of Health Reynolds, of Chicago, the Cook County Hospital has been quarantined on account of smallpox, no one being permitted to leave or enter it. Several students of the Rush Medical College had examined a smallpox patient, who had presented himself at the college clinic, and then went through the wards of Cook County Hospital. On the same day a man with smallpox visited a friend, who was a patient in the hospital, and remained there some time before the nature of his trouble was discovered. On this account, a despatch from Chicago states, the building will be quarantined until all danger of an outbreak is at an end.

A Curious Case of Sex Concealment.—A person died in this city last week who had always passed as a man of the tougher sort, but who was found on death to be a woman. She was an active politician of a low order, drinking with the "boys," gambling, fighting, and conducting herself in every way like her fellows. She has voted for many years, was married twice, and had an adopted daughter who lived in her house, never suspecting her "father's" sex. The case was as curious in its way as that of an English army surgeon, whose history was related some years ago in the medical journals, who had seen much service at home and abroad, no one having a suspicion that she was not a man.

Arrested for Spitting.—A man named Henry Nearman was held for trial in $100 bail by Magistrate Hogan in the West Side police court on Saturday for expectorating in a Ninth Avenue elevated car. Pend-

ing the trial he was paroled. The complaint against him was made by Mr. Henry W. Hardon, a lawyer, and formerly an instructor in Columbia University, who said that Nearman continued to spit in the car after his atttention had been called to the board-of-health sign prohibiting it. The elevated guard also ordered the offender to desist, but the more he was remonstrated with, the more profusely he expectorated. Complaint was then made to the board of health, and a summons was obtained for the man's arrest. Mr. Hardon is a public-spirited citizen who deserves the thanks of all decent persons for his performance of a disagreeable duty.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending January 19, 1901. January 11th.—Assistant Surgeon J. B. Dennis to delay reporting for duty at naval academy until January 21st. Assistant Surgeon J. C. Pryor ordered to duty at naval hospital, New York. January 16th.—Assistant Surgeon R. B. Williams detached from the navy yard, New York, and ordered to the Pensacola navy yard. Assistant Surgeon T. M. Lippitt detached from the naval hospital, Yokohama, Japan, and ordered to the naval hospital, Mare Island, via *Solace*. Assistant Surgeon B. L. Wright detached from the naval hospital, Yokohama, Japan, and ordered to naval hospital, Mare Island, per *Solace*.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held January 14th, Dr. William G. Spiller exhibited "A Case of Right Facial Palsy Followed by Transitory Paralysis of the Right Upper Limb." The former condition was evidently of peripheral origin, while the latter, which was associated with astereognosis, was believed to be dependent upon a lesion in the left parietal region. Dr. Henry M. Fisher exhibited "A Case of Paralysis of the Infraorbital Division of the Fifth Nerve" inflicted by the prong of a pitch-fork. Dr. Joseph Sailer exhibited "A Case of Arthropathy without Symptoms of Spinal-cord Disease." The patient was a degenerate with general wasting, but with enlargement of both knees, attended with a sense of objective heat. Dr. J. H. Musser was elected chairman for the ensuing year, and Dr. S. McC. Hammill, clerk.

The Late Dr. Horace T. Hanks.—At the annual meeting of the Medical Association of the Greater City of New York, held at the New York Academy of Medicine on January 14, 1901, the following report was presented. P. Brynberg Porter, M.D., *Recording Secretary*.

"The committee appointed by the president, Dr. Weir, at the December meeting of this association, to prepare a suitable minute in regard to the death of Dr. Horace Tracy Hanks, begs leave to report as follows:

"It is with sorrow that we are called upon to report the death of Dr. Horace Tracy Hanks, one of the charter members of our association. Dr. Hanks died of Bright's disease, at his home in this city, on November 18, 1900. He was born in East Randolph, Vt., on June 27, 1837. He was graduated from the Albany Medical College in the class of 1861. After serving as an acting assistant surgeon in the Union army for two years, he began the practice of medicine in Royalston, Mass., where he remained, however, for a short time only—removing to New York City.

"He held many positions of responsibility, among which are the professorship of the diseases of women in the Post-Graduate Medical School and attending surgeon to the Woman's Hospital in the State of New York. He was consulting gynæcologist to the Tarrytown, Mount Vernon, and St. Joseph's hospitals. He was a member of the New York Academy of Medicine, the New York County Medical Society, and the American Medical Association, and was a fellow of the American and of the British Gynæcological societies. (Signed) Henry D. Nicoll, Clement Cleveland, Edward E. Tull, *Committee*."

Obituary Notes.—Dr. Edward L. Pardee died of pneumonia in this city on January 11th. He was born in Romulus, N. Y., in February, 1842, and was graduated from the New York University Medical College in 1870. He was one of the house staff of Charity (now City) Hospital in 1872 and 1873. For twenty-three years he was connected with the board of health of this city, the greater part of the time being chief inspector and manager of the vaccine laboratory. He retired in 1897, and went to East Bloomfield, N. Y., to live. He had come to this city to spend the Christmas holidays and was stricken with grippe, pneumonia rapidly developing.

Dr. Benjamin Brown, of Chicago, died at Washington on January 17th at the age of sixty-three years. He had practised for many years in Chicago and was prominent in Republican politics in that city, but had been ill for a year with the disease from which he died.

Dr. James Boyd McKelvey died at Bloomsburg, Pa., on January 15th at the age of seventy-six years. He was a graduate of Williams College and of the medical department of the University of Pennsylvania.

Dr. Henry Foster, of Clifton Springs, N. Y., died suddenly of heart disease on January 15th. He was born in 1821 and was graduated from the medical department of the Western Reserve University, Cleveland, Ohio, in 1848. He was the founder and proprietor of the Clifton Springs Sanatorium.

Dr. Charles Wesley Purdy died in Chicago on January 20th at the age of fifty-four years. He was born in Kingston, Ontario, and was graduated from the medical department of Queen's University and Royal College of Physicians and Surgeons in 1869. He had practised in Chicago for many years, being especially interested in diseases of the kidneys.

Dr. Lillian R. Safford died in York, Pa., on January 21st. She was a graduate of the Woman's Medical College in this city.

Dr. George Lester Rundle, of Passaic, N. J., was killed on January 21st by a train of the Lackawanna Railroad which struck his carriage as he was driving across the track. He was hurled into a gully beside the track and was carried to the Passaic Hos-

pital, where he died. He was thirty-four years of age and was a graduate of the medical department of the New York University in the class of 1890.

Dr. Charles E. Conrad died in Quincy, Ill., on January 21st, at the age of eighty-one years. He was born in Siberia and studied theology and medicine in Berlin, where he received his medical degree in 1848. He worked in India as a medical missionary for several years, and then came to America, taking up his residence in Quincy.

Progress of Medical Science.

Journal of the American Medical Ass'n, Jan. 19, 1901.

Athrepsia Infantum; Marasmus, or Wasting Disease; Atrophy; Malassimilation of Food.—Louis Fischer states that Parrott was the first to define this disease, and he classified it into three stages: (1) The infant suffers from a simple diarrhœa: the stools are liquid, curdy, often green, and contain an excessive quantity of mucus. The abdomen is distended with gas. Stomatitis appears. The infant is restless and sleepless. The tissues become flabby and wasting commences. (2) The symptoms are intensified. The temperature falls below normal. The wasting is extreme. (3) The third stage brings th child into a moribund state. Death then ensues. By far the greatest number of cases of athrepsia are found in bottle-fed children, though there are many among breast-fed children. The treatment consists in removing the cause. Medication amounts to nothing in the treatment. The blandest and least irritating food must be selected, while frequent weighing of the infants should be resorted to in order to ascertain their progress. When there is much diarrhœa milk must be used sparingly or altogether omitted for a while. Small quantities of whey and barley water, white of egg and barley water, or the juice of a rare chop or steak may be given at short intervals during the day and night. As soon as the diarrhœa begins to improve, milk in some form may be allowed. At times we must resort to various methods of feeding, until we find the proper method upon which a baby will thrive. The writer then takes up the subjects of humanized milk, sterilized milk, pasteurized milk, and peptonized milk.

Angina Epiglottide Anterior.—Clement F. Theisen states that this name was given by Michel in 1878. True angina epiglottidea anterior occurs quite often as a primary affection, and is a separate and distinct condition. There are various tiological factors, such as injury of the lingual tonsil or epiglottis itself, the inhalation of pungent chemical vapors, the swallowing of raw spirits. It is also a possible complication of Ludwig's angina. It may be part of a general œdema of the fauces, or it may occur during the course of certain infectious diseases. It may occur suddenly with perichondritis, carcinoma, or ulcerative processes due to syphilis and tuberculosis. As to the diagnosis, the condition cannot well be mistaken for anything else. The writer urges the employment of the laryngoscope in all cases in which patients complain of severe pain in the throat and inability to swallow, with a normal pharynx. In the treatment, the value of early scarifications is emphasized. An iced ichthyol spray is valuable. In ase ice or iced sprays cannot be used, steam inhalations—medicated—would be of service. The conclusions are: (1) Angina piglottidea anterior is very often primary and is an acute infectious process. (2 The term "acute infectious epiglottitis" is suggested for this condition as being more scientific, and more fully explaining its probable nature. It is, of course, understood that the inflammation and œdema involve only the anterior surface of the epiglottis.

Tuberculosis f th Lungs Treated by Compression with Nitrogen after the Method of Murphy, with Further Remarks on th Rational of th Procedure and a Record of Experiments n Dogs.—By A. F. Lemke.

Som Remarks o. th Plantar Reflex, with Special Reference to the Babinski Phenomenon.—By J. T. Eskridge.

A Clinical Study of On Hundred and Fifty Cas s of Hyperphoria.—By Wendell Reber.

The Silver-Injection Tre tment of Pulmonary Consumption.—By Thomas J. Mays.

Ocular Complications of Injuries to the Head.—By John T. Carpenter.

Costa Rica, its Physicians and Medical Institutions.—By N. Senn.

Light and Seating in the S ho l.—By C. Zimmerman.

The Boston Medical and Surgical Journal, Jan. 17, 1901.

Note n the Treatment of Epidermoid Cancer by Roentgen Rays.—Francis H. Williams says that his experience at the Boston City Hospital indicates that we have either in the *x*-rays themselves or in some other form of radiation from an excited Crookes tube a valuable therapeutic agent in epithelioma, and that the beneficent action of the *x*-rays can be brought about without causing a burn. Foul and nearly unbearable odors cease, the discharge becomes less, and the growth steadily diminishes in size. The earlier this treatment is undertaken the better. It is not improbable that we shall find its curative action limited to superficial growths, though as a means of relieving the painful features of the disease in other forms it may be of some use.

Dedication of the New Building of the Boston Medical Library.—Addresses and remarks by David W. Cheever, James R. Chadwick, F. W. Draper, William Osler, J. S. Billings, H. C. Wood, Henry P. Walcott, S. Weir Mitchell.

Medical News, January 19, 1901.

Problems in the Etiology, Diagnosis, and Treatment of Tuberculous Disease of the Upper Air Passages.—Jonathan Wright believes that the interesting phenomenon connected with the subject of infection is that apparently the mucous membranes absorb, the lymphoid material harbors, and the lymph channels carry the tubercle bacillus and yet are themselves relatively immune to its morbific influences as compared to the walls of the bronchioles and air vesicles. This, however, is not so much the case with the cervical and bronchial glands. The individual as well as the generic variation of both bacteria and their hosts in the general scheme of the bacterial etiology of disease must be remembered. The lungs are generally the primary seat of the disease. Primary disease of the upper air passages is so rare that its very occurrence has been doubted. The writer emphasizes three points in reference to diagnosis: (1) The diagnosis of incipient laryngeal tuberculosis. (2) The differential diagnosis of tuberculosis from syphilitic laryngitis, and these include the (3) salient point, viz., the microscopic examination of the sputum. (1) Laryngoscopy strengthens or weakens the suspicions concerning the disease, and physical evidences of pulmonary involvement with the laryngoscopic evidence will form a probable diagnosis, but the demonstration of the tubercle bacillus must prove it. (2) A history of syphilis with the characteristic serpiginous ulceration will make the diagnosis easy. Laryngeal stenosis in syphilis may supervene promptly and suddenly. Tuberculous laryngitis is usually not accompanied by dangerous dyspnœa. Syphilitic laryngitis usually is. The observer must be on his guard and beware of the history given by the patient. (3) Sputum analysis should always be carefully made. If the tubercle bacillus is not found, iodide of potassium and mercury should be given till the case is cured or the diagnosis is clear. Climatic change is probably the most effective agent in the cure of the disease. As to the cure of laryngeal tuberculosis by agencies at our disposal in the present stage of our knowledge, honest belief as to that seems to be largely a matter of individual temperament.

Ligation of the Internal Jugular Vein followed by Thrombosis of the Lateral and Sigmoid Sinuses.—Charles G. Levison states that removal of malignant growths of the neck is the usual indication for the ligation of the internal jugular, whose ligation greatly facilitates the removal of the growth. Secondary hemorrhage is due to an infection, a factor which can be practically excluded by our modern methods. The writer reports the case of a man aged fifty years, who was operated on for a tumor which extended above to the jaw and almost to the median line. About two inches of the jugular were removed with the growth. The patient died in coma on the sixth day. At autopsy the peripheral end of the vein was obliterated, quite collapsed, and devoid of blood. The distal end was distended oy a firm clot. The sinus on the operated sid was distended with blood. Upon opening of the lateral sinus down to the jugular foramen, an organized clot, continuous with the clot in the jugular, was discovered. The sinus on the opposite side and the longitudinal sinus contained only fluid venous blood. Rohrbach's statistics show that this complication subsequent to ligation of the internal jugular is of infrequent occurrence. The indications which he gives for the ligation of the internal jugular are as follows: (1) Hemorrhage due to a laceration or erosion —here the lateral ligature or suture has its place. (2) Tumors involving the vein. (3) Periadenitis due to tuberculous lymphomata closely adherent and inseparable from the vein. (4) Aneurismal varices. (5) Pyæmic otitis, complicated by thrombosis of the lateral sinus.

Conclusions Formed after Six Years' Experience with the Antitoxin Treatment of Diphtheria.—Henry F. Koester concludes: (1) Antitoxin is a positive cure for diphtheria when employed in sufficient quantity and sufficiently early in the disease. (2) Even when employed too late in the disease to produce its specific action, it cannot under any circumstances be productive of harm. (3) When used before the invasion of diphtheria, antitoxin possesses a positive immunizing power which lasts about thirty days. A great deal has been said about the failures of antitoxin, but in none of these cases has it ever been stated what quantity of antitoxin was employed, how early in the disease it was given, what complications existed before use, or how other medication, as for example large doses of bichloride of mercury, may have contributed to the unfortunate ending.

Notes on the Interesting Cases of a Month's Dispensary Practice.—By William L. Stowell.

A Case of Adiposis Dolorosa.—By Ellice M. Alger.

New York Medical Journal, January 19, 1901.

A Case of Paroxysmal Hæmoglobinuria.—W. J. Lamson reports the case. The patient was a man, American, aged forty, who had lived as a child in South America, but had had none of the tropical diseases. One day, after a long drive in the cold and being thoroughly chilled, he passed urine deeply colored with blood. Thereafter he had similar attacks at irregular intervals, and they have continued till the present time, a period of some eight years, always referable apparently to exposure to cold. A typical attack begins about 10 A.M. with a chilly feeling, often becoming a rigor; cold extremities and cyanosis of fingers, nose, and ears; increase in jaundiced hue, and nausea. He then passes urine of port-wine color, somewhat more frequently than normally and in greater amount. The chill lasts from one-half to three hours, and is succeeded by a feverish sensation. At times an urticarial eruption appears on the dorsum of the hands or on the right cheek; or he may have tender painful areas over the bridge of nose, around the right orbit, or in the left groin. Normal urine is passed again, sometimes in twenty minutes, often not for several hours, depending on how quickly he becomes thoroughly warm. Between the attacks he feels perfectly well, but is a little anæmic. The blood shows no plasmodia. The urine is normal. There is a double murmur at the base of the heart. No remedial measures have been of any special service. The author gives a general description of the malady, and considers the best therapy to be removal to a climate where the temperature is mild and equable.

A Peculiar Case of Migratory Foreign Body with X-Ray Illustrations.—By D. Braden Kyle. The patient was a woman who complained of frightful neuralgic pain with soreness and swelling. The peculiar feature in the case was the change of site of the symptoms. At times one would almost suspect mastoiditis. Sometimes facial neuralgia, again ethmoiditis, and lastly all the symptoms of confined suppuration of the maxillary sinus were present. During one of these attacks a piece of a needle was discharged from the nostrils in a mass of pus, but symptoms continued at intervals. A radiograph led to a suspicion of a foreign body in the antrum, but nothing was found on exploration through the canine fossa. A few days later a gumboil-like swelling formed near the operative opening, and finally discharged spontaneously; but something hard was located and found to be the rest of the needle, which was easily extracted. Symptoms permanently disappeared.

General Anæsthesia; the Preliminary and After-Treatment with Remarks on Ether and Chloroform.—By E. Payne Palmer. A general article containing nothing new.

Report of Two Cases of Dermoid Cyst of the Nose.—By H. S. Birkett.

Two Cases of Hæmarthrosis of the Knees.—By B. A. Hibbs.

The Method of Examination of Infants.—By C. Herrman..

Gastric Ulcer; Report of Two Cases.—By E. S. Goodhue.

Philadelphia Medical Journal, January 19, 1901.

Two Cases of Localized Neuritis Occurring as a Complication of Typhoid Fever.—H. J. White states that localized neuritis is one of the rarer of the many and widely distributed complications of typhoid fever. Multiple neuritis is much more common. The etiology of the latter is now generally accepted as follows: The toxins produced by the typhoid bacillus act directly on the nerve fibres, causing a mild perineuritis. But the singling out of one nerve or set of nerves which is affected, in the former condition, seems to betoken some special individual susceptibility to the effects of the toxin. The writer then reports two cases. The first was that of a man aged fifty years, who, after an attack of moderately severe typhoid which began about February 1, 1900, showed a double ulnar neuritis. He was admitted to the hospital May 31, 1900. On the right hand the fingers were all stiff, complete extension being impossible. There was marked atrophy of all the interossei muscles. Trophic changes over the little and ring fingers were evident in the smooth and glossy skin, absence of hair, and furrowed nails. There were anæsthesia, analgesia, and thermic anæsthesia along the ulnar side of the hand, on both sides of the little finger, and on the ulnar side of the ring finger. None of the motor-nerve points gave any response to the faradic current. The left hand presented a condition similar to that of the right, only of far milder type. Although electricity and counter-irritation were tried for several months, the condition remained unchanged. The second case was one of tender toes of typhoid fever. There was absence of redness, swelling, and heat, as well as absence of leucocytosis. The condition gradually abated.

Report of a Case of Cholelithiasis with Formation and Rupture of an Abscess of the Abdominal Wall.—John H. Gibbon reports this case. The patient was a woman aged fifty years. Four years before admission to the hospital she had a severe attack of abdominal pain, low down in the right side, radiating to the umbilicus and occasionally to the right shoulder. Since this attack the patient has had many others and has never been entirely free from pain in the lower right side of the abdomen. The patient never vomited, was never jaundiced, never collapsed from pain, and as far as she knows never passed any gall stones. The conclusion was drawn that there existed an abscess of the abdominal wall. An operation was decided upon. The incision disclosed an abscess dissecting in several directions and containing pus mixed with a clear, thick fluid. On dilating one of the pockets a gall stone was withdrawn and following it fifty-one others. The gall bladder had been opened. During the first week there was a considerable discharge of bile. No jaundice developed after closure of the external fistula. The fistula opened again within a few weeks and discharged bile and mucus, but recently closed again and has remained so ever since.

The Clinical Use of Thermol in Typhoid Fever at the Atlantic City Hospital, Atlantic City, N. J.—By A. B. Shimer.

The Phenomena of Atropine Poisoning following the Cessation of the Respiratory Movements.—By Edward T. Reichert.

A Case of Mirror-Writing and of Diffuse Hypertrophy of Both Breasts in an Epileptic Negress.—By W. G. List.

Hæmoglobinuria Complicating Typhoid Fever.—By John H. Musser and Aloysius O. J. Kelly.

On Perforation and Perforative Peritonitis in Typhoid Fever.—By William Osler.

The Lancet, January 12, 1901.

The Treatment of Dupuytren's Contraction and Other Points in the Surgery of the Hand.—A. H. Tubby advocates the open method of incision and treatment—that is, the removal by dissection of all the affected palmar fascia. The advantages are: (1) All the fascia can be removed and there is no liability of recurrence. (2) Treatment is shortened, for as soon as the wound is healed splints can be given up. (3) No expensive apparatus is necessary, thin narrow malleable iron splints being all that are required. Certain disadvantages have been urged against the open method. First, it involves a prolonged dissection, but to a skilled operator this in itself is not a matter of great moment; and, secondly, while removal of the indurated fascia in the palm is easy by dissection, it is not possible to dissect it out off the sides of the fingers except in strictly localized bands; and, thirdly, if for any reason the hand should go septic after the operation, the results are disastrous. Concerning the prognosis of tendon division and suture in the hand, the author notes three conditions affecting the result in any given case: (1) The index of tension at which the muscle and tendon are set—*i.e.*, their powers of retraction; (2) the limitation of retraction of the tendon by bands of fibrous tissue binding it in its grooves; and (3) the character of the structures at the spot where division of the tendon occurs—*e.g.*, if division is made where the tendon is surrounded by vascular areolar tissue, plentiful formation of fibrous tissue takes place, and the tendon unites despite considerable retraction of the divided ends. It, therefore, becomes necessary to remember the foregoing three points in forming a prognosis as to the results of tendon division. If the extensor tendons of the fingers are severed, better results can be expected than in the case of the flexors, owing to the closer attachment of the former to the sheaths, to the integument, and to one another. But the retraction is greater when division occurs above the wrist than below it. The extensors of the thumb frequently suffer in wounds of the hand. If they

are divided at the back of the wrist they retract only about 1 cm., as they are more or less bound down by periosteum and good union occurs, but if the division takes place over the metacarpal bone the central end will retract three or four times as much, as the tendons play freely in the sheath, and the latter is very loosely attached to surrounding structures, so that good union is rare. When the wound is at the metacarpal phalangeal articulation of the thumb the prognosis as to healing is good, for the tendons are bound down to the capsule of the joint and cannot retract even though the joint has been opened. The flexor tendons, if divided at the wrist joint, retract very considerably, but the superficial ones less so than the deep, for the former lie in tubes of fasciæ; yet better union occurs here than in the palm of the hand, because the neighboring structures are more vascular and a good uniting bond of tissue is thrown out. A most important point is to keep the wrist fully flexed for at least four weeks after the accident and then gradually to bring the hand into the straight position, taking at least a month to do so. In any operation on the flexor tendons of the hand and fingers the wrist is the seat of election, as it is more likely that new tendon formation will follow, and the exact length of this can be graduated by carefully controlling the position of the hand on the forearm. A recognition of these points is of importance in the treatment of contracted hand for spastic paralysis.

Pneumococcic Arthritis.—E. J. Cave details a round of cases of arthritis seen in connection with pneumonia. He says that the symptoms may vary in severity from pain and slight swelling of a single joint to inflammatory œdema of a joint, or, indeed, of a whole limb with abnormal motility from destruction of the ligaments and with grating of the bared surfaces of the bones. Fever is generally high. The exact nature of the joint affection can be determined only by its association with pneumonia, or other pneumonic infection, and by bacteriological examination of the joint contents. Prognosis is grave both with reference to life and to utility of the joint; to life because of the extreme frequency of infection by the pathogenic organism and its characteristic localizations in the endocardium, meninges, and other tissues (pleura, pericardium, endocardium, peritoneum, etc.). Treatment calls for hot-air baths, hydrotherapy, massage, douches, etc., and in case of suppuration in the joint, which occurs in the majority of cases, opening of the joint, flushing, fixation, and drainage. Even in cases of serous effusion the author questions whether the result would not be more favorable if an arthrotomy for the removal of morbid products was done. In addition a possible source of generalized infection would be removed. Salicylates are of no avail.

The Relation of the Bowel Lesion of Typhoid Fever to the General Symptoms of the Disease.—T. J. Maclagan says that the action of the typhoid bacillus is a dual one: (1) There is the specific local action of the parasite on the intestinal glands, and (2) the general action on the blood and tissues. The bowel lesion does not cause the fever nor does the fever cause the bowel lesion. Both are conjoint results of the double action of the bacillus. The vast overgrowth of the bacilli in the tissues causes the fever and general disturbance. Neither action would be disastrous in itself or be followed by serious consequences but for the fact that the trouble in the intestinal glands ends in sloughing or suppuration, and many of the features of the later stages of typhoid are due to various organisms (other than the typhoid bacillus) which come into play during these processes of sloughing and suppuration. It is the absorption of these latter germs into the system and their reproduction there that cause the alarming symptoms of so many cases and make typhoid such a dangerous disease.

A Case of Siriasis.—A. E. Griffin details a case of what he calls siriasis, a condition (described under many different names) of intense pyrexia developed by prolonged exposure to a heated atmosphere and which is not to be confounded with that of simple "heat exhaustion." The disease is supposed to be of microbic origin, and it is stated that the special germ has been isolated. It is added that stokers on steam vessels never suffer from the malady and that the latter seems confined to the coast of the Red Sea. A study of the symptoms given does not, in the abstractor's opinion, differentiate the condition from one of severe sunstroke as seen in the northern cities of the United States. Under the heading of treatment reliance seems to be placed on ice-packs together with stimulation by digitalis.

Loss of the Left Forearm by Amputation; Death Forty-nine Years Thereafter; Necropsy; Localized Area of Atrophy at the Base of the Second Frontal Gyrus.—By P. Maclulich and E. Goodall.

A Case of Chronic Inversion of the Uterus of Seven Months' Duration Successfully Treated by Aveling's Repositor.—By T. Oliver.

Dorsal Dislocation of the First Phalanx of the Little Finger; Reduction by Farabœuf's Dorsal Incision.—By H. L. Barnard.

Enlargement of the Prostate.—By P. J. Freyer.

Reflections on Therapeutics.—By H. Campbell.

British Medical Journal, January 12, 1901.

Observations on Wind Exposure and Phthisis.—William Gordon has made a special study of the phthisis death rate in Devonshire. He refers to Haviland's work on the geographical distribution of disease, published in 1868, which included the relation of wind to phthisis mortality. This writer expressed the view that exposure to prevailing winds produces increase of phthisis mortality. In looking over the apparent effects of the various winds, Gordon states that if the north wind were injurious we could not account for the low mortality of the whole north coast; so with the northwest wind. If the northeast wind exercised a very injurious effect it would almost reverse the actual distribution of the death rate. The east wind has access to a great part of the low mortality area, although in this study the three areas of lowest mortality are exempt from it. The southeast wind has fair access to all the areas of low mortality. The south wind has access to all the areas of low mortality, perhaps excepting one. The west and southwest winds only are left. The writer adds that, on the whole, it may be said to be probable that in Devon exposure to west and southwest winds increases mortality from phthisis. It is also interesting to note how the population has avoided these winds. The villages of to-day and the hut circles of primitive ages alike are placed where west and southwest gales can least easily reach them. In the parishes exposed to west and southwest winds the phthisis death rate is nearly three times as great as in the sheltered parishes, while the death rate in the imperfectly sheltered parishes is nearly the mean of those in the sheltered and the exposed. In the district of St. Thomas the phthisis mortality is actually higher on the pervious than on the impervious areas. The presence of wind exposure overshadows any possible influence of soil. In other districts the influence of soil is by no means obvious. But whatever influence seems exerted by soil, it is undoubtedly subordinate to the influence of wind exposure. In these various districts, therefore, the paramount influence which determines a higher or lower rate of phthisis mortality is the degree of exposure to or shelter from the west and southwest winds. This article contains a number of interesting tables.

Jaundice in Typhoid Fever.—George Ogilvie declares that jaundice is generally considered a rare and grave complication of typhoid fever, but the writer believes that its rarity and fatality have been overestimated. His observations show that in some cases of true typhoid fever jaundice may run a course "totally different from what is usually observed," and that this fact alone is not sufficient to construct a new clinical species. It seems almost certain that the etiology is not of a catarrhal nature. The coloration of the stools, the tenderness of the right hypochondrium on pressure which has been observed in one case reported by the writer, and the nausea following from pressure over the region of the gall bladder, all point in a different direction. There are certainly other changes of the liver besides abscess and gall stone which, although rarely, may lead to jaundice in typhoid fever; but whether they can all be regarded as toxic may be open to doubt. But clinical and pathological evidence alike seem to prove that catarrhal jaundice in typhoid fever, so far from being the rule, is an exceedingly rare occurrence. In cases like the two which the author reports in this article "some direct action of the specific micro-organisms on the liver or bile channels" (Da Costa) seems to be the most probable cause of the jaundice, while perhaps the description given by Mathieu—"benign hepatic typhoid"—describes best the clinical aspect of these and similar cases.

Influenza and the Nervous System.—James Carslaw reports several cases, emphasizing several points in conclusion. The illness occurred in otherwise healthy subjects, and at a time when influenza was present in the neighborhood. Some of the cases had catarrhal symptoms considered to be of the nature of influenza. In all, severe headache was prominent, and grave cerebral symptoms developed with alarming rapidity, and, with no apparent cause, in the ears or elsewhere. They were all characterized by very restless delirium, with in the main little or no paresis of limb or ocular muscle to indicate any important localization. Most likely the meningitis was more vertical than basal, though in the only case that was examined post mortem the purulent exudation was found very prominent both at the base and on the convexity, and in this case there had been prominent clinical facts in regard to the pupils, ptosis, and strabismus, indicating that the base of the brain was involved. The writer then reports a case of marked post-influenzal multiple neuritis.

A Note on the Value of Inoculation against Enteric Fever.—Henry Cayley believes that the statistics of the work done in South Africa offer very strong evidence in favor of the protective power of the antityphoid inoculation when this is very carefully performed, and that there is probably necessity for two inoculations at a suitable interval. During the period of five months that the hospital was stationed at Kroonstadt there were ninety-two admissions for enteric fever and eleven deaths. Of these ninety-two patients, fifteen said they had been inoculated, a few were doubtful, and about seventy had not been inoculated. Of the eleven who died, one had been inoculated once, the others had not been inoculated. From these figures probably no conclusions or even reliable inferences can be drawn, but it seems positive from the cases observed that the attacks of enteric fever were, as a rule, much milder in the inoculated than in the non-inoculated, and the duration of the disease was much less.

A Case of Puerperal Fever Treated by Antistreptococcus Serum; Recovery.—By J. C. Ryder Richardson.

Herpes following the Ilio-Hypogastric and Ilio-Inguinal Nerves.—By Grace Haxton Giffen.

The Detection of Arsenic in Beer and Brewing Material.—By Sheridan Delepine.

The Toleration of Arsenic.—By Robert W. MacKenna.

French Journals.

Curability of Uterine Cancer; Necessity of an Early and Correct Diagnosis; Prophylaxis.—Pichevin, after briefly reviewing the history of this subject, states that the cure of malignant tumors by surgical intervention is a problem which has for long years presented itself. Early operation is one of the secrets of lasting cure. In Thorn's statistics, out of sixty-two vaginal extirpations, this operator has found recurrence twenty-seven times in the first two years; but in these twenty-seven cases the intervention had been only palliative, the surgeon had not gone beyond the limits of the cancerous region. On the contrary, those women in whom the cancer was limited to the uterus were really benefited by hysterectomy. There was no recurrence in fifty per cent. of them after a period of over five years. The chief trouble is that the patients come too late to receive the benefit of surgical intervention. This is because the patients do not suffer during the first period of cancerous infiltration and because certain bloody discharges do not attract their attention. It is not so long ago that it was thought that in uterine cancer the health was undermined, but when this state supervenes the growth has already made great inroads and has passed the uterine zone. Uterine cancer may appear at almost any age, even in young women. A fetid odor is generally noticed in the advanced stages. When the patient presents herself, the physician should assure himself by sight and feeling of the condition of the uterus, and carefully establish his diagnosis.—*Journal de Médecine de Paris*, December 23, 1900.

Mammary Tuberculosis.—Édouard Pluyette reports a case of this kind in a girl aged twenty-three years. An erosion at the level of the areola offered the port of entry. As the disease progressed the gland became destroyed, and in its examination revealed a purulent focus with all the histological characteristics of tuberculous pus. The milk ducts, however, which were atrophied, showed only signs of inflammation in their walls. The bacillus was found only under the derma. As to the blood-vessels, they were inflamed and their tunics infiltrated with numerous embryonal cells. The lesion seemed to be at a more advanced stage in the vessels than in the lobules. The writer inclines toward the belief that propagation took place by the blood-vessels, rather than by the milk ducts. The course of the disease was relatively rapid: in a month and a half the breast had tripled its size. The course was not the usual one—slow and insidious. Adenopathy was not noted. The gland was invaded in its entirety, consequently the seat of the disease was not external. The affection was limited to the breast, the other organs being sound. The patient was operated on February 1, 1899, and on examination September 15, 1900, she was in the best of health.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 27, 1900.

Acute Tuberculous Peritonitis and Appendicitis in a Tuberculous Subject.—Maurice Patel states that even in tuberculous patients in whom the disease is in its infancy an acute appendicitis may occur: it is dangerous on account of the peritoneal reaction. Operation should be early. Even if the immediate result be good, prognosis should be guarded on account of the possible generalization of the disease. Clinical symptoms do not prove in all cases whether there exists a tuberculous appendicitis or an appendicitis in a tuberculous patient. Only microscopical examination can establish the diagnosis. There is an acute tuberculous peritonitis occurring when the disease itself is in its first stages. As a localization of a general infection it can be accompanied by grave peritoneal symptoms which do not differ from those observed in the course of acute perforating appendicitis. The evolution of lesions as the infection extends from the appendix toward the exterior accounts for the occurrence of appendicular and peritoneal complications which may occur and for the necessity of intervention, which ought in certain cases to be early.—*Lyon Médical*, December 30, 1900.

The Adenoid Constitution.—Ch. Lenhardt believes with Huchard that operation for adenoid vegetations is not practised so often as it should be, due to faulty examination or to fear on the part of the parents. In the child called lymphatic the discovery of a cervical adenitis will signify a chronic infection of the pharynx, which it is necessary to remove by the curette or by the application of antiseptics. If it is necessary after this, the iodide treatment or cod-liver oil may be prescribed, or the child may be taken to the seashore or to a mineral-water resort. Rapid success will follow, and the child will pass through adolescence normally instead of being constantly in need of medical attention.—*La Revue Médicale de Normandie*, December 25, 1900.

Berliner klin. Wochenschrift, Dec. 17 and 31, 1900.

Pressure Irrigation in the Treatment of Acute and Chronic Gonorrhœa.—Under this title R. Kutner describes a method which he has found of service. It consists essentially in the introduction into the urethra for a distance of 4 cm. of a Nélaton catheter and the sudden forcible introduction, from a syringe holding from three to four ounces of the irrigation fluid employed, of a small quantity of the same, and then a cessation of the pressure, relaxation of the compression of the organ about the catheter, and the escape of the fluid from the urethra. This manœuvre is repeated until the entire quantity in the syringe has been used. A special model of syringe is devised and figured. Kutner claims that this is the best method of distending the canal and thoroughly cleansing the diseased surface.

Experimental Contribution to Our Knowledge of Alopecia.—A. Buschke has found that by feeding the acetate of thallium to white mice it is possible to produce alopecia which seems to be a peculiar constitutional effect of the remedy, as it did not follow local application. This remedy has been employed in tuberculosis for the relief of sweating. Examination of bits of the denuded skin and of the internal organs of the mice gave no clew to the mode of action of the remedy.

Observations on the Fermentation and Digestion Test of the Fæces and on the Value of the Test Diet for the Examination of Cases of Intestinal Disease.—By Ad. Schmidt.

A Severe Spinal Symptom Complex as Related to an Aneurismal, Serpentine-like Change of a Portion of the Spinal Cord.—By E. Brasch.

On the Transformation in the Urine of Substances Agglutinating the Blood Cells.—By F. Friedberger.

Amyloid Degeneration with Special Reference to the Kidneys.—By M. Litten.

Simplification of the Phenyl-Hydrazin Tests for Sugar.—By A. Neumann.

The Relations of Oxidation of Urinary Constituents.—By Adolph Folles.

Deutsche medicinische Wochenschrift, December 27, 1900.

Heat Stroke.—Max Herford enriches the literature with a description of several previously undescribed complications of the common affection. In the one case acute icterus set in, but disappeared in a few days; in another, which ended fatally, the same condition of jaundice came on suddenly and was accompanied by intestinal hemorrhage. In two other instances protracted ataxia and dysarthria prolonged the convalescence, although the intellect was unimpaired and recovery followed. The author explains these various manifestations on the theory that insolation, like burn traumatism, produces destruction of red blood cells with congestion and localized hemorrhages. This has been experimentally proved for burns, and the autopsy on the author's patient showed the presence of multiple hemorrhages in the stomach, endocardium, and intestinal canal. The assumption, therefore, is that the ataxia and inco-ordination of speech were due to small bleedings into the medulla and resemble the encephalomyelitic foci of the "acute ataxias" following the infectious diseases and certain intoxications.

The Therapy of Croupous Pneumonia.—A. Tagesson-Möller describes a method of treating pneumonia said to be popular in Sweden but not as yet in use elsewhere. It is a form of massage whose first object is to lessen the pleuritic pains by repeated firm friction with the fingers in the most sensitive intercostal spaces. The manipulation must frequently be continued for a considerable length of time,

a half-hour or so, but at the end of this period the patient is said to feel much better. "Lateral concussion" of the thorax facilitates resolution and hastens the crisis; concussion of the heart is of inestimable value, but we are warned that unless performed with the utmost skill it is a hazardous manœuvre. Massage of the abdomen stimulates peristalsis, promotes abdominal circulation, and increases renal activity, while headache is to be relieved by appropriate frictions along the various occipital and cervical nerves. The treatment should be repeated every three or four hours, and is said to produce marvellous results, though no statistics are offered.

The Reaction of the Prostatic Fluid in Chronic Prostatitis and its Effect on the Vitality of the Spermatozoa.—H. Lohnstein, as a result of five hundred and forty-two examinations of material obtained by massage of the seminal vesicles from eighty patients suffering from chronic prostatitis, draws conclusions somewhat at variance with those usually accepted. In the majority of cases the secretion, though subject to variations, was found acid and not alkaline as commonly believed. Pus does not appreciably affect the reaction even when it is present in considerable quantity. The reaction of the prostatic fluid does not perceptibly influence the vitality of the spermatozoa, and the presence of retained testicular secretion seems to increase the activity of the prostate.

Colpocleisis with Artificial Recto-Vaginal Fistula following Recurrent Carcinoma.—By H. Saft.

The Occurrence of Sebaceous Glands in the Mucosa of the Cheek.—By W. Lublinski.

Experimental Tetanus Descendens.—By Leo. Zupnik.

Annals of Surgery, January, 1901.

Ventral Hernia following Abdominal Section.—By R. B. Eads. The author believes that fifteen per cent. of all patients upon whom laparotomy has been performed, if examined five years or more thereafter, will be found to be suffering from post-operative hernia. He then discusses the anatomical structures making up the abdominal wall. The abdominal incision should be parallel, or nearly parallel, with the direction of the motor nerves and of the most important muscular fibres supplied by these nerves. He next describes the various incisions he has found preferable, giving special attention to one overlying the outer border of the cæcum and leading directly to the appendix. It is slightly curved outward and downward, crossing an imaginary line drawn between the anterior superior iliac spines. The centre of this curve is from an inch to an inch and a half to the inner side of the right superior iliac spine. The skin and superficial fascia are incised for about two inches. This freely exposes the aponeurosis of the external oblique, which is separated by means of the dry dissector, or the handle of a scalpel, in a direction parallel to its fibres, and well retracted. This brings into view the transversely arranged fibres of the internal oblique and transversalis muscles and the twelfth abdominal, iliohypogastric, and possibly the ilio-inguinal nerves, all of which are retracted in order to reach the transversalis fascia, which, together with the peritoneum, is divided transversely. The advantages to be gained by this incision are: (1) It provides easy access to the diseased area. (2) It enables the operator accurately and securely to protect the peritoneal cavity from infection. (3) It lessens the liability of breaking down the inner limiting wall of adhesions. (4) It affords a better opportunity to open the abscess cavity from the outer side. (5) It favors drainage. (6) It has not been followed, in the author's experience, by either appendicular fistula or post-operative hernia.

On Traumatic Keloid of the Median Nerve, with Observations upon the Absorption of Silk Sutures.—By Otto G. T. Kiliani. The patient was a girl aged twenty-one years. The following are the salient features of the case: The median nerve is cut through, falling into glass; of course, the usual loss of power and sensation follows. Secondary nerve-suture with silk is done three or four weeks after the accident, after resection of the small bulbi on the distal and central ends. No complete primary union; six weeks later a good-sized neuro-fibroma is found, which interrupts completely the conduction of the nerve. The tumor is again extirpated; the ends are sutured with catgut; primary union is achieved; immediate restoration of sensation and soon that of power; three months after this operation a small tumor has reoccurred, while the skin shows a keloid of a scar. Final result one year after operation: the tumor has nearly disappeared under symptomatic treatment; the hand and fingers are of good use for practical purposes. She attends to her duties of household servant without difficulty. Certain observations are added on the absorbability in living tissue of silk ligatures.

Laryngectomy under Eucaine Anæsthesia, with Remarks on the Technique of the Operation.—By G. G. Davis. The operation was done on a man aged forty-six years, with carcinoma. Death occurred on the fifth day from streptococcus infection. Concerning the technique of the operation and the use of the anæsthetic named, the author sums up as follows: It is feasible to remove the larynx under eucaine anæsthesia. If the two operations are done simultaneously, and a favorable course is pursued, the result will be brilliant, the patient being "out of bed on the fourth day." It is his belief that preliminary tracheotomy ought to be done. We should not sacrifice safety for brilliancy. The leaving of an œsophageal tube projecting from the wound is probably unnecessary, the patient swallowing on the third day. The wound need not be tamponed, but can be closed from the upper edge of the trachea to the hyoid bone. These patients can make their wishes understood by speaking, in a short time after the complete removal of the larynx. In this case it was found comparatively easy to remove the larynx from below upward, going up one side, then across at the hyoid bone, and down the other.

Double Ureter; Report of a Nephrectomy done upon a Young Child with this Condition.—By J. E. Summers, Jr.

An Intestine Holder, Devised for Facilitating the End-to-End Suture of Intestine.—By E. H. Lee.

Scottish Medical and Surgical Journal, January, 1901.

Case of Hypertrophic Osteopathy of Hands and Foot following Amputation at the Hip Joint for Sarcoma.—J. M. Cotterill reports the case of a man aged nineteen years, suffering from periosteal sarcoma affecting the lower end of the right femur. Amputation was performed a little above the middle of the femur. Twelve months later he returned with a small sarcomatous mass at the lower end of the stump; disarticulation at the hip joint was performed. During convalescence there was a rise of temperature, and there was found evidence of effusion of fluid at the base of both lungs. The hands and foot became enlarged, the condition progressing for two months and then remaining stationary. A radiograph of the hands showed the formation of new bone along the shafts of the metacarpal bones and phalanges. The lung trouble which was due to secondary sarcomatous infiltration steadily increased, and the patient died two years after the first operation.

Douche Massage.—Charles Begg was strongly impressed by this form of treatment as given at Aix-les-Bains, for the purpose of stimulating elimination, and for tonic stimulation of the nervous system. For ten or fifteen minutes the water plays on the patient from two hose, each part of the body receiving attention in turn, while the water of the ordered temperature and force is applied simultaneously with the massage. The supply of water must be copious, it must not be of too marked a character, *i.e.*, it must not be too briny or too gaseous, and it must be a natural thermal water. The patient must be operated on while his muscles are perfectly relaxed. The massage, while thorough, must never be severe enough to cause pain. All cases requiring increased excitation, elimination of toxic products, restoration of impaired or dormant function, or the establishment of heightened condition of nervous and vascular tone, are subjects for the treatment if it be wisely adjusted to each case.

Cleidotomy; an Operation Accessory to Craniotomy or Basilysis.—J. W. Ballantyne gives the following outline of his detailed article. Cleidotomy: Division of the clavicle. Indications: (1) Broad-shouldered fœtus. (*a*) Normal sized head; (*b*) large head; (*c*) deformed head (anencephalus). (2) Contracted pelvis. (*a*) Justo-minor; (*b*) flat rachitic; (*c*) kyphotic. (3) Broad-shouldered fœtus in contracted pelvis, neither excessive. (4) Impacted shoulders in breech case. (5) Danger from eclampsia, threatened uterine rupture, etc., necessitating rapid delivery. In all (or nearly all) its indications, cleidotomy is accessory to craniotomy or basilysis, and is carried out upon the dead infant; but these are not essential restrictions. The author describes its advantages over ordinary embryulcia of the shoulders and evisceration of the thorax. He also describes his operation.

The Scottish National Red Cross Hospital, Kroonstad, Orange River Colony, South Africa.—By Henry E. Clark.

Clinical Lecture on Pulmonary Phthisis and its Treatment.—By Alexander James. (A continued article.)

Orderly Medical Officer for the Day on the Lines of Communication.—By Civil Surgeon Gray.

The War Establishment of the R. A. M. C.—By Robert Stirling.

Kroonstad, May-September, 1900.—By John M. Cowan.

Experiences in South Africa.—By Professor Chiene.

The Practitioner, January, 1901.

The Treatment of Rheumatic Fever.—Arthur P. Luff finds that this disease is most successfully treated by giving a combination of a salicyl compound with an alkaline

bicarbonate. For an adult gr. xx. of sodium salicylate and gr. xxx. of potassium bicarbonate should be given every two hours until the pain is relieved and the patient is fully under the influence of the salicylate, when the same quantities should be given every four hours till the temperature has fallen to normal. Afterward gr. xv. of the salicylate and gr. xx. of the bicarbonate are to be given every four hours until all the joint symptoms have disappeared, and then three or four times a day until a fortnight has elapsed from the complete disappearance of joint symptoms. During the whole of this course of treatment absolute rest in bed must be enforced. The heart should be carefully examined each day during the administration of the salicylate and the alkali, as they tend to exert a depressing effect on it. The application of salicylate of methyl to a painful and inflamed joint is a recent and good method of relief. The author describes various methods of treatment in detail.

The Epidemiology of Rheumatic Fever.—Arthur Newsholme submits evidence in demonstration of the occasional epidemic prevalence of rheumatic fever. Direct infection from patient to patient is rare, if it occurs. As to the reason why dry years favor epidemic rheumatic fever, it seems most feasible to regard rheumatic fever as essentially a soil disease, due to a saprophytic soil organism, which is "drowned out" in wet years, multiplies rapidly in dry years, and is transferred to the human recipient by unknown means. Possibly dust convection accounts for a large proportion of the cases. In dry years the number of contagious particles is probably increased, and the facility with which they are communicated to the human subject is similarly increased. In the light of our recent acquired knowledge of the methods of infection in malaria, it is not perhaps too far-fetched to surmise that inoculation of the contagium of rheumatic fever may be caused by domestic vermin or that the house fly may convey it to milk or other foods.

The Pathology of Rheumatic Fever.—F. J. Poynton reviews the various theories held as to the causation of this disease. From experimental work the author states that the diplococcus which he has isolated is a cause of rheumatic fever. As yet he is not in a position to state that it is the only cause, but he believes that this organism will eventually prove to be the actual cause of all cases of rheumatic fever which conform to the usual type of the disease. One of the most important sites of infection in rheumatic fever is generally admitted to be the throat; the diplococci are found in the tonsils in rheumatic angina. They are present also in such cardinal lesions as the nodules, the pericardial exudation, the inflated valves and pleura, and produce identical lesions in the rabbit. In rheumatic fever the connective tissues suffer greatly, and the diplococci are found with the least difficulty in these tissues.

Rheumatic Fever in Relation to the Throat.—By St. Clair Thomson.

The Effects of Rheumatic Fever on the Heart.—By G. A. Gibson.

Rheumatism in Childhood.—By George F. Still.

Russkii Arkhiv Pathologii, etc., November 30, 1900.

The Diagnosis and Pathology of Acute Myelitis.—W. A. Mouratoff holds that the parenchymatous changes in the fibres and cells are not due to an affection of the blood-vessels, but to direct effect of the intoxication. There are three forms of acute myelitis: (1) The acute hemorrhagic, characterized by a brusk onset, (2) the acute interstitial, which may be focal or disseminated, and (3) the parenchymatous diffuse, which has a progressive ascending or descending course. The changes in the spinal cord which complicate Landry's paralysis are not always medullary, but may consist of a true parenchymatous myelitis.

Fragmentation and Brown Atrophy of the Myocardium.—By V. A. Yaranukhin.

Artificial Cultures of the Leprosy Bacillus.—By V. J. Kedrovski.

The Influence of Fecal Absorption on the Blood.—By G. Borodulin.

Revue de Médecine, December 10, 1900.

Opotherapy in China and Indo-China.—Jules Regnault says that in these countries the testicular juice of the tiger is used for impotence. Under the supposition that the eyes and the liver are closely connected functionally, mosquito eyes mixed with pig's liver is given for conjunctivitis. Pig's liver is also given for icterus, congestion of the liver, and hepatitis. Goat's liver mixed with various plants is administered for diseases of the eyes or of the liver. Bear's gall is highly esteemed for the same purposes, but is very expensive. Pig's lungs are used for cough, especially in chronic bronchitis. Pig's kidneys are prescribed for renal affections. For gastritis the coats of a young chicken's gizzard are supposed to be curative. Women take pieces of dried placenta to facilitate labor. Human blood is supposed to be strengthening, and at executions the executioner, and even the spectators, eat the blood, the liver, and the bile of the victim to increase their courage.

Pleuro-Typhoid, and Pleurisy due to Eberth's Bacillus.—Paul Remlinger concludes that pleurisy occurring during the course of typhoid fever is nearly always caused by Eberth's bacillus. The pleurisy may be serous, hemorrhagic, or purulent. Pleuro-typhoid as a distinct morbid entity is a serous pleurisy preceding the appearance of benign typhoid. Pleurisy occurring during the course of typhoid is more serious. The prognosis will depend upon the purulence. This form of pleurisy is characterized by its tendency to predominate on the left side, the slowness and subacute character of its development, and its tendency to become sterile by gradual attenuation and the disappearance of Eberth's bacillus. An interesting class of cases of pleurisy due to the typhoid bacillus is found when the pleurisy is the result of secondary infection during the course of some other affection, as tuberculosis. This special point calls for further research.

The Etiology of Vitiligo.—E. Gaucher thus classifies the pigmentary dystrophies of the skin: (1) Symptomatic or trophic, of nervous origin, pigmentary cutaneous alterations from diseases or lesions of the nervous system. (2) Dystrophies of toxic etiology and nervous pathogenesis, including (*a*) hyperchromatosis of toxic origin properly so called, as arsenical melanodermia. (*b*) Achromatosis and dyschroia of toximicrobian origin, such as the leucomeladerma of syphilis, and the white spots of leprosy. (*c*) True vitiligo of autotoxic origin, in relation with some previous nutritional disturbance.

Gastric Crises and Syringomyelia.—R. Pauly reports a case in which gastric crises characterized the onset of syringomyelia. They were of the nature of the crises in tabes, sudden, without apparent cause, of a violent, tearing character, accompanied by copious and sometimes very acid vomiting, ceasing bruskly after eight or nine days. They reappeared at intervals, and were controlled by opium. The patient thought that iodine also had a good effect.

Heroin as a Substitute for Morphine; no Euphoria; no Toxicomania; Treatment of Morphinomania by Heroin.—By A. Morel-Lavallée.

Variations in the Amount of Oxyhæmoglobin in the Blood of Nursing Infants Treated by Injections of Artificial Serum.—By M. Labbé.

Re-education of the Heart Movements by Means of Methodical Exercises.—By Fernand Lagrange.

The Origin of Leucocytes in Bone Marrow in Normal Conditions and Infections.—By O. Josué.

Reviews and Notices.

A Treatise on Mental Diseases. By Dr. Henry J. Berkley, Clinical Professor of Psychiatry in the Johns Hopkins University. New York: D. Appleton & Co.

This concise, practical work on mental diseases is a revision of the author's lectures delivered at the Johns Hopkins University in 1899. Part I. is devoted to the anatomy and histology of the central nervous system. Were it not that the forty-four pages thus taken up contain an epitome of much of the author's original and excellent work, this might appropriately have been omitted. There was a time when the anatomy and physiology of the nervous system were unknown and forbidding subjects to the average physician. That is now, happily, a thing of the past. Part II. contains a section on the boundary lines between degenerating and non-degenerating types of insanity, and a full, adequate discussion of the pathological alterations of the neuron and the blood-vessels in insanity. The author's appreciation of the frequent occurrence and the far-reaching effect of arteriosclerosis is especially gratifying. In the discussion of the general etiology of insanity we are of the belief that the author lays too much stress upon the deleterious results of alcohol. The commendable features of the writer's remarks on general treatment are brevity, conciseness, and lucidity, and the latter despite many verbal infelicities, such as "hyoscine requires careful watching"; "to avoid the stigma which might remain attached to him forever afterward"; "to resume the broken habit of sleep," etc. The special forms of insanity are next considered. In the portrayal of melancholia we miss reference to its average duration. Taken in its entirety the chapter on mania is quite satisfactory. Under a subheading of states of mental stupor the writer discusses

acute curable dementia. In this connection reference should have been made to dementia præcox. And one of the conspicuous shortcomings of the book is that this matter to which so much study has been given both in this country and in Europe is not considered. The chapter on general paralysis is one of the best in the volume. The writer is the first of the systematic writers to depart from the custom of depicting in exaggerated terms the megalomania and boundless exaltation of the paretic. That the symptomatic clinical features of general paresis have undergone a change has lately been pointed out by Collins, Mendel, and others, and Berkley's description seems to be in harmony with the statement of these writers. The intoxication insanities receive adequate consideration for the first time in American psychiatric literature. The chapters devoted to the insanities of the psychical degenerate suffer by comparison with those in more than one modern French and German treatise. The chapter on neurasthenia does not call for special mention save to say that it does not fit the treatise. The volume closes with an excellent chapter on the psychoses of childhood. The reviewer, and no doubt many readers who are also puzzled, would be thankful for an interpretation of the author's prefatory note in which it is said that the volume was written because of "the absence from English medical literature of a comprehensive, practical work on mental diseases." We are fearful of giving the impression of forced credulousness by hinting that Kellogg's excellent work, a credit to clinical psychiatry, Macpherson's masterly book, Clouston's comprehensive and readily assimilated small treatise, not to mention the many others constituting a veritable embarrassment of riches, were overlooked.

PRACTICAL GYNÆCOLOGY: A Comprehensive Text-Book for Students and Physicians. By E. E. MONTGOMERY, M.D. Containing eight hundred and nineteen pages and five hundred and twenty-seven illustrations. Philadelphia: P. Blakiston's Son & Co.

THE first thought, on seeing the announcement of a new work on gynæcology, is one of sadness, for the medical world is already oppressed with the rapidly accumulating weight of ponderous tomes on this subject. A new text-book on gynæcology, to be acceptable at the present day, must have an excellent reason for existence. The author of the present work is evidently of like mind, yet having a reason for the faith that is in him, he boldly declares, "I will offer no apology for presenting an additional text-book upon gynæcology." And he need not do so, for even the most casual reader does not have to look far through this excellent text-book before he discovers that every page is permeated with the spirit of the true teacher. There is a refreshing absence of that verbosity which mars so many works of this class; the searcher after practical information, on any topic in the domain of gynæcology, is not compelled to wade through tedious descriptions enveloped in a haze of details and theories, but is quickly rewarded by finding what he wants crystallized from a rich experience into a few crisp sentences. To make clearness doubly clear, high-class illustrations are freely introduced. Nearly all of them have been drawn and engraved specially for this work, for the most part from original sources. The arrangement of the book is decidedly original, and is sure to commend itself to the student. Instead of being divided into chapters, it is made up of sections, each general subject being considered with reference to its influence upon the entire genital tract. The plan and scope may be best understood by an enumeration of the principal headings, viz.: (1) Diagnosis; (2) therapeutics, medical and local; (3) anatomy; (4) physiology; (5) malformations, including such acquired ones as injuries to the perineum, vagina, and cervix; (6) inflammation; (7) deviations of the pelvic organs; (8) genito-urinary hemorrhage and ectopic gestation, and (9) genital tumors. The book is bound to become the valued friend and companion of the general practitioner as well as the student.

NOTES ON SURGERY FOR NURSES. By JOSEPH BELL, M.D., F.R.C.S. Edin., Consulting Surgeon to the Royal Infirmary and to the Royal Edinburgh Hospital for Sick Children. Fifth Edition, thoroughly Revised. Edinburgh: Oliver & Boyd, Tweeddale Court. London; Simpkin, Marshall Hamilton, Kent & Co., Ltd. 1899, pp. 194.

A THOROUGHLY practical book for the guidance of nurses, such as this is, naturally has proved popular, and the fifth edition will probably be as favorably received as its predecessors. The articles treated in this volume include inflammation, suppuration, ulceration, gangrene, pyæmia and septicæmia, the healing of wounds, burns and scalds, fractures and dislocations, tumors, special operations, the surgical nursing of children, and general advice to nurses. The author evidently has a keen insight into the difficulties of nursing, and attempts very successfully to clear up all obscurities and the troubles which are commonly met in hospital and private practice.

PATHOLOGIE UND THERAPIE DER ERKRANKUNGEN DES PERIPHERISCHEN NERVENSYSTEMS. Von Dr. med. FRANZ WINDSCHEID.

THIS book is merely a compendium of the subject upon the diseases of the peripheral nerves. It meets all the requirements which could be justly expected of books of this kind. Without entering into the minute details of the anatomy of the nervous system, its physiology and pathology, the author touches upon these subjects so far as a clear and thorough understanding of the diseases above alluded to may require. The symptomatology, differential diagnosis, and therapy are as clearly and precisely mentioned as the limits of the work would allow. In the first part the author treats upon the diseases of the peripheral sensory nerves; in the second part, upon the motor nerves, paralysis, spasms, and inflammatory conditions—neuritis. The illustrations are very simple and convey a clearer understanding of the text. This book is therefore strongly to be recommended as an introduction to the study of the diseases of the peripheral nervous system.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. By HENRY P. BOWDITCH, M.D., JOHN G. CURTIS, M.D., HENRY H. DONALDSON, Ph.D., W. H. HOWELL, Ph.D., M.D., FREDERIC S. LEE, Ph.D., WARREN P. LOMBARD, M.D., GRAHAM LUSK, Ph.D., F.R.S. (Edin.), W. T. PORTER, M.D., EDWARD T. REICHERT, M.D., HENRY SEWALL, Ph.D., M.D. Edited by WILLIAM H. HOWELL, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second edition, revised. Vol. I., pp. 598. Philadelphia: W. B. Saunders & Company. 1900.

IN the present edition of this very popular text-book the authors have concluded not only to rearrange the subject matter but also to issue the work in two volumes. The introduction is by the editor, as are the articles on the blood, the lymph, on secretion, on the chemistry of digestion and nutrition, and on the movements of the alimentary canal, bladder, and ureter. Dr. John G. Curtis contributes the article dealing with the mechanics of the circulation of the blood and of the movement of the lymph. Dr. W. T. Porter writes on the innervation of the heart and blood-vessels and on the nutrition of the heart. Respiration and animal heat by Dr. Edward T. Reichert, and the chemistry of the animal body by Prof. Graham Lusk, complete the first volume.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By LEWIS A. STIMSON, M.D., LL.D., Professor of Surgery in Cornell University; Surgeon to New York and Hudson Street Hospitals, etc. Third edition, revised and enlarged. With three hundred and thirty-six illustrations and thirty-two plates. New York and Philadelphia: Lea Brothers & Co. 1900.

THE appearance of a third edition of this work one year after its second is sufficient guarantee of its popularity. There are no marked changes from last year's volume, though there have been some condensation and some additional material, and a considerable number of new illustrations have been added. The Hudson Street Hospital in this city furnishes an unsurpassed field for the study of fractures and dislocations, and of this the author has made good use. It is hardly necessary to recommend a book which is so well known.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science, by Various Writers. A New Edition. Completely Revised and Rewritten. Edited by ALBERT H. BUCK, M.D., New York City. Vol. I. New York: William Wood & Company. 1900.

IT was fifteen years ago that the first volume of the first edition of this wonderfully useful work of reference was published, and a comparison of the two books shows in a striking way the great strides that medicine has made in this last decade and a half of the nineteenth century. In the old edition the last article treated was "Cataract"; in this edition the titles have advanced only to "Bladon Springs," and such large subjects as "blood," "brain," and "carcinoma" being pushed over into the second volume. Many of the articles have been greatly expanded, "actinomycosis," for example, filling four pages instead of one, and "air" eleven instead of six. But we also find many new subjects treated of here; for example, "acromegaly" in eleven pages, "adiposis dolorosa" in six, "adrenal glands" in four, "pathogenic amœbæ" in five, "history of anatomy" in twenty, "appendicitis" in six, "pathogenic bacteria" in forty-five, etc. Most of the important articles

have been rewritten, sometimes by the original authors, sometimes by new ones. The use of full-page plates is on a much more generous scale than in the first edition, this volume containing twelve in place of the four which were admitted to the first volume of the other edition. We find many cross-references in this volume—a useful feature which the first edition lacked. Indeed, all the changes which have been made are distinctly in the way of improvement, and cannot but increase materially the value to the practitioner of this almost indispensable work.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopædic Character. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc., of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomains, and Leukomains, Weight and Measures; Emponymic Tables of Diseases; Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. By W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of the American Academy of Medicine. Philadelphia and London: W. B. Saunders & Company. 1900.

THIS is the latest of the medical dictionaries to make an appeal for public favor, and it ought not to make it in vain. It is well arranged, the type is good, the definitions are clear and correct, and the tables are useful. The book is bound in flexible covers, and is not large enough to be inconvenient to handle. The plates, of which several are colored, are very well done.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

NEW YEAR'S HONORS FOR DOCTORS—PERIPHERAL NEURITIS FROM ARSENICATED BEER—CIRCULATORY PHENOMENA AS SEQUELÆ OF THE PREGNANT UTERUS—BRADSHAW LECTURE ON HERNIA.

LONDON, January 4, 1901.

WE have had rather a dull week as regards medical matters, which have paled in interest before a fresh outburst of hero worship of which, no doubt, you have been kept informed by cable.

The weather, too, has been depressing—a wet Christmas followed up by dull rainy days with a temperature considerably above the average for the time of year. To-day London is plunged in a dense fog and all the inconvenience which results therefrom.

The list of honors conferred by the Queen on the occasion of the New Year is rather disappointing, considering that the date also marks the commencement of the new century. The profession hardly gets its share this time. The president of the College of Physicians (Dr. Church) receives the customary baronetcy. The same honor is given to Dr. Thomas Barlow, one of the court physicians. Both these gentlemen are highly esteemed by their brethren. Sir William Turner gets a K.C.B., Dr. Frank Simon, P. M. O. of the Straits Settlement, a C.M.G.; Dr. Adcock, physician to the Shah of Persia, a knighthood. The Kaiser-I.-Hind gold medal for public services in India has been conferred on Dr. Arthur Neve, of the Medical Mission Hospital, Kashmir. Colonel J. S. Wilkins, I.M.S., receives the same distinction. Major John Crimmin, V.C., I.M.S., is given a C.I.E. Among non-medical recipients I may mention as of interest to the profession that a G.C.B. is conferred on Lord Justice Romer, the president of the commission on the war hospitals; and Mr. E. H. Busk, chairman of convocation of the London University, is knighted.

The epidemic of peripheral neuritis from arsenicated beer was fully discussed at the Liverpool Medical Institution, when several of those who had been occupied with numerous cases and taken a part in elucidating the matter related their experience. We are also to have a discussion on the subject here, and no doubt many papers will be published in the next few weeks. The discussions I may be able to consider in a future letter.

A paper entitled "Circulatory Phenomena as Sequelæ of the Pregnant Uterus" was read at the Gynæcological Society on the 13th ult. by Dr. H. Hodgson, vice-president. He began by remarking that the common theories of the cause of labor at full term did not attach sufficient importance to the blood supply. Thus, overdistention, sometimes advanced, does not explain why the uterus ceases to grow and would seem more likely to paralyze muscular contraction. Then fatty degeneration of the decidua, leading to separation of the placenta and making the ovum a foreign body, is also unsatisfactory, and Dr. Hodgson asks why should the degeneration occur at a particular period, and why should the ovum act as a foreign body while still receiving blood through the placenta? Again, if, as some suppose, the onset of labor at the tenth month is due to congestion at a menstrual epoch, why not at the eleventh or any other monthly period? Further, if the fœtus at full term has the power of exciting uterine contractions, we must also admit that it is able sometimes to induce labor at the seventh or eighth month. Then, why, asks Dr. Hodgson, should it not sometimes lack that power until, say, twelve months? Once more, if ovarian irritation is the law of parturition, Dr. Hodgson asks, why are the ovaries excited to exactly this point at nine months—why not at twelve? And what about labor when the ovaries have been removed months before delivery? Having thus set puzzling questions to the advocates of these several theories, Dr. Hodgson proceeded to develop his own. He attributes the setting in of labor to the failure of nature to maintain the balance between the rate of growth of the pregnant uterus and its contents. This, of course, largely depends on variations in the blood supply, and the circulatory phenomena come therefore to have great significance. Having discussed them at some length, Dr. Hodgson summarized his view in a style not often heard at a medical society, as follows:

"From the moment conception takes place a race commences between the uterus and the ovum. The uterus becomes rapidly active, its walls charged with blood; with wonderful celerity it lays down muscular tissue, and even its mucous membrane swells with pride at having captured a live ovum. The ovum, at first an insignificant being in the uterine cavity, gradually develops and threatens the uterine walls, recognizing which the uterus hastens on with both its development and expansion until the end of six months, when finding that its competitor in the race having won, the inside of the circle is pressing so forcibly upon its food supply that it gives up the contest and allows the fœtus to expand its cavity at will, with the ultimate result that the fœtus, given a free hand, continues ruthlessly to press upon the uterine walls to such an extent that it cuts off its own blood supply to the placenta, which therefore dies. The fœtus, beholding with fear what it has done, shrinks; the uterus, thereby released from some of its strain, seizes the opportunity, opens its mouth, belches forth its intruder, and collapses."

Now, if you do not understand the mystery of the cause of labor, you can follow the doctor's example by asking questions such as he has put to other theorists.

The Bradshaw lecture at the Royal College of Surgeons was delivered on the 12th ult. by Mr. Langton. It is now eighteen years since the first lecture of this foundation was delivered by the late Sir James Paget, whose death, since the last lecture of the series by Mr. Howse, was gracefully alluded to by Mr. Langton. He spoke of Paget's career, whether considered in its professional and scientific aspects or in his deeply religious life, his untiring energy, ceaseless work, and never-failing courtesy, as affording a noble example and a pattern for all time. Mr. Langton then passed on to the subject he had chosen, which was the association of inguinal hernia with the descent of the testis. He discussed at length the several varieties of congenital hernia. Of these the one called variously interstitial, intermuscular, ascending, intraparietal, interparietal, and properitoneal may be mentioned. The last name he thought the worst, as it gave no clew to the position of the hernia in the abdominal walls. He preferred the term interstitial, as, although it did not give much information, it is not incorrect as to structural relations; for this hernia is primarily situated within the muscular walls, usually in the patent vaginal process, within which lies an ill-developed testis. It is not very frequent, for out of a total number of fifty thousand cases of hernia only forty-two of this form were recorded, a proportion of one to eleven hundred. Analogous forms of hernia in females are not so rare, the statistics showing them to be twice as frequent as in males. Most of them occurred in mothers of large families, and are probably due to distention of the abdomen during pregnancy.

The treatment of interstitial hernia in males, Mr. Langton said, is neither scientific nor satisfactory. The pressure of a truss is mainly directed to covering the hernia and seldom effects complete retention. The deviated testes accommodate themselves under the truss if it is perfectly adjusted. Operative measures are often very difficult: the complete approximation of the separated parts may be impracticable. The size of the hernia may be so great that the abdominal cavity cannot receive it, and the question of enterectomy may arise to allow complete reduction of the extruded mass.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Sixtieth Regular Meeting, Held on Friday, January 4, 1901.

ANDREW H. SMITH, M.D., PRESIDENT PRO TEM.

A Case of Post-Typhoid Neuritis.—This was presented by DR. V. P. GIBNEY. Lizzie D——, fourteen years of age, was admitted to the hospital on July 13, 1899. The history, obtained from her mother and Dr. Leyendecker, in charge of the case, was that she was perfectly well up to September, 1898. She developed what was first regarded as malarial fever, and then, a little later, typhoid. No blood examination was made, but the fever was of a low type; there were many spots over the abdomen, and there was suppression of urine four or five weeks after the beginning of her illness. She was unconscious and delirious at times, and had several bedsores. Living on the top floor of a tenement and her parents being very poor, no accurate records were kept, but Dr. Leyendecker remembered all these points and had no hesitancy in making a diagnosis of typhoid. Four weeks after the beginning of her illness she developed a double neuritis, involving both lower extremities. Deformity followed rapidly in her attempts to get the limb into the most comfortable position. She had hyperæsthesia and pain, requiring a liberal use of anodynes. About Christmas, 1898, when the fever had abated, the limbs were pulled down under chloroform, and a plaster-of-Paris dressing was applied. This was soon removed, and the deformity remained. She was quite helpless when brought to the hospital, and presented a picture of extreme deformity and disability. Both thighs were held fixed at an angle of 120°; while the left one was in extreme adduction, the right was in moderate abduction. On the left side the trochanter major was above Nélaton's line; the right leg was flexed at an angle of 150°, and the left at an angle of 140°. The feet were in extension, and the entire limb on each side was very sensitive. The sacrum was pretty well covered with cicatrices. It was difficult to determine whether any power existed in the limbs or not; the anterior tibials certainly seemed paralyzed. There was upward dislocation of the left hip. There was a small range of motion at the knees, passively. She was kept in bed until the 22d of August before any attempt was made at correction of the deformity. Then, under gas and ether, the Achilles tendons were divided, and the thighs and legs extended very nearly to normal. Dr. Whitman was in charge of the speaker's service during the summer and no attempt was made to reduce the dislocation of the hip at this time. The plaster, which extended from the free ribs to the ball of the foot, was not removed until October 16th, during which interval she had been fairly comfortable. The limbs were found straight, but there seemed to be no voluntary power in either limb. Massage and slight passive movements were begun. On October 24th Dr. Gibney succeeded in reducing the dislocation. The hip was abducted a good deal and put up in plaster of Paris. On November 23d the plaster was removed and traction made by weight and pulley for a short time. The next note is on January 4, 1900, when her condition was good. There was a good deal of lumbar lordosis, showing that the deformity at the hips had recurred to a moderate extent. During the winter and spring power slowly returned to her limbs. Active and passive movements were continued, and on the 31st of May it was noted that she was walking about the ward without the use of a cane. It was thought best, however, to protect the joints by apparatus, but on June 14th she fell and injured the left hip again. She spent the summer in the country, getting about very well. In the fall it was noted that there was some deformity at the hips, and under an anæsthetic this was reduced. On October 18, 1900, she was able to walk much better, but still a little deformity existed, more on the right side, so on the 23d the hip was stretched again and traction put on. On December 4th it was necessary to put the hips in position again, since which time she had remained perfectly straight. There was some arthritis of the right knee, hence the delay in getting about. All the symptoms of neuritis seemed to have disappeared. The action of the ankles was good, that of the knees and hips was improving, and the limbs were equal in length. The femoral head had remained in the acetabulum. The history of this case, Dr. Gibney stated, was a long one, yet he had attempted to make it as brief as possible. The aim had been to secure a perfect result; and in view of the ease with which recurring deformity could be overcome and passive movement so soon resumed, the prognosis was good.

A Case of Typhoid Hip.—This was likewise presented by Dr. Gibney. Mr. F. G. S——, thirty-six years of age, was seen at the request of and in consultation with Dr. John Woodman on November 8, 1899. The patient had previously been seen by one or two other surgeons, who also suggested that the speaker see the patient and make some effort at the reduction of his deformity. The history furnished by Dr. Woodman was this: Mr. S—— had been feeling poorly for several weeks during the summer of 1899, but did not feel really ill until August 5th, and on August 10th his temperature was 103°. A diagnosis of typhoid was made and he was put to bed. From this time on he had a rather high temperature, and was treated with tub baths, which seemed to have a very favorable effect on the pulse and temperature. On August 26th, at 5:45 P.M., just before he was to have his bath, he had an intestinal hemorrhage. The bath was not given, but instead a hypodermic of ergot and morphine was administered, and a few days later the bloody stools ceased. On the 30th of September at 10:30 P.M. he complained for the first time of pain in the shoulder. This pain increased in severity, involving both the shoulder and the arm until October 3d, when it gradually diminished in severity. On the same date, September 30th, at the same hour, he was seized with pain in the left hip in the region of the groin and acetabulum. Local swelling soon followed, with flexion deformity and a great deal of tenderness. Shortly after this his temperature came down to within a degree of the normal, but the pulse continued high, 115 to 125, most of the time. On the date of the speaker's first examination, about three months from the beginning of the patient's typhoid and two months from the beginning of his hip symptoms, the left hip was found flexed at an angle of 90°, the knee at an acute angle, and the foot extended. It was difficult to make any reduction of the deformity on account of the great pain and deep resistance. The infiltration about the hip was not very pronounced, yet it was present. The shoulder at this time was only slightly ankylosed and was improving. On November 10th, under gas, and with the assistance of several gentlemen, Dr. Gibney succeeded in pulling the limb into very good position, getting the hip down to 170°, the knee to about 170°, and the foot up to a right angle. Much force was necessary to accomplish this, and the breaking down of adhesions could be heard at all the joints. He put on plaster of Paris from the foot to the free ribs. Under a little morphine and other narcotics he succeeded in keeping the plaster on until December 6th, and with the exception of a small pressure sore over the middle third of the crest of the tibia, there was no ex-

coriation on the removal of the plaster. He would mention that there was a bedsore over the sacrum at the time of operation, which was not covered by the plaster. He found the limb quite straight and parallel with its fellow. The hip could not be brought down to quite 180°, but the knee could. He did not find it necessary to put on traction, as there was no spasm, and the plaster was not renewed. Under massage and active and passive movement the patient improved so that by December 31st he was able to stand with a little assistance. The bedsore had entirely healed. There was very little swelling about the foot or ankle. He could flex his knee over 10° or 15°, and had a little motion at the hip and ankle. At this time he was sitting up an hour a day. Nearly one month later, January 22d, he went downstairs and resumed his duties in the store. In his efforts to sit erect and to get about he lost some of the good result at the hip, and on the 28th of February it could not be extended beyond 165°. The speaker's last note was on May 14, 1900, when the patient's angle of greatest extension was about 150°, and angle of flexion very little better than this. He was able, however, to sit down with very little effort and to get his back well against the chair. He had a distinct limp, but got about easily with a cane. The knee action, both in flexion and extension, was very good, the limbs were equal in length, the left thigh was one inch smaller than the right, the knees were the same size, and the left calf was three-fourths of an inch smaller than the right. He rarely had any pain. He had been under massage, and had spent some time in Atlantic City, Lakewood, and Sullivan County. He was advised to have his hip moved under an anæsthetic, as his general health was excellent. This advice was not urged upon him, and no further operation had been attempted. Dr. Gibney added that the first case of typhoid hip, which he had seen on the 21st of April, 1888, in consultation with Dr. William M. Polk, was the following: Miss H——, eighteen years of age, was in good health and free from lameness or deformity until the evening of the 5th of April, when she had a chill. This was followed by fever, etc., and she was treated for typho-malarial fever. She had purpuric spots on the dorsum of both hands, had had temporary, well-pronounced paralysis of the extensors of the right wrist, and had complained almost from the first day of pain in the region of the anterior crural distribution, and occasionally in some of the branches of the sciatic. Once or twice Dr. Polk had tried traction, but this seemed to aggravate the pain. In proportion as her constitutional symptoms subsided, in that proportion her nervous symptoms were seemingly aggravated. Pressure over the hip region had at times given relief; at other times there had been much cutaneous hyperæsthesia. She had not made any attempt to stand since she was taken sick. Within the past week it had been very difficult to move her limb in bed and any jarring of the bed or floor caused her to cry aloud. She had become very timorous and manifestly hysterical. She had not lost flesh. She had had no spinal tenderness, but had some tenderness and pain over the left ovarian region; none now. At the time of his first examination, the limb lay parallel with its fellow on a pillow and wrapped in flannel. With much care a little rotation could be made. There was no atrophy of the limb. It was impossible to test the functions of the hip, as the patient was so frightened. Weight and pulley, sixteen pounds, were applied and gave her much relief. After a few days a long splint was applied. On May 16th she was easy and comfortable, resting well at night, and all fever had left her. She was walking about the floor on the splint and axillary crutches. There were no reflex spasm and no joint tenderness, but a dull aching pain was felt in the region of the anterior crural. On June 20th the splint was removed. She had steadily improved and gained in strength. The joint functions were about three-fourths normal. In July she went to Europe, and while abroad was treated at various places with baths, cold douches, massage, etc. On her return the following October she was very strong and muscular. There was no limp, the limbs were equal in length, and there was no atrophy. Flexion and extension were perfect, but the limb was adducted a little. The speaker's last note was on December 13, 1889. At that time she had a slight limp. External rotation of the left thigh was limited to about one-fourth normal, and abduction to about one-half that of the right side. The limbs were equal in length, and there was no atrophy of the thighs or calves.

In reply to a question as to what the actual changes in the joint were in those cases in which a dislocation occurred, Dr. Gibney said that with a severe neuritis the patient would naturally seek the most comfortable position, and if the muscular spasm was pronounced and the tissues about the joint were much relaxed, a spontaneous dislocation might result. In those cases of ancient dislocation of the hip in which the acetabulum did not contain much adventitious tissue, the head of the femur could be replaced and held there by plaster, and the weight of the body in walking gradually disposed of the adventitious tissue. Even when there was a very shallow acetabulum Lorenz advised that the head be replaced and kept there by plaster, and in time the head made an acetabulum for itself. In congenital dislocation of the hip this procedure had given very good results.

Two Cases of Amputation at the Hip for Tuberculous Hip-Joint Disease.—These were presented by DR. CHARLES MCBURNEY. The first patient was a boy thirteen years old, whose hip-joint trouble was first noticed when he was three years of age. According to the history, he had received excellent treatment, and at times he was to a large extent relieved of his symptoms. The disease recurred, however, from time to time, and when Dr. McBurney first saw him, two years ago, he was much emaciated and suffered from continuous fever. There was one and three-quarters inches of shortening on the affected side, and about the hip-joint there were half a dozen sinuses leading to dead bone. The head of the femur had apparently entirely disappeared by absorption, and it was also evident that the ilium had become considerably involved. The sinuses were freely laid open, the dead bone was removed, and the wounds were carefully dressed. This operation proved unsuccessful, however, and two months later an amputation at the hip was done in order to save the boy's life. The section of the soft parts was made at a high point, all diseased tissue was removed, and the wound was left wide open, so that any recurrence could be at once detected. The acetabulum was found to be perforated; it was thoroughly curetted and its border was cut away with the rongeur. The child made a good recovery from the operation, which was done on March 4, 1899, and immediately began to gain flesh and strength. The wound had to be curetted once after the operation and then healed without further trouble. The boy had been entirely well ever since. The second patient shown was a man of thirty, who had also suffered from tuberculous hip-joint disease since early childhood. Under careful treatment, the use of an extension apparatus, etc., he had enjoyed long periods of immunity from severe symptoms, although the joint had become stiffened and useless. When he was nineteen years old, an abscess of the joint developed, which was opened and healed after seven months. Nine years later he had another ab-

scess formation, which never closed. When this patient came under Dr. McBurney's observation in April, 1897, there were numerous sinuses about the joint. The man was greatly emaciated and suffered much pain; he also had a fever which was more or less continuous. His condition was such that a radical operation for the removal of the diseased tissue was necessary in order to save his life. A high amputation of the hip was accordingly done on May 1, 1897. It was followed by an immediate improvement in the patient's general condition; his fever disappeared and he rapidly gained flesh and strength. He gained eighteen pounds within three months after the operation and had enjoyed perfect health ever since. He wore an artificial limb, the upper section of which was very ingeniously devised by himself; it was firmly attached to the stump and body, and it allowed him to sit down or walk with comparative ease. He walked about four miles daily. Dr. McBurney said that in both of these operations the amount of blood lost was trifling. Hemorrhage was controlled by making a small incision through the abdominal wall at about the point which was usually chosen in operating upon the appendix. Through this incision an assistant's finger was introduced, and the common iliac artery was firmly compressed. This method was preferable to the use of pins or the tourniquet, especially in this class of cases, as it left the field of operation free and the incision could be carried up as high as was deemed necessary. The speaker added that he did not present these two patients as examples of what should be done in many cases of tuberculous hip-joint disease. Such a radical measure as amputation should be done only as a last resort, after conservative treatment had been given a thorough trial and had failed, and the life of the patient had become endangered by the symptoms—continuous fever, emaciation, etc.—which the disease had given rise to.

Dr. Gibney said he agreed with Dr. McBurney that amputation was necessary in advanced cases of tuberculous hip-joint disease with extensive suppuration and severe constitutional symptoms. In these cases there was not infrequently an osteo-myelitis of the femur, with severe pain, which was not cured by mere excision. In such instances, Dr. Gibney said, he had at times tunnelled the femur down to the lower epiphysis and made a counter-opening, and in only one case was the result satisfactory. By resorting to amputation in such a case, the comfort of the patient was increased and his life prolonged. In these cases one was apt to wait too long before advising amputation.

The Early Diagnosis of Mammary Tumors.—By Dr. George F. Shrady (see page 121).

Dr. William T. Bull said that most surgeons were in accord with the views expressed by Dr. Shrady. One very valuable aid to diagnosis he had found to be exploratory incision and the removal of a section of the growth for immediate examination by means of the freezing microtome. Dr. Bull said that all breast tumors could be easily separated into two classes: one in which one was reasonably sure of the diagnosis, and another in which a doubt existed. In the latter class of cases one should not wait for the development of further symptoms, but should make an exploratory incision at once, with the aid of an expert pathologist.

Dr. McBurney said the importance of early diagnosis in these cases could not be emphasized too strongly. The fact was not sufficiently appreciated by the general practitioner that the time to cure the patient was when the disease was very recent. The general practitioner frequently made one of two mistakes: he either regarded the tumor as innocent when it was malignant, or he made a diagnosis of malignant disease, but thought the time had not yet come for an operation. In both instances he was taking a position which did not belong to him in any sense—no more than it would belong to a surgeon to decide when the time had come for a patient with pulmonary tuberculosis to adopt this or that method of treatment or go to this or that climate. Dr. McBurney said that in doubtful cases of mammary tumor he was fully in accord with what had been said regarding the advantage to be gained from an exploratory incision and an immediate pathological examination by an expert, but in order to avoid error, the expert called in should really be an expert. The number of so-called expert pathologists multiplied so rapidly that one must be very careful as to the quality of the expert. Dr. McBurney said he looked upon enlarged glands in the axilla as a very important symptom of malignant disease. Of course, they occurred in other diseases also, but in such cases the character of the disease was usually very plain, whereas if the character of the disease was in doubt and the glands were enlarged, it was quite the rule that one had carcinoma to deal with.

Dr. Robert F. Weir said he had used in the obscure cases the exploratory incision for a number of years as an aid to diagnosis. He agreed with Dr. McBurney that one must be careful in the choice of an expert pathologist, and, furthermore, that the portion of tissue which was submitted for examination should be taken from the growth itself (for in this he had seen errors committed) and that it was sufficiently large. If a very small section was removed, the pathologist was apt to be puzzled. Even under the most favorable conditions, however, the opinion of the pathologist evolved by the hasty method could not always be absolutely relied upon. Moreover, after the removal of a section of a suspicious growth, great care should be taken in closing up the wound in order to avoid the inoculation of malignant tissue which might occur in the wound of the operation that might be subsequently undertaken. In carcinoma, Dr. Weir said, the enlarged glands had a peculiar feel which the educated touch could not mistake. It was a symptom which when present was very valuable, and which when absent often gave a misleading hope to the general practitioner that the tumor was not carcinoma, but we should bear in mind that enlarged glands in the axilla were present in about forty-seven per cent. of those cases in which none were to be felt through the skin. In such cases they could be detected after the axilla was laid open. Dr. Weir said that the supraclavicular incision which some surgeons were now resorting to in order to detect enlarged glands in the neck could sometimes be avoided by simply passing the finger up under the clavicle from the wound made in the removal of the breast and axillary glands and searching for them in that way. By this method a good exploration might often be made, and if a negative result was obtained, a considerable incision might be saved to the patient.

Dr. T. Mitchell Prudden said that while the examination of a frozen section of a suspicious mammary growth, made just previous to an operation, was a very useful method in some instances, there were many cases in which even the so-called expert pathologist could not arrive at a positive diagnosis. Given a reasonably large section of a tumor, which was well fixed and stained, and any experienced pathologist could usually attach a name to it; but when a specimen was hurriedly prepared, some of the structural details were necessarily lost and a positive opinion as to its true character was often difficult, if not impossible. In any event, it should be remembered that the report which the pathologist furnished was not necessarily a diagnosis of the tumor, but only of the portion of tissue sent to him.

Dr. Beverley Robinson called attention to the undesirability of operating upon patients of advanced age who were suffering from the scirrhus type of mam-

mary tumor. The speaker said he knew of two such cases in which the patients were advised against operation by the surgeon.

Dr. Shrady, in closing, said the exploratory incision in doubtful cases, as mentioned in the paper, implied the securing of a section of the growth for immediate pathological examination. This, of course, should always be taken advantage of. He was not surprised, however, to hear Dr. Prudden say that the report of the pathologist could not be relied upon as final in all cases. The speaker said he could recall two instances in which the pathologist's report proved to be entirely erroneous. He believed that the clinical history, gross appearances, and microscopic findings should in all cases be taken into account together. Dr. Shrady said that in cases of atrophic cancer in old women, to which Dr. Robinson had referred, he was rather inclined to advise against operation, as the natural tendency was to die of something else. In three such cases in which he was induced to operate by the constant importunity of patients desirous to take the risk, the disease soon recurred in an acute form and the patients died within a few months after the operation from extensive infiltrations in surrounding parts. In regard to the infiltration of the axillary glands it was universally admitted that such a condition was always confirmatory of suspected cancerous disease; he wished to discuss only those obscure cases in which there was a reasonable doubt of malignancy in the absence of other well-known phenomena.

NEW YORK ACADEMY OF MEDICINE

Stated Meeting, January 17, 1901.

Robert F. Weir, M.D., President.

Portrait of Austin Flint, Sr.—Dr. E. G. Janeway presented this portrait to the Academy, together with a fitting historical sketch of the life of Dr. Flint.

The Value of the X-Ray in Medicine.—Dr. Francis H. Williams, of Boston, read this paper. He said that he had made use of a static machine with eight plates, each six feet in diameter. With such a machine the heart of man could be seen at a distance of fifteen feet. The apparatus should have an adjustment for readily turning the light up and down. Objects could often be made out in a moderate light which would escape observation in a very strong one. This adjustment was especially necessary when the chest was examined for signs of early tuberculosis. Only within the past few weeks had such an apparatus been on the market, having been placed there by his associate, Dr. Rollins. By means of radiographs physicians could determine the presence of calcification in many of the arteries, even of the aorta itself in certain cases. It was also possible under favorable circumstances to distinguish fatty tissues. In the abdomen a portion of the outlines of the dense organs, such as the liver and spleen, were best seen by distending the intestine with gas or air, as this produced a greater contrast; or, the subnitrate of bismuth might be mixed with bread and milk and given to the patient. The outlines of the pelvis could be followed by means of radiographs and its transverse diameter determined more accurately than ever before. In examinations of the chest the patient should be seated in a suitable chair or should lie down on a stretcher. The light should always be at a distance of about three feet from the fluorescent screen, and in examinations of the chest at the point where a line joining the nipples crossed the median line of the body. Thus, observations made at intervals could be compared with one another or examinations on the same patient made by physicians in different localities could be compared. Fluorescent screens were better than radiographs for such work. In order to judge of the density of the lung one must estimate not only the amount of light coming through the chest, but comparison should be made of the two sides of the chest. In emphysema the thorax would be found lighter throughout than under normal conditions. The excursion of the diaphragm was also much lower and more restricted. The heart changed its position very little between expiration and inspiration in such cases. In early tuberculosis the excursions of the diaphragm were shortened on the affected side and the heart was drawn a little to the affected side. In addition, there was found an appreciable increase in the density of the affected side. A photograph was shown of a case of pneumonia on the seventeenth day, that is, at a time when several physicians had been unable to detect any physical signs of the disease remaining, yet this picture showed that there was a very decided increase in the density over the affected side. If an *x*-ray examination showed that the outlines of the diaphragm could be readily made out on both sides, one could be sure that there was no pleuritic effusion present; if, on the other hand, these outlines were indistinct on one side it was probable that the partial obscuration was the result of such an effusion, though it might arise from other causes. By *x*-ray examination it was possible in some cases to determine the borders of the heart more accurately than had been possible hitherto. In some cases of valvular disease or of renal disease it was no longer possible to see clearly the outlines of the diaphragm or of the lower part of the heart, owing to the presence of œdema of the lungs. In central pneumonia it was practically always possible by *x*-ray examination to make out the increased density of the centre of the lung, even though this could not be detected by auscultation and percussion. Empyema following pneumonia was often overlooked, but if an *x*-ray examination were made such an error would not be likely to occur. The *x*-ray examination was of special service in two kinds of cases of aneurism, viz., those in which the aneurism did not present well-marked physical signs, and in a not inconsiderable number of cases of supposed thoracic aneurism which the *x*-ray examination proved not to be of this nature. New growths in the chest were sometimes, as was well known, very difficult of recognition by ordinary physical examination. An *x*-ray examination would enable one to detect such a growth earlier and determine its position and size. The dangers of *x*-ray examination lay in faulty methods and wrong inferences, and were not inherent in the method itself. Among the thousands of *x*-ray examinations made at the Boston City Hospital and at his office there had not been a single case of *x*-ray dermatitis. The method, like other methods of precision, required experience and skill for its successful employment. No mode of examination was more difficult of execution because of the time consumed and the experience necessary rightly to interpret the results of such examinations. A physician who would carefully study one thousand cases, both by the ordinary methods of physical examination and by the use of the *x*-ray, would find his skill in physical diagnosis materially improved. Dr. Williams said he did not wish to be understood as advocating the substitution of this method for any other, but he claimed only that it was an important auxiliary.

The Value of the X-Ray in Surgery.—Dr. Robert Abbe discussed this subject. He said that while there had been an unfortunate tendency to exaggerate the results of *x*-ray examination, it could not be denied that at the present time there were no longer any doubtful cases of fracture, which was in striking con-

trast with the past experience of every surgeon. There was both a negative and a positive value to *x*-ray work in surgery. It was often a positive advantage to say that a shoulder or a hidden point was not fractured. In fracture at the hip joint it seemed to him the *x*-ray examination was superfluous, as nothing could be clearer than the results of an examination with the aid of Bryant's ilio-femoral triangle. In his experience the *x*-ray examination had been most useful in connection with fractures of the shoulder. Again, owing to the great tumefaction about the elbow in cases of injury of this part, an *x*-ray examination would do much to clear up the diagnosis. Formerly the surgeon spoke of only one or two varieties of Colles' fracture; now, as a result of study with the *x*-ray, there were perhaps twenty or more varieties of this fracture. Formerly it had been possible occasionally to set a Colles' fracture very well under anæsthesia; now it was possible under the guidance of the *x*-ray to do far better work in this regard. Formerly certain fractures about the knee had been suspected rather than diagnosed; now they were made as clear as daylight. What had been described years ago as a "sprain fracture" by the English surgeon Mr. Callender, was now known to be a rupture of a ligament with the tearing off of a chip of bone. There was no trouble at all in securing a good radiograph of fractures of the cervical vertebræ, and even determining before operation, and without hurtful manipulation, the amount of encroachment of the fragments of bone upon the vertebral canal. Cases of non-union were also very interesting studies in the light of the *x*-ray. He had had a number of very gratifying experiences with the detection of foreign bodies, such as needles, in the tissues. Such examinations also served to explain to some extent the wandering of needles in the body. A most important point in searching for needles was to make the incision at a right angle to, instead of parallel with the needle. If the incision were made parallel to the needle it was a very easy matter to miss the needle, whereas with the other direction of the incision the knife soon came down upon the needle. He had found radiographs very deceptive in following bullets situated deeply in the tissues.

The Value of the X-Ray in the Detection and Exclusion of Renal and Ureteral Calculi.—Dr. Charles L. Leonard, of Philadelphia, read this paper. He said that renal calculus was generally considered to be much more frequent than ureteral calculus, but his *x*-ray studies had led him to believe that they occurred with about equal frequency. The difficulties of diagnosis by the older methods were well shown by the varying symptomatology of the cases. The *x*-ray method was more definite and precise than any other mode of examination; moreover, it made the operation for the relief of the condition more accurate and allowed of its being made complete. Calculi had been present in both ureters of four patients examined. The method had been demonstrated to be capable of detecting the most minute calculi—a class of cases which were especially dangerous because they were apt to cause much damage and suffering without giving rise to many symptoms. The mortality of nephrolithotomy was only two or three per cent. when done early, but in the later stages, when infection had taken place, the mortality was as high as twenty-five per cent. The *x*-ray examination was made without inconvenience to the patient and without the introduction of instruments into the ureter, with the possibility of causing serious infection. The accuracy of the *x*-ray method had been seriously questioned by some. In one hundred cases he had made a negative diagnosis, and in only one had this diagnosis been set aside by operation, and here the error had arisen from a misplaced plate and a consequently faulty reading of the negative. The only source of error lay in the improper employment of the *x*-rays and a wrong interpretation of the result, and not in the method itself. The reading of the negative was often the most difficult part of the diagnosis. The negative diagnoses made incision into the kidney, and the consequent danger of urinary fistula, unnecessary unless such a procedure was demanded because of some other pathological condition. In two cases the result of the *x*-ray examination had been the only ground for operation, yet this diagnosis had been confirmed by the removal of calculi. The possibility of determining the exact size and position of a calculus enabled one to estimate with fair accuracy the chances of such calculi passing spontaneously, and hence might afford perfectly rational grounds for practising conservatism. The method was most useful also in connection with a litholapaxy to determine if all fragments of calculi had been evacuated. The author's conclusions were based on the study with the *x*-rays of one hundred and thirty-six cases, and the finding of calculi in the ureter in nineteen, and in the kidney in seventeen cases. Numerous skiagraphs were projected on the screen showing calculi in both the kidney and the ureter.

The Technique and Correct Interpretation of Radiographs.—Mr. E. W. Caldwell discussed this phase of the subject. He said that *x*-ray work rarely yielded its best results without the exercise of great patience and much coaxing. The static machine produced a very steady excitation of the *x*-ray tube, and was well adapted for fluoroscopic examination. Static machines of sufficient power for such work were, however, very cumbersome and quite erratic in their action. Probably the most practical form of exciting apparatus, and the one in most general use, was the ordinary induction coil. It was now pretty well established that coils giving sparks about ten inches in length and of considerable energy were the most satisfactory. The ordinary rotary interrupter with a properly adjusted condenser was very efficient and reliable. If mounted on a cushion and enclosed it was practically noiseless. The steadiest and the most powerful discharges from induction coils were obtained by using a liquid and electrolytic interrupter. Interrupters of this class operated with high frequency, and thus permitted a large amount of energy to be taken from a coil of given size. They produced a very steady excitation of the *x*-ray tube—a most important quality. They materially shortened the exposure and diminished the weight and bulk of portable *x*-ray outfits. If the direct electric-lighting current was available at the patient's house he used it with the fluid interrupter; if no electric-lighting current was at hand he ran a lamp-cord out of the window and connected it with the battery of an electric cab. In order to facilitate the arrangement of the patient with reference to the plate it was often necessary to make use of auxiliary appliances of a purely mechanical nature. The table should be adjustable in height and in plane. The movements of the body which accompanied respiration sometimes seriously interfered with the successful making of radiographs. They might be greatly reduced by bandaging the abdomen tightly and instructing the patient to breathe as much as possible with the thorax. Likewise, when a radiograph of the thorax was to be made, the chest should be strapped and the patient encouraged to use abdominal breathing. When an exposure of half a minute was sufficient the patient would usually be able to stop all breathing for that time. It was most important to supplement the fluoroscopic examination with radiographs, for he had seen many cases of doubtful fracture in which the nature of the injury had been made perfectly clear by the radiograph, though it

had been rather obscure when viewed with the fluoroscope.

Within the Reach of the Medical Practitioner.—Dr. Walter B. James said that in the present state of our knowledge it seemed necessary to have a champion for *x*-ray work in medicine. The value of the *x*-ray in surgery was generally recognized all over the world. The work presented this evening by Dr. Williams showed conclusively that with such an apparatus, and with his experience, the *x*-ray examination was most valuable in internal medicine. However, the question arose as to the utility of the method in the hands of the average busy practitioner of medicine. From his own rather limited experience with the method in this field he felt that this branch of study yielded results that repaid the investigator well for the time expended. He was of the opinion that most practitioners could materially increase their facility and accuracy of diagnosis by calling to their aid the *x*-ray. For example, it was often impossible to map out satisfactorily the boundaries of the heart by the old methods of physical examination. Again, the position of the upper border of the liver was often hard to determine by the older methods, though a matter of no little importance in internal medicine.

Skiagraphy of Biliary Calculi.—Dr. Carl Beck said that about fifteen months ago he had had the satisfaction of showing in this same hall to the New York County Medical Association the first skiagraphs ever taken of biliary calculi in the living subject. The patient had been exhibited at the same time. It had been stoutly denied only recently by a German observer that such a feat was possible, but he was glad to say that Dr. Nicholas Senn of this country had been able completely to confirm the assertion that it was a perfectly feasible thing to skiagraph these calculi. It had been supposed at one time that the result depended largely upon the chemical composition of the stones, but later observation and improvements in the technique had demonstrated that it was the method and not the composition of the calculi that was all-important. The vacuum tube for such work must be able to stand a current from a coil giving a fifteen-inch spark. The tube was best tested on the wrist, as this afforded various sorts of tissues. If the lower end of the radius appeared grayish-black and its contour was distinct, and if the soft tissues appeared very light, then the tube was suitable for skiagraphing biliary calculi. A "soft" tube would show the outlines of the radius in intense black and the soft tissues would also be comparatively black, thus lacking contrast. Such a tube might be very good in skiagraphing the hand, but would not do for skiagraphing biliary calculi. When he had visited Professor Roentgen five years ago the latter had advised him not to buy his electrical apparatus in Germany but in America, and had added that the *x*-ray tubes made in Germany were far superior to those manufactured in this country. In skiagraphing biliary calculi the patient should be in the abdominal position. The result was apt to be better if the *x*-rays were sent obliquely, so as not to pass through too much tissue.

SECTION ON MEDICINE.

Stated Meeting, January 15, 1901.

John H. Huddleston, M.D., Chairman.

Some Further Work on the Mosquito-Malaria Theory, with Remarks on the Conditions Around New York.—Dr. W. N. Berkeley read a paper with this title (see page 124).

Dr. William H. Thomson thought this discovery of the true etiology of malaria was one of the greatest in medicine—even transcending the discovery of the etiology of tuberculosis. With the entire removal from our minds of the erroneous conception of poisonous gases and miasms we could look forward to the triumphant doing away with so-called unhealthy climates. There were no such climates *per se*, they being in reality nothing more than infected climates. With the money which the government expended upon one iron-clad the medical profession could contract to render perfectly healthful the most noxious malarial region imaginable.

Dr. Achilles Rose said that while living in Athens he used to sleep outdoors at night. The air was filled with bats and mosquitos, and it had seemed to him that the bats devoured the mosquitos. He would like to know if this really was the case, and whether there were many bats in this country. The question was an interesting one in connection with our present knowledge of the etiology of malaria.

Dr. James J. Walsh said that at Rome four years ago malaria had been looked upon most seriously by the American students there, while last year it had been noticeable that they had already come to feel that malaria had been conquered. There seemed to be no doubt that, with proper precautions, it was perfectly safe for persons to go anywhere in Italy, and that they need not contract malaria, even the most virulent forms found in southern Italy. The only place in which the male and female organisms meet must be in the stomach.

Dr. James K. Crook commented upon the view expressed in certain quarters that malaria had been stamped out in certain very malarial regions by the extensive cultivation of the orange and lemon. He would like to know whether such vegetation was in any way inimical to the growth of the mosquito.

Dr. M. Manges remarked that the Italians had long considered lemon juice one of the great specifics against malaria. He felt sure that the more this research into the etiology of malaria was carried on the more frequently would the æstivo-autumnal form be found in New York City.

Dr. Berkeley said that so far no one had been able to find any mammal or reptile which harbored this parasite so destructive to man.

The Treatment of Influenza.—Dr. William H. Thomson read this paper. He said that while the present epidemic of influenza was fully as extensive as when the disease had first appeared in 1890, it was certainly of a much milder type, and consisted very frequently of nothing more than a catarrh and a fever, with a special tendency to general debility. This change of type he believed to be due to the fact that very few people had escaped from previous epidemics, and that their previous experience had conferred upon them a certain degree of immunity. According to his experience, the disease this year was relatively more severe in children than in adults. He had also noticed that in the few persons who had not previously had the grippe, it was far more severe than the prevailing type. For many years he had looked upon aconite as the best remedy for the aching limbs, observed not only in the grippe but at the outset of many acute disorders. He believed he had often succeeded in aborting an attack of tonsillitis by administering early a dose of aconite sufficient to produce the characteristic effect of the drug upon the throat. This action of aconite was increased by a small dose of Dover's powder. One of the coal-tar series had also proved useful in this class of cases, namely, phenacetin. He would not give it in sufficiently large doses to reduce the temperature. When combined with quinine he was disposed to think that the combination acted as a true antitoxin to the influenza poison. These drugs had seemed to him to diminish the severity of the disease and lessen the tendency to the

development of complications. He had had the greatest success in the treatment of the grippe by the administration of the following: gr. ¼ of the solid extract of aconite, gr. i. of Dover's powder, gr. viii. of phenacetin, and gr. vi. of quinine made into two pills. Six pills should be given on the first day, and this dose should be continued daily so long as there was fever, and then should be reduced one pill daily until three were taken. The latter dose should be kept up until all catarrhal symptoms had subsided. One troublesome sequela of the grippe was the paroxysmal cough, which had nothing whatever to do with bronchitis, but was nevertheless very troublesome at night. He had found this would ordinarily yield to gr. xx. of bromide and gr. x. of antipyrin. A very useful measure was to flush out the nose and throat with one quart containing chlorate of potassium and peppermint. Five drops of oil of peppermint should be mixed with ʒ ii. of chlorate of potassium and then dissolved in a quart of very hot water. He knew of no more powerful stimulant to the bronchial muscles than dry-cupping, and hence it was useful as a means of relieving the asthmatic breathing. One should not hesitate to repeat the dry-cupping frequently, but it should be remembered that the weak cupping produced by cups with rubber suction bulbs was wholly inadequate. It was well to follow the cupping by the prolonged application of cloths wet with an infusion of capsicum of the strength of ʒ i. of powdered capsicum to one pint of water. One of the most important things to remember in connection with the treatment of the grippe was that the person attacked should at once go to bed and remain there until well on the road to recovery—indeed, rest in bed alone would carry many cases successfully through the disease.

Dr. Andrew H. Smith said that he had just come from the bedside of a young man suffering from grippe, and had been impressed with a novel symptom—retention of urine. The patient was a healthy young man, and there seemed to be no obvious reason for the retention. With regard to the treatment of periodical neuralgia by ergot, which Dr. Thomson thought so highly of, he said that he was reminded of his experience some years ago with the caisson disease, and its most troublesome and obstinate neuralgia. In the latter nothing had given such prompt and marked relief as full doses of ergot. The annoying and persistent cough so commonly observed after the grippe, had seemed to him to have its seat just at the bifurcation of the trachea. In the few instances in which he had been able to get a view of the bifurcation with the laryngoscope he had found a velvety condition of the mucous membrane at this point. An irritation started here would naturally be intensified by the fact that the impact of the air at every inspiration was received upon this wedge of tissue. He had succeeded best in relieving this annoying irritative cough by the administration of malto-yerbine. Sometimes it was desirable to give the fluid extract of yerba santa in some other vehicle. The vagueness of our knowledge concerning the pathology of grippe made it difficult to lay down any definite rules for its treatment. The great depression resulting from an attack of influenza left the system in a condition peculiarly favorable for an attack of pneumococcus infection, and this explained the tendency to pneumonia. The physician should constantly impress upon his patients suffering from grippe the necessity for respecting the languor which they felt.

Dr. James K. Crook thought that it was wise for persons susceptible to bronchial affections and able to seek a change of climate to leave infected districts. For those unable to leave home he would advise taking daily a small quantity of quinine as a preventive. For persons whose occupations rendered them peculiarly liable to an attack of influenza, it might be well in addition to take half an ounce of whiskey. Another preventive measure which it would be well for physicians to apply in their own persons was the daily irrigation of the nose and throat. For the acute symptoms at the onset of the disease he had obtained the best results from the administration of gr. v. of phenacetin and gr. xx. of bromide of sodium every five hours. When the headache and nervous symptoms were not so marked, good results would follow the use of gr. ii. each of Dover's powder, quinine, and acetanilid. For the annoying cough he made use of a powder containing gr. ii. each of extract of glycyrrhiza and phenacetin, gr. ¼ of codeine (or gr. $\frac{1}{12}$ of heroin), and five grains of sugar of milk. In his experience the pneumonia of grippe was always asthenic and required stimulant and supporting measures from the very beginning. For the treatment of the severe muscular pains, the salicylates had proved useless in his hands, and he now simply recommended keeping the body warm and taking an occasional Turkish bath.

A Sure Diagnostic Sign of the Grippe.—Dr. M. Manges said that one could from an examination of the base of the lung posteriorly make a diagnosis of grippe in an early stage. In nearly every case fine dry râles would be heard at the base of both lungs posteriorly, though more marked on the left side in most instances. In his own practice he had been in the habit of applying around the chest once in four hours a warm wet compress. This relieved the cough and made the patient comfortable to a degree hardly appreciated by one who had not given this method a fair trial. He had had a rather large and favorable experience in these cases of teasing cough with heroin, but he would insist that it should be given in small doses and combined with terpin hydrate or with iodide of potassium. The speaker went on to say that life insurance companies had been astounded at the large percentage of cases of albuminuria coming under observation since the grippe had been introduced into this country. Possibly the explanation was to be found in the liberal and almost reckless use of the coal-tar products in the treatment of this disease. In the present epidemic the frontal sinuses and the antrum had frequently been involved. Grippe patients often reinfected themselves by improper ventilation or remaining too long in one room.

Albuminuria and Grippe.—Dr. Brandreth Symonds said that in the first and very severe epidemic of grippe in this country he had found that one in every ten apparently healthy persons applying for life insurance had a transient albuminuria. He understood that cystitis had been especially frequent in the present epidemic.

Carbonic Acid Gas in the Grippe.—Dr. A. Rose thought there should be no surprise at the frequency of hypostatic congestion and pneumonia in grippe cases, for it was comparable to the hypostatic pneumonia occurring in old or greatly debilitated persons. He wished to advocate once more the claims of the carbonic-acid-gas bath for the treatment of grippe. It was surprising how great was the benefit derived from such a bath. The carbonic-acid-gas douche in the nose would give as much relief as cocaine to the coryza.

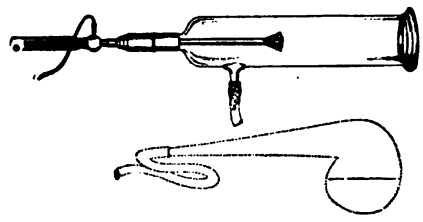
Diagnosis of Sarcoma of the Testicle.—The features that distinguish sarcomatous from other enlargements of the testicle are: (1) Continuously progressive solid enlargement without inflammation; (2) unequal resistance of the swelling at different parts; (3) entire absence of translucency; (4) tendency to become adherent; (5) increasing aches or painfulness; (6) enlargement of the cord and, *a fortiori*, of the lumbar glands.—Jacobson.

New Instruments.

STATIC CATAPHORESIS.

By R. V. WAGNER, M.D.,
CHICAGO, ILL.

Much attention is being given to the use of static electricity as developed by a static machine running at a high rate of speed. For many purposes the current thus developed is of special value and its latest application for the cataphoresis of gaseous substances, such as volatilized mercury, formaldehyde, oil of cin-



namon, etc., has proven to be a most effective means of applying such remedies direct to the diseased tissues and is an ideal treatment for consumption, tuberculous joints, glands, or any local infection. I have lately invented and perfected an instrument which makes the use of static cataphoresis most convenient and will enable any one having a static machine to avail himself of this new and effective mode of treatment.

The instrument consists of a glass cylinder made to fit closely to the skin at one end, while the other is fitted with an adjustable discharge brush; the brush should be attached to the positive pole, while the patient is in contact with the negative. The discharge of current, passing from the brush to the patient through gases or medicated air (which may be admitted to the cylinder through an opening leading to a retort or other receptacle by rubber tubing), drives the substance in with much greater penetration and in a form more suitable than any other known means of cataphoresis.

A NEW EXPRESSION FORCEPS.

By JAMES COLE HANCOCK, M.D.,
BROOKLYN, N. Y.

An instrument so simply constructed and so obvious of purpose as the one represented in the accompanying cut, needs little description. For the past few years I have been greatly interested in the surgical treatment of trachoma and in the various mechanical appliances brought forward with this end in view, especially the many forceps. Having used all the

different forceps and finding that all engage the conjunctiva to an undesirable and injurious extent (this is even true of the roller forceps when clogged with blood), it occurred to me that opposed cylinders of moderate size and absolute smoothness would overcome the difficulty, hence I present this instrument.

43 Cambridge Place.

Severe Anæmia.—In the treatment of severe anæmia I should place rest as of first importance.—Dr. W. N. Sherman, *Medical Age*, November 25th.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 19, 1901:

	Cases.	Deaths.
Tuberculosis	272	191
Typhoid fever	44	11
Scarlet fever	302	22
Measles	102	3
Diphtheria	302	49
Smallpox	9	5

Smallpox in Paris.—One result of the Paris exhibition is, according to the *Semaine médicale*, a threatened epidemic of smallpox in Paris. The disease which caused only four deaths in that city in 1899 and fifteen from January 1st to the end of May of the present year, began to increase in prevalence in June. The number of cases and deaths has, since that time, increased week by week to such an extent that, in the week from October 28th to November 3d, there were fourteen deaths from smallpox. The total mortality from this cause during the period of the exhibition from June to November was just one hundred as against fifteen in the first five months of the year. The prefect of police has ordered notices to be placed on the walls of Paris, calling public attention to the danger and pointing out the measures taken by the administration for the check of the epidemic, namely, gratuitous vaccination or revaccination.—*British Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended January 19, 1901:

		Cases.	Deaths.
Smallpox—United States.			
California, Oakland	December 29th to January 5th	1	
Connecticut, Bridgeport	January 7th	3	
Illinois, Cairo	January 5th	8	
Chicago	January 5th to 12th	19	
Kansas, Wichita	January 5th to 12th	6	
Maryland, Baltimore	January 5th to 12th	1	
Massachusetts, Springfield	January 5th to 12th	1	
Minnesota, Minneapolis	December 29th to January 5th	1	
Winona	December 29th to January 5th	30	
N. Hampshire, Manchester	January 5th to 12th	21	
New York, New York	January 5th to 12th	17	3
Ohio, Ashtabula	January 5th to 12th	4	
Cleveland	January 5th to 12th	51	
Pennsylvania, Philadelphia	January 5th to 12th	..	1
Tennessee, Memphis	January 5th to 12th	8	
Nashville	January 5th to 12th	5	
West Virginia, Wheeling	January 5th to 12th	1	
Smallpox—Foreign.			
Austria, Prague	December 22d to 29th	12	
Canada, New Brunswick, Port Elgin, and Cape Tarmentine	December 28th	40	
England, Leeds	December 29th to January 5th	1	
London	December 22d to 29th	1	
India, Bombay	December 4th to 18th	..	3
Calcutta	December 1st to 15th	..	81
Karachi	December 2d to 16th	16	2
Madras	December 8th to 14th	..	1
Mexico, Vera Cruz	December 29th to January 5th	4	2
Russia, St. Petersburg	December 15th to 22d	5	1
Yellow Fever.			
Cuba, Havana	December 29th to January 5th	..	5
Matanzas	December 29th to January 5th	1	
Mexico, Vera Cruz	December 29th to January 5th	1	
Cholera.			
India, Bombay	December 4th to 18th	..	6
Calcutta	December 1st to 15th	..	56
Madras	December 8th to 14th	..	1
Plague.			
China, Hong Kong	November 24th to December 1st	..	2
India, Bombay	December 4th to 18th	..	178
Calcutta	December 1st to 15th	..	39
Turkey, Constantinople	January 11th	*	

* On steamship *Berrig* from Poti.

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Original Articles.

RADICAL CURE OF INGUINAL HERNIA.[1]

BY A. M. PHELPS, A.M., M.D.,

PRESIDENT NEW YORK STATE MEDICAL SOCIETY, 1900-1901.

GENTLEMEN: I appreciate the very great honor which you have conferred by electing me to the highest position in the gift of the Medical Society of the State of New York, and it is with the profoundest feeling of appreciation and pleasure, mingled with no small degree of misgiving, that I attempt to-day to deliver the ninety-fifth annual address. The misgiving which I feel is due to the fact that the annual address has almost always been upon the broad subject of medicine or surgery, marking the advances that have been made in either during the last century or centuries. But the subject has been thoroughly covered in many of the addresses which I have examined, and which appear from time to time in our periodicals. I feel it would be simply threshing over old material —the review of which might be interesting, but which would add nothing to what has already been published —hence I resolved to present to-day the subject of "The Radical Cure of Inguinal Hernia."

There is probably no surgical affection which has commanded attention from the profession, or wrought more disaster to the human family, than inguinal hernia. When we remember that for hundreds of years no rational operation had been attempted for the relief of strangulated hernia; and, knowing full well the frequency of that dangerous malady and the frightful mortality, amounting to more than seventy-five per cent. when not treated surgically—we can fully appreciate the importance of preventing the occurrence of strangulated hernia by a rational operation before strangulation takes place.

For more than two thousand years, surgeons of every decade and century have proposed and performed operations based upon some theory or other to prevent the descent of the intestine into the inguinal canal, always meeting with a signal failure; and it may seem strange, but still it is true, that not until twelve years ago was any operation performed that would receive one moment's consideration to-day from any surgeon who is familiar with the subject.

Bull reported one hundred and thirty-four cases in 1890, and confessed that his "observations go to strengthen the conviction that all methods of radical cure will be found unsatisfactory." And this experience of Bull was the experience of all surgeons. Bull followed Socin's method; that is, excision of the sac after ligation; then Banks' method: excision and ligation of the sac with suture of the pillars of the external ring; then, subsequently, the entire canal was stitched up after the sac was ligated and excised. He reported twenty-seven per cent. of relapses within the year after the first operations; forty per cent. from the second method; and forty-two per cent. from the third. He states that:[2]

"As to results being no better by the complicated method of the suture of the ring alone or of the ring and canal, than by the simpler method of excision of the sac after ligature, I shall confine myself to that method of operation until other procedures which have stood the test of years make a more promising showing." From a series of one hundred and thirty-six cases there remained only four which had been over four years without recurrence. In his second paper Bull further states:

"Now that ten years have elapsed since the modern surgical operations have been in vogue, we ought to hear of, or have presented to us, patients who have been more than five years at the least without relapse. We could naturally expect to see such cases occasionally at a special hospital; but there are none such."

We will return to the consideration of modern operations after first glancing at

A Brief History of the Operations for Hernia.—The history of the operations for hernia has a direct bearing upon modern methods. So far as the literature upon the subject can be traced, Celsus appears to be the first who attempted an operation for the cure of hernia in the first century. His description of his methods is very vague, but he seems to have understood the anatomical and mechanical principles accurately. He made a free incision down upon the hernial sac and pushed the omentum back. The sac was then tied off and the wound closed. The probabilities are that he stitched together the pillars of the ring and all of the soft parts. His operation, however, was confined chiefly to children. He seldom performed it on patients in adult life.

Heliodorus, one hundred years later, describes an operation which he performed, one very similar to that of Celsus, and closely resembling nearly all the modern operations. He says[1] that

"We must cut off the hernial sac with great care. If we take off less than is protruded the result will be the production of a new hernia, for the edges of the wound will be slack, and the way prepared for the slipping out again of the intestine. If one resects more than is protruded, then the hernia will recur, for the edges of the peritoneum, because of the too great resections, cannot be brought together and the patient is in danger, because the normal parts have been taken away."

So we see that he was fully alive to the fact that if the peritoneum and transversalis fascia retracted, a weak point was left in the abdominal wall; and it is for this very reason that in my writings I have described this accident which I have observed post mortem after ligation of the sac, and have advised surgeons never to think of ligating the sac, because the ligature is likely to cut through the peritoneum and transversalis fascia, allowing them to retract, leaving a large surface exposed with no fibrous material to prevent the escape of the intestine. Instead of ligating the sac, it ought always to be cut off and stitched up, exactly as is done in any other abdominal wound. This operation of Heliodorus is certainly as efficacious as any of the modern operations up to 1888 and of many that have been performed since that day.

[1] The Ninety-fifth Annual Address.

[2] Bulletin of the Johns Hopkins Hospital, vol. iv., 29, 1893.

[1] "Lehrbuch der Chirurgie," Bd. iii., Edward Albert.

Dr. Henry Bryant, of Boston, published in 1846 a "Treatise on the Radical Cure of Inguinal Hernia," for which the Boylston prize was awarded the author. I am indebted to that treatise for many valuable historical facts.

Up to 1846 cauterization, ligation of the sac and spermatic cord subcutaneously, suturing of the canal and the sac either subcutaneously or through an open wound, excision of the whole or part of the sac, castration together with the actual cautery applied to produce sloughing of the parts, are vividly described. Caustics were applied to the skin just over the external ring; the skin, the sac, and sometimes the periosteum were destroyed, which produced exfoliation of the bone. It was supposed that the scar which followed would be sufficient to prevent relapse. This idea that scar tissue would prevent relapse was the fundamental principle in McBurney's operation.

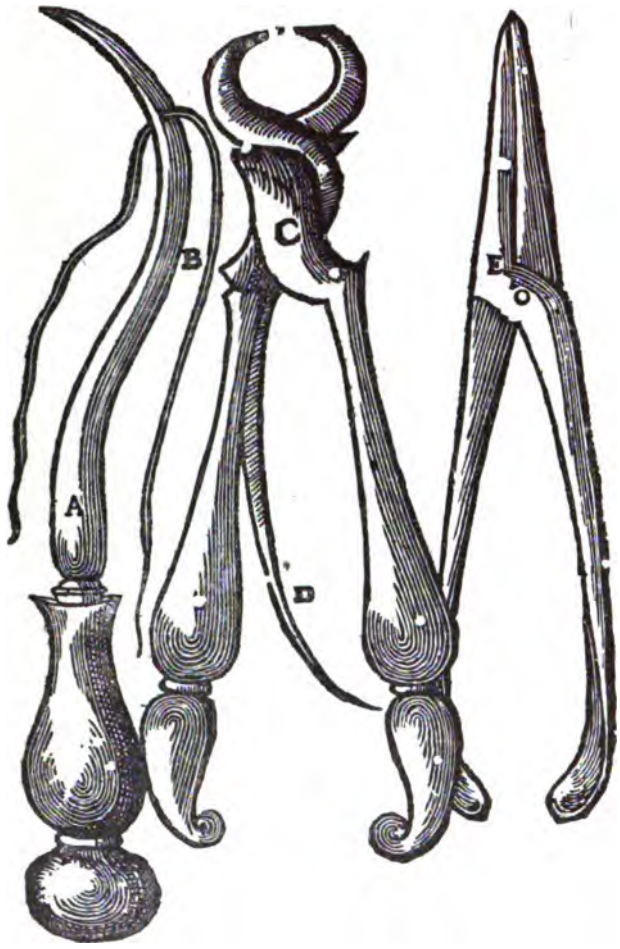


FIG. 1.

Subsequently, an incision was made down and a caustic was applied to the neck of the sac. This barbarous treatment resulted in a very great mortality and relapses always followed.

A red-hot iron was applied over the external ring, burning deeply to the bone. This was a favorite operation during the early part of the Christian era and also during mediæval times. Ligatures were applied in different manners—subcutaneously or after an incision had been made.

These ligatures, as they were passed around the sac either with or without the cord, were tied with pieces of wood which were placed over the integument, and the pressure induced sloughing, and of course in due time the ligature came away. It is needless to say that all these operations were attended with a high rate of mortality and relapses always occurred.

Suturing was a favorite method even during the present century. Then came the craze for the removal of the testicle together with the cord and sac, and it is only within, comparatively speaking, recent times that laws were passed in France to prevent this need-

FIG. 2.

less mutilation. Paul of Aegina in the seventh century was probably the first to introduce the idea of castration. He removed the testicle, the cord, and the sac. The barbaric methods of mediæval times were much employed by the Arabians, but were not fully endorsed by Ambrose Paré, who discarded many of these methods. He, however, employed the subcutaneous ligature (see Fig. 1).

Fig. 2 illustrates the method of applying the double and single truss by Ambrose Paré either before or after an operation for hernia. The principles are correct and they might be applied with profit and benefit by modern truss fitters.

Subcutaneous ligation of the sac has been used by eminent surgeons during the nineteenth century, and they have claimed brilliant results. The mortality has been placed as high as seven per cent. These ligations are performed either through an open wound or subcutaneously at the external ring.

It was not until the sixteenth century that a cutting operation was done for incarcerated hernia. This was

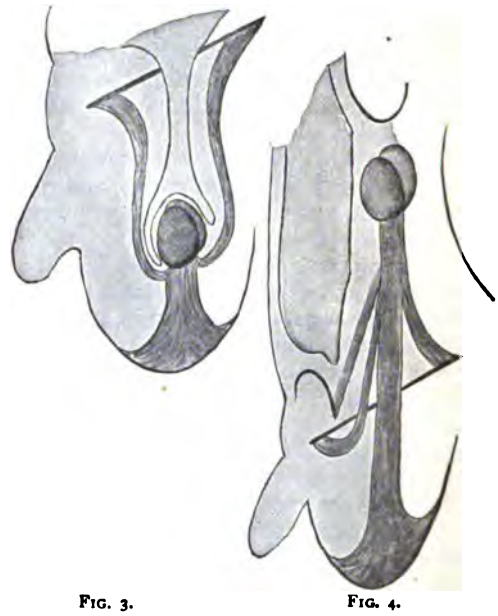


FIG. 3. FIG. 4.

performed by Pierre Franco, an uneducated rupture and stone cutter. From his day until the beginning of the present century, surgeons have from time to time performed his operation.

Sir Astley Cooper certainly comprehended all there was of the past and of his day in his treatise on hernia

and no doubt his work has contributed more toward the rational treatment of strangulated hernia than that of any other surgeon.

We find the profession, which accepted the operation during the century, divided about equally on the questions whether the operation should be performed as an extraperitoneal or as an intraperitoneal operation.

Another favorite method was the introduction of foreign bodies into the hernial sac, the object being to produce a mass of new inflammatory material, which would prevent the descent of the intestine. The injection of irritating fluids within or outside of the hernial sac became a favorite method. But of all the methods of mediæval times, the one that has survived is subcutaneous suture, which has been practised almost up to the present time in Great Britain and Italy. In 1882 Dr. J. H. Warren wrote a book advocating the injection method, which is essentially the same as Heaton's. The injection of alcohol is quite popular at the present time among certain sur-

Fig. 5.

geons in France. The introduction of antiseptic surgery has played a very important part in revolutionizing the operative methods for the cure of inguinal hernia, and following upon it was an operation resembling very closely that of Heliodorus; that is, ligation of the neck of the sac with extirpation and the closing of the canal.

In 1804, J. C. Warren first began to operate upon strangulated hernia, applying methods which he had learned from Sir Astley Cooper, but he met with the greatest of opposition from the profession, and it was not until years after that the proper plan of operating for strangulated hernia was accepted by the profession of America. It is due to the work of Sir Astley Cooper and J. C. Warren, of Boston, that the operation for strangulated hernia was accepted by the profession of Europe and America.

Dr. Henry O. Marcy, of Boston, seems to have been the first to operate upon strangulated hernia in 1871 using antiseptic methods and absorbable buried sutures of catgut. Czerny, Annandale, and Steele had already operated upon hernia following closely the methods of Heliodorus, when Marcy operated upon a case of non-strangulated hernia in 1878. We must give to Marcy the credit of introducing the absorbable catgut suture and the antiseptic precautions introduced by Lister. In the Vienna *Medicinische Wochenschrift*, 22, 1877, are reported the first seven cases of Czerny.

Fig. 6.

He ligated the sac and stitched up the pillars of the ring, which he sutured with catgut, with drainage. Czerny's, Marcy's, Steele's, and Annandale's operations all seemed to be very similar. The chief point in the operation was the ligation of the sac, and stitching up the pillars of the ring. Macewen's opera-

Fig. 7.

tion was similar, except the treatment of the sac, which was folded up over the internal abdominal ring. All of these methods have been tried by Bull, Weir, and other surgeons, but relapses have been so frequent

that in this country they all have been abandoned. Kocher's operation differs from all others in one respect—he brings the sack out though an opening in the external oblique and cuts away a large portion of the sack before transplanting.

In the transaction of the American Medical Association for 1852, volume v., will be found a very interesting account of the status of the operation for hernia published by the committee appointed by that association, the chairman of which was George Hayward, of Boston, to inquire into the various methods of operation. In answer to a circular letter sent out by the committee Heaton refused absolutely to give a description of his method of injection; Watson, of New York, used the subcutaneous method as recommended by Pancoast; Eve, of Augusta, Ga., introduced pins, according to the method of Bonnet, a portion of the scrotum being invaginated; Heminway, of Derby, opened the sac and brushed it over with tincture of iodine on the inside after reducing the contents of the sac; Pond, of Griggsville, cured all of his cases by pressure, and Merriam, of Topsville, Mass., removed a portion of the omentum in femoral hernia.

Still, in all of them there had been learned a very important lesson, and as time went on there was a better conception of the requirements of an operation, until finally there were introduced to the profession others which come the nearest to perfection of any. I allude to Bassini's, Halsted's, and an operation the description of which I published in 1894, and which I will present to you to-day.

Bassini in March, 1888, reported one hundred and two cases before the congress of Italian surgeons,

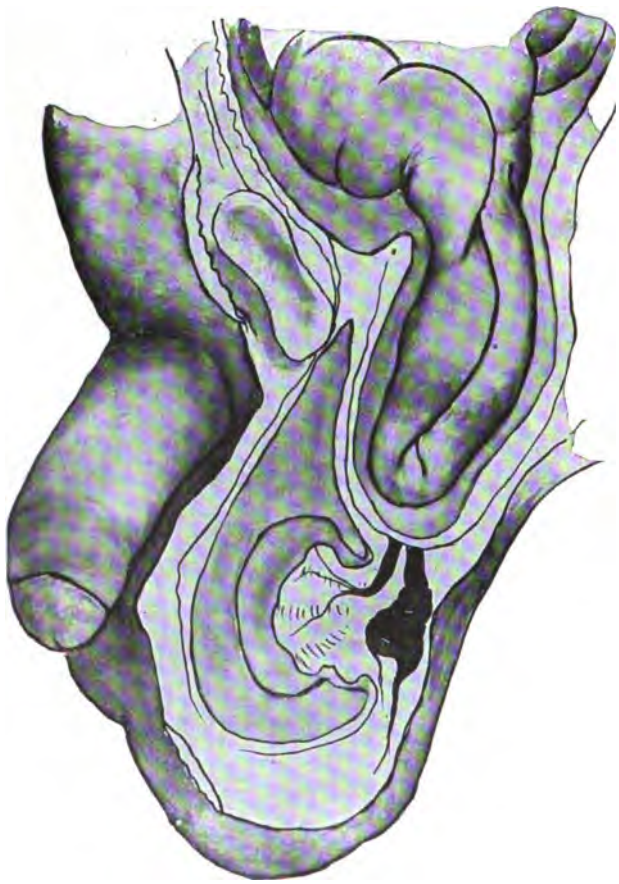


FIG. 8.

describing his operation, which was the beginning of a new era in the radical operation for hernia. He believed that the cord played a very important part in producing relapse. Therefore, to obviate this important factor, he transplanted it through the transversalis and internal oblique muscles, stitching up these two muscles underneath the cord, after which the aponeurosis of the external oblique was stitched over it, together with the skin and cellular tissue. There is no doubt that Bassini was the first to recommend the transplantation of the cord in the operation for hernia, and his stitching was done with absorbable catgut.

I shall consider these points a little later.

In November, 1889, Halsted[1] described his operation. He makes a long incision down upon the sac, extending a considerable distance beyond the internal ring. The cord is transplanted through all of the muscles, and the abdominal cavity is closed by quilted suture passed through the peritoneum at a level higher by one and a half to two inches than the so-called neck of the sac. Then interrupted strong silk sutures, passed so as to include everything betwee the skin and the peritoneum, are used to close the deep er portion of the wound, which is sewed from the pubi to the outer upper angle of the incision. The cor now lies superficially to these sutures, and penetrate through the abdominal muscles about one inch to th inner side of the anterior superior spine of the ilium The transplantation of the cord, according to Halsted is the proper method in my opinion. So we see tha there is a vast difference between the operation o Bassini and that of Halsted. In Bassini's operatio the cord lies underneath the external oblique, and re lapses must occur, and the canal is not so perfectl obliterated, owing to the presence of the cord; where as, in Halsted's operation, the cord lies external to al of the muscular layers.

FIG. 9.

In a subsequent paper of Halsted's,[2] he reports large number of cases in which he resected the vein of the cord. In one hundred and nine cases operate upon by Halsted, in which the veins were excised, h claims there were no relapses. In eighty-six case in which the veins were not excised he reports tha there were eight relapses, or nine per cent. Atrophy o the testicle was observed in a number of cases in whic the veins were excised, and it is a question in my min whether we are justified in submitting the patient t an operation which will result in the loss of a testicle when by other methods we can surely prevent relapse

Now, in regard to the results of Bassini's operation In De Garmo's article,[3] reporting two hundred an fifty Bassini operations, he says:

"Next in importance to its safety, is the considera tion of the permanence of the cure. In a paper o this subject, read before this body in 1895, I venture to predict that permanent cures would be ninety pe

[1] See Johns Hopkins Hospital Bulletin, vol. i., No. 1, p. 12 "The Radical Cure of Hernia," by Dr. William S. Halsted.

[2] Johns Hopkins Hospital Bulletin, No. 4, 1893.

[3] Published in the Journal of the American Medical Associa tion, October 2, 1897.

cent. I think this estimate is too low, and do not hesitate to advance it to ninety-five per cent."

Professor Girard, of the University of Berne, stated to me last summer at the time I demonstrated my operation to him, that the relapses following Bassini's operation would fall between fifteen and twenty-five per cent. or even larger. Dr. Kuemmel, of the Eppendorf Hospital, Hamburg, Germany, stated to me that the relapses in his hands from Bassini's operation would be more than twenty per cent. Thus, we have from Halsted himself the statement of the percentage of relapses, and also from other eminent operators, in regard to Bassini's operation. These two operations are based upon the following principles:

Fig. 10.

That a partial or perfect obliteration of the inguinal canal is important, facilitated by the transplantation of the cord from the canal; and the perfect coaptation of all of the muscles and the union, and the removal of the sac are imperative. Not only stitching up of the pillars of the ring but of the entire inguinal canal should be done. So far as these principles go they are correct, but they do not take into consideration certain anatomical facts that are present in almost all cases of inguinal hernia, especially in adult life. Unquestionably, the early ancestors of the human family were quadrupeds; and their normal position was horizontal and not erect. In them the pressure of the internal abdominal organs was in the hypogastric region and not the epigastric. This accounts for the great strength of the abdominal walls in the region above the umbilicus and the weakness below. At the time of the "fall of man," from the horizontal to the upright position, the viscera, instead of making pressure upon the strong hypogastric region, found themselves impinging against the weakened epigastrium. And then again, by some peculiar freak of nature in the early life of the fœtus the testicle develops behind and below the kidney (see Figs. 3 and 4). Partially organized material extends from the testicle down to the bottom of the scrotum (Fig. 4)—the gubernaculum testis—and by the contraction of this gubernaculum testis the testicle is gradually drawn downward and over the pubis into the scrotum, taking with it a fold of the peritoneum (Fig. 3). This fold of the peritoneum in the normal condition becomes obliterated, leaving the testicle covered with a small sac known as the tunica vaginalis. The very fact that this organ has been dragged down through the abdominal parietes necessarily weakens it. And then again, if by any chance the peritoneal cavity is not obliterated, the intestine finds its way down along the track taken by the testicle, gradually distends the opening, and by pressure destroys the muscular fibres in this region (see Figs. 5 and 6). Or if by violence or from any other cause the intestine is protruded

Fig. 11.

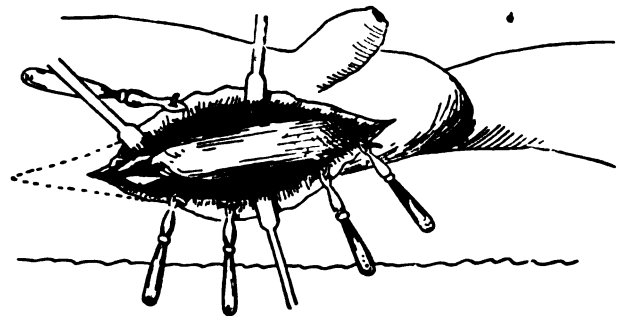


Fig. 12.

downward, carrying the peritoneum with it through the internal abdominal ring, it is bound to destroy or attenuate the muscular tissue in this region, adding to the normal weakness of the parts (Figs. 7 and 8).

Now let me ask you, how is it possible, when destruction of the normal muscular tissue of the abdominal walls has taken place, to unite it in such a manner as to act as a barrier against the pressure from within? It is an impossiblity, and this very fact, together with one other, is the cause of relapse in any form of operation that I have already described. The other reason why relapse takes place is that there is no effort made on the part of the surgeon to reproduce this tissue which has been destroyed by pressure, and to prevent the stretching of connective tissue which always results from wound healing. Even when primary union of tissues, which are to sustain pressure, takes place, the stretching of the connective tissue at the point of union is likely to occur. Then we can readily see why so many relapses follow the operations of Bassini, Halsted, and others.

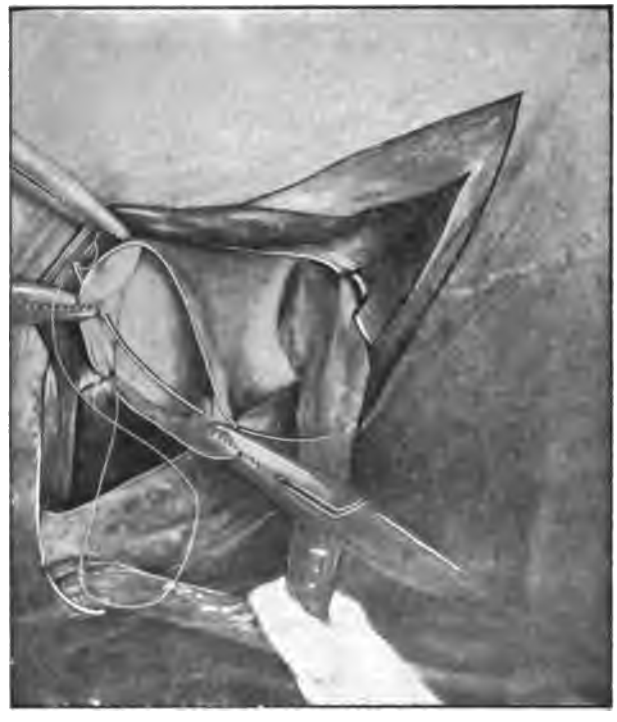


Fig. 13.

Figs. 22 and 23 show the proper line of incisions, together with the neck of the sack and also the sack lifted from the canal. I am indebted to McBurney for Figs. 11, 12, 20, 21, 22, and 23. The dotted lines indicate the extent of the incision beyond the internal ring.

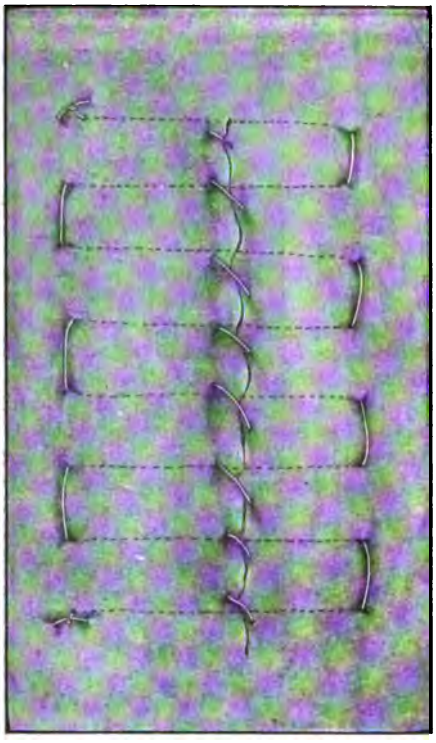


FIG. 18.

In August, 1900, I read a paper before the Thirteenth International Congress, in Paris, on this operation for hernia, and the methods of closing the abdominal wounds with a continued suture of fine silver wire. I then reported two hundred and sixteen operations performed since 1892. Forty-six were relapsed Bassinis, and fifty-one from other operations, chiefly that of McBurney.

Since my return home, I have operated upon twelve other hernias, three of which were relapsed Bassinis, making a total of two hundred and twenty-eight. Understand that these relapses are from the hands of the best surgeons in New York City, many of whom have written extensively upon the operation. Three of these cases are now in the City Hospital. At the time of the reading of the paper in Paris there were sixteen suppurations in the series. Two of my cases in the last twelve have suppurated for reasons which I discovered.

Now the question arises, What will we do with suppurating hernias? Shall we remove the wire? Most certainly not. There have been, in my series of two hundred and twenty-eight cases, eighteen of suppuration. There have been no deaths. These cases of suppuration are simply cleansed out. They are usually found to be a local point of infection superficially or in the wire filigree, and that portion of the wire can be removed, but great care should be taken not to remove the deep suturing, because if this holds there

FIG. 19.

is no tension made on the inflammatory material lying over it. In all suppurating cases which I have operated upon, there were found dense masses of fibrous tissues encysting the wire. These local points of infection have been scraped out and filled with pure carbolic acid, which is left in two minutes, and the wound is then washed out with pure alcohol, then a two-per-cent. solution of pure carbolic acid is used, and the wound is packed. These cases sometimes require a second operation, but with a little patience the tissues will granulate up over the wire, and the parts become firm. Cases of partial and even complete removal of the wire have been reported to me by other surgeons, but no one has reported a relapse. Many of my cases

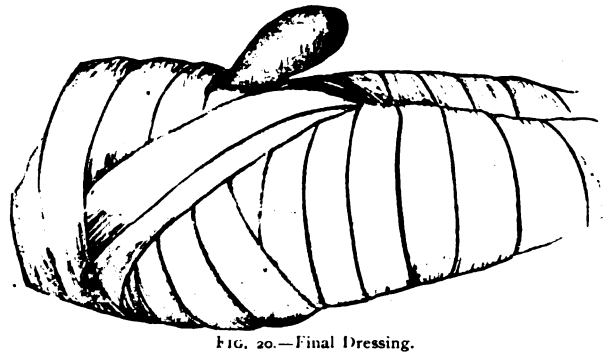


FIG. 20.—Final Dressing.

I have followed—just what number I do not know. There were thirty cases from 1892 to 1896 that I have seen personally without a relapse. I have asked all the hospitals and dispensaries to report to me any relapsed cases that have been operated upon at the City Hospital, but I have heard of none such.

I have drawn a line of distinction between Bassini's and Halsted's operations. They are both original and each differs from the other. The points of originality in the operation which I have performed are:

1. The reproduction of large masses of inflammatory material to restore the abdominal parietes, and the introduction of a fine silver wire filigree

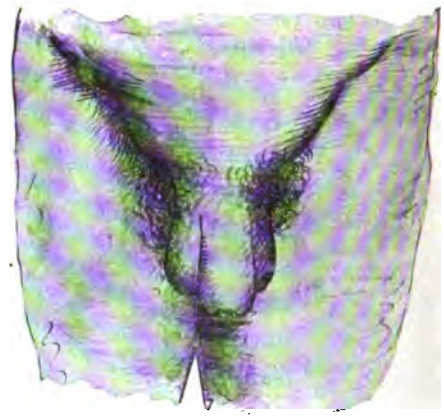


FIG. 21.

throughout the entire inguinal canal, over the transversalis fascia, which adds to the strength of the weakened abdominal parietes and prevents the new material from stretching.

2. Cutting off the hernial sac, and retreating from the operation exactly as from any abdominal operation, stitching up the peritoneum and transversalis fascia with a continued suture of fine silver wire.

3. The use of fine silver wire with a continued suture. To sterilize the wire, after it has been thoroughly boiled or steamed, I throw it into pure carbolic acid a few minutes before the operation, after which I dip it into alcohol, hold it over an alcohol lamp, and burn the alcohol upon the wire. This sterilizes thoroughly.

Drainage should be avoided if possible; but, if necessary in thick abdominal walls with much fat, a glass drain is the best.

I have closed up all my abdominal wounds since 1892 with fine silver wire, and I have never yet seen a hernia result in many hundreds of cases. In brain surgery, with loss of a large portion of bone, instead

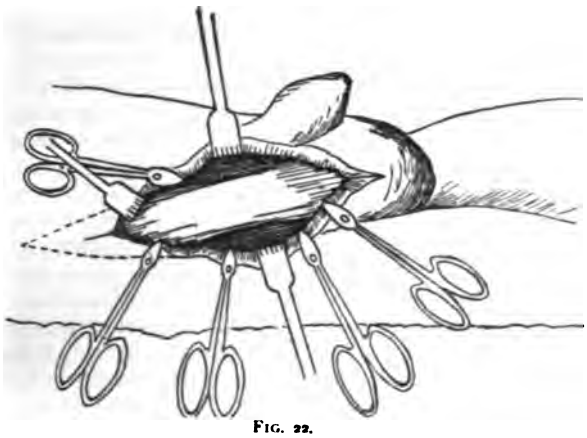


FIG. 22.

of putting a plate over the bone wound I simply stitch from one side of the opening to the other, taking the periosteum and aponeurosis in the suture, then stitch at right angles, making a network, after which the scalp is closed over it with catgut sutures, with drainage.

In rupture of the biceps tendon, I invariably stitch those muscles with fine wire and plenty of it to pre-

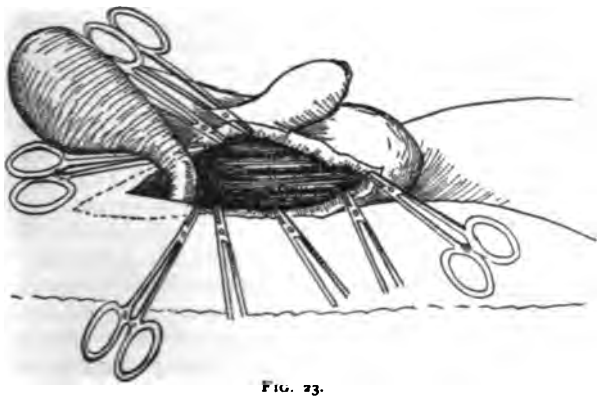


FIG. 23.

vent stretching of the scar tissue. In the reproduction of muscle, instead of using catgut, I stitch between the ends of the muscles, not including the sheath, half a dozen strands of fine silver wire together with fine catgut, and it is seldom that I fail to get a very good reproduction which never stretches.

Finally, in two hundred and twenty-eight operations there were forty-eight relapsed Bassinis and fifty-one following other operations, chiefly McBurneys. Nearly all of the relapsed hernias had been operated upon from one to five times in other hospitals, or by our staff at the City Hospital.

Gentlemen, we have considered the subject of hernia from the beginning of the Christian era down to the beginning of this the twentieth century, and I believe that we have arrived at the last stage of perfection in the technique of the operation for its radical cure.

Surgical Indications in Acute Purulent Ear Disease.—(1) Removal of all obstructive conditions to respiration, and proper ventilation of the tympanic cavity, viz., adenoids, enlarged tonsils, deviated septum, spurs, enchondroses, polypi, and hypertrophied turbinals. (2) Enlargement of the opening in the drum if it is too small to permit free drainage. (3) Opening of the mastoid, if the discharge continues after three or four weeks of persistent antiseptic cleanliness.—DR. A. D. MCCONACHIE, *Virginia Medical Semi-Monthly*, December 7th.

THE TREATMENT OF PUERPERAL FEVER.[1]

BY H. J. BOLDT, M.D.,
NEW YORK.

UNDER the term puerperal fever we should class only those fevers which are caused by the entrance into the system of the puerperal woman of pathogenic micro-organisms, or toxins, from some part of the genital tract. I would also include fevers caused by similar infection following abortion.

The main varieties of puerperal fever are: Acute bacteræmia; chronic bacteræmia; sapræmia and septic infection (local septic infection); from the latter, however, subdivisions may be made.

That the meaning of the terms used by me may be generally understood, I will give their definitions. The reasons for their introduction, instead of clinging to the old terms septicæmia and pyæmia, and the term septic infection in its broad sense, may be found in an article entitled "Septicæmia and Pyæmia, and the Indications for Abdominal Section and Drainage and the Indications for Hysterectomy in Puerperal Infection."[2]

Acute bacteræmia is a blood disease caused by parasitic micro-organisms invading the circulatory system from some primary seat of infection, the infection-producing elements multiplying so rapidly in the blood that the patient usually succumbs within five days after the beginning of the disease. Generally the parasitic germs are streptococci pyogenes; other pathogenic germs may, however, also be present.

Chronic bacteræmia is likewise caused by the invasion of the system by streptococci pyogenes alone or in conjunction with other pathogenic germs, but they disseminate from an infected thrombus. They are not diffused into the system in one large quantity, neither are they possessed with the same foudroyant virulence from a clinical viewpoint. The production of the abscesses found in this condition, upon which the pathological difference between acute and chronic bacteræmia depends, is due to the parasitic organisms finding a resting-place outside of the blood circulation, and there giving rise to abscess formation.

All these infection diseases being due to "septic infection" in a broad sense, I would limit the application of this term to those cases in which the infection is local. A local infection may be accompanied by severe constitutional symptoms.

Sapræmia is caused by the absorption of decomposition products in the genital tract: toxins, saprophytes; as for example, placenta, decidua, blood, or lochia. This disease may develop into one of those previously spoken of.

In many instances it is impossible to classify the individual case into any one of these varieties until the patient has been under observation for a longer or shorter time. The only term which, in a clinical sense, will cover all varieties is "septic infection." Having but one term for these various forms is unfortunate from a scientific viewpoint, in that this term, as heretofore employed, does not convey a clear understanding of the individual case; it is, therefore, inadequate. For clinical purposes at the bedside, however, I know of no substitute which serves better. Because of the indefiniteness of the term "septic infection," it should never be used in medical writings without such details as will convey the exact condition of the patient.

Acute bacteræmia, as I conceive that illness, is the most serious. According to reliable authors the mortality is ninety-seven to ninety-eight per cent. I myself do not remember having seen a single instance of

[1] Read at the annual meeting of the Medical Society of the State of New York, January 29, 1901.

[2] New York Medical Journal, January 26, 1901.

recovery. In chronic bacteræmia the chances for recovery are somewhat better.

The prognosis in sapræmia depends upon our ability completely to remove the putrefactive factors soon after the occurrence of fever, before other infection may have taken place.

In the treatment, prophylaxis is the most important. It is, therefore, imperative to observe the rules of antisepsis in obstetrics. A physician who is busy with a large general practice, in which contagious or infectious diseases are likely to occur at any time, must be especially careful. It is better that he does not attend confinements at all, because the time at his disposal is insufficient for him to observe that care of his person in bathing and the change of clothing which is required with our present knowledge to avoid conveying infection to the puerperal woman. The greatest, in fact absolutely unpardonable, error that can be committed by a physician is, if he is in attendance on a woman with puerperal fever, to attend another confinement, or to proceed with surgical intervention in abortion cases.

The first rule in the treatment of puerperal fever is to keep the patients at perfect rest; they must be restrained from undergoing even the slightest physical exertion. Next, attention must be directed to the seat of primary entrance of the fever-producing agents. To illustrate: A laceration of the perineum resulted during delivery, and was repaired by the attendant. Two or more days subsequently the patient develops fever. Inspection of the wound shows that the margins are reddened and slightly œdematous. Examination of the abdomen shows the absence of peritoneal irritation. Nor is a cause for the elevation of temperature to be found on examination of the rest of the body. With such patient the sutures should be removed; and if this is done it will be found that no attempt at union has taken place. The surface is probably covered with purulent secretion. If the infection has not gone much beyond the seat of entrance the temperature will be reduced in twenty-four or forty-eight hours, and the patient will have a practically normal convalescence if proper treatment is instituted.

If the seat of infection be about the vulva or in the vagina, or both, which can be ascertained by inspection, the treatment should likewise be directed to cleanliness. The parts should be wiped with absorbent cotton steeped in some antiseptic solution (I prefer a five-per-cent. solveol or an antinosin solution) dried and dusted with one of the so-called antiseptic powders, as xeroform, nosophen, aristol, acetanilid, etc. I have not noticed any difference in the therapeutic effect of either of those named. Iodoform should not be used on account of its odor. Neither should one use a medicament which produces an escharotic effect, because the scab soon becomes loosened from the moisture of the lochia, and then the field beneath becomes a fertile soil for the propagation of cocci and bacteria. Patients in whom the abraded surface is covered only with pus, make a rapid recovery, but those in whom the seat of infection is covered with grayish-white membrane, the so-called diphtheritic endovulvitis and endocolpitis, do not get well so soon, especially if the infection has progressed into the deeper structures, into the lymphatics. Those patients in whom the local lesion is gangrenous must be regarded with seriousness. But how much proper care will do even in serious conditions is illustrated in the following instance which has come quite recently under my observation: A woman had sustained an extensive complete perineal tear by forceps delivery. When seen in consultation two days subsequently, the temperature was 103° F. in the axilla. The labia and vulva were much swollen and extensive gangrene was present. In her home, where the necessary care could not have been had, she would probably have died, whereas in the hospital she recovered in a few weeks.

If no area of infection is found about the entrance of the genital tract, it is advisable to place the patient on the edge of the bed, or still better on a table, and carefully to inspect the vaginal mucous membrane and the vaginal portion of the cervix, the latter frequently being the seat of infection. Much care should be exercised when this inspection is made not to reopen small wounds and thus to cause a new seat for infection. Small vaginal retractors are best adapted for this purpose. If no local injury is found to account for the existing symptoms, then the interior of the uterus may be examined if the condition of the patient seems to demand it. It should not be done, however, if the general condition of the patient, especially the pulse, is good, and the temperature is not above 101° or 102°, because retained placental tissue or decidua is usually expelled spontaneously in a short time. Therefore, unless we know that such foreign elements are within the uterus, we should not explore its interior unless the condition of the patient seems to make it necessary. It is, in short, best to abstain from unnecessary meddling with the genital tract.

When the seat of infection is in the uterus, this organ is found enlarged and relaxed, and the cervical canal generally admits of the introduction of the index finger.

When the fever depends on retained products of conception, blood clots, or retained lochia (lochiametra), the treatment becomes clear, if the patient's condition does not soon improve from spontaneous expulsion of the fever-producing factors. Under antiseptic precautions in every detail the uterus must be cleansed of all foreign material. If only blood clots or retained lochia are present, an intra-uterine douche with some mild antiseptic solution suffices. If decidua or placental tissue is present, it should be removed. I would advise discarding the curette for this purpose unless the physician is fully familiar with its use in such cases, because of the great danger of perforating a puerperal uterus; besides, one can judge better by touch with his finger than with an instrument. I am especially opposed to curetting in instances of septic endometritis, never having seen an instance in which I believed that this procedure was beneficial; but, on the contrary, I have seen much harm result from it.

An intra-uterine douche before and after manipulations within the uterus is always advisable. It is best to have the fluid flowing slightly while we are inserting the irrigating tube into the uterus, thus making sure that the fluid is not too cold or too hot, and also because air is thereby prevented from entering the uterus.

The best manner to introduce the irrigating-tube is to hold it between the index and middle finger; then the point is introduced into the cervical opening. With the other hand the body of the uterus is pressed slightly backward during the introduction of the tube into the uterus, so as to straighten the cervico-uterine canal, the body of the uterus usually being sharply anteflexed after confinement. The irrigator should be held but little above the plane of the pelvis, so that the pressure of the irrigating fluid is not too great.

Should the patient complain of colicky pain while the irrigation is in progress, it is an indication that the uterus is too much distended by the fluid, and the irrigator should be lowered so as to allow the fluid to escape without more flowing in. It is best to use a glass irrigator, so that should the return fluid contaminate the irrigating fluid, the latter must be renewed. It is good practice to keep the external hand on the uterus and make slight friction to induce uterine contractions while the irrigation is in progress.

Whether the irrigation should be repeated depends

on circumstances, and is a matter of opinion; generally one douche, properly given, is sufficient. If the foreign material has been completely removed, and if there is no septic infection associated, the temperature falls to normal, or nearly so, in a short time after the douche has been given.

The condition which in my opinion indicates repetition of the intra-uterine irrigation, is when the secretions from the uterus are purulent and when there is a continuation of fever. Under such conditions I have seen benefit from repetition of the douches with a twenty-five to seventy-five per cent. solution of peroxide of hydrogen; or, if that is not at hand, some other antiseptic solution; stronger bichloride of mercury than 1 : 10,000 excepted.

Intra-uterine irrigations are of mooted therapeutic value with the medical profession as a whole. When one looks through the literature on this subject, it will be found that there is as much weighty argument against as in favor of them. My opinion is that intra-uterine washing, except under the circumstances alluded to, is useless. I believe with Chazon[1] that patients who recover when they are systematically used get well, not because of them, but despite of them.

The reason for advocating douches, as mentioned, is not for their effect on the deeper structures, but only to rinse off infection elements which may be located superficially.

I have found that if no intense systemic infection were present, and if the uterus remained enlarged and relaxed after being cleansed of decidua or placental tissue, a method of treatment which has been of apparent benefit is gentle massage of the organ at intervals varying from one to three hours. The massage is given in the same manner as when used for the purpose of inciting uterine contractions for expulsion of the placenta; namely, a small circular motion.

Let us now consider septic infection, according to the limitation set down in my definition.

I have seen no benefit from placing gauze in the uterus for the sole purpose of draining off secretions; and as for curetting of the uterus, that treatment has been misused more than any other. To this fact I called attention years ago, and now take opportunity to reiterate my opinion. It is an especially dangerous procedure in a puerperal uterus—even in the hands of proficient operators occasionally perforations of the soft puerperal uterus have been caused by a curette. I would limit this operation in puerperal uteri to those of large experience in the use of a curette, and even then it should be made use of only if retained placental tissue or decidua has been located by the finger and cannot be removed by it. For septic endometritis curetting should never be done, because its effect is to intensify the infection by causing fresh wounds.

Vaporization is more effective on infection elements in the deeper structures of the uterus, and, according to Snegirjow[2] who is the originator of this method of treatment (which, however, was brought more into prominence through the writings of L. Pincus, of Dantsic, than any one else), is the treatment par excellence in septic infection of the uterus. The antiseptic and hæmostatic properties of steam are well known, but we must not lose sight of its dangers—when applied to the interior of the uterus it causes deep destruction of the uterine tissues when used sufficiently long to produce innocuousness of pathogenic germs situated in the muscular structure of the organ; in this country this treatment has not been so favorably accepted as elsewhere.

[1] "Die Streitpunkte in der Puerperalfieberfrage;" Volkmann's Hefte, No. xii., Neue Folge.

[2] Berliner Klinik. Sammlung klinischer Vorträge, 1895, No. 82.

If the infection has localized itself in the pelvic cellular tissue or the pelvic peritoneum, the application of an ice coil or ice bags should be resorted to. In such conditions the inunction of metallic silver ointment (unguentum Credé) is also beneficial; it has given me better results than the use of mercurial ointment. As soon as there is evidence that pus has formed, opening of the abscess should be resorted to, provided there is positive evidence of the pus accumulation conveyed to the examining finger; the incision should be large so as to permit thorough cleaning and drainage.

Credé[1] speaks highly of soluble metallic silver (argentum colloidale) as a continuously acting antiseptic. He uses two or three pellets wrapped in gauze, and introduces them up to the fundus, the distal strip of gauze protruding from the external opening. The vagina is then loosely packed with gauze which is changed daily. The intra-uterine gauze should remain for five days. Credé takes the right view of how the remedy should act to be of benefit: its action must not be only local, but its antiseptic properties, its destructive action on the sepsis-producing organisms, must be conveyed through the circulation. This property he claims for the soluble metallic silver.

Pyosalpinx diagnosed during the puerperium is also frequently of gonorrhœal origin, the latent inflammation in the tube being lit anew through an infection in the puerperal state. Gonococci may be found quite frequently in post-puerperal pelvic exudates, but we know that a gonorrhœal pelveoperitonitis is not likely to endanger life. Experience has taught me that the safest plan of treatment in such cases is by vaginal incision; the operation should, however, not be done rudely; in preparing a patient for it she must be moved gently, so that adhesions in the pelvis are not disturbed.

With patients ill with septic infection who are not benefited by the methods of treatment spoken of, or when we have reason to believe that additional resort to minor interventions would be useless, and who are gradually getting worse, the most heroic measure comes up for consideration; namely, to remove the source of infection entirely—to do a hysterectomy, if the continuance of the infection comes from the uterus alone.[2] Serum treatment may be of benefit in some such cases, but I have been unable to convince myself of it.

There are patients ill with general septic peritonitis of a moderately virulent form, so far as the intensity of the infection goes (diplostreptococcus infection?), who may occasionally be saved by timely surgical intervention. An illustration of an instance in which operation was delayed will best serve my purpose:

Mrs. O—— underwent a difficult delivery, during which the forceps was applied unsuccessfully several times; subsequently craniotomy was performed, there being a generally contracted pelvis. She was seen by me four days after delivery. An exudate was felt in the pelvis, and another in the right lower abdomen, besides there was evidence of peritonitis, but not of the foudroyant type. Both abscesses were opened by free incisions and drained of a large quantity of seropurulent fluid. Some days subsequently another intraperitoneal exudate was opened per abdomen on the opposite side. After each surgical intervention the patient improved, but soon relapsed again. There were chills and hectic fever, the temperature ranging between 101° and 104° F.; diarrhœa; in short, there was the typical picture of a diffuse septic peritonitis. The most careful examination failed to reveal other sacculated accumulations until during the fourth week of her illness, when it was evident that there was another accumulation beneath the liver. This last ex-

[1] Monatsch. f. Geburtsh. und Gynäk., No. 8, p. 585.

[2] See New York Medical Journal, January 26th.

amination was made in the evening, and I had intended to operate early on the following day. During the night she had an attack of vomiting, followed by collapse, from which she did not rally. The autopsy showed the changes characteristic of diffuse septic peritonitis of long standing. Numerous pockets between the intestines were filled with purulent fluid; one larger was beneath the liver, another beneath and behind the stomach; the latter had ruptured during vomiting and caused the direct fatal issue. In this instance, had I not hesitated at a major operation in the beginning, after evacuating the discernible septic collections, but had performed an extensive abdominal section, separating the adhesions as much as possible, with free flushing of the peritoneal cavity with saline solution, and then used drainage, she would have had a chance to get well.

Such instances of septic peritonitis have been observed several times by me. But we must not forget the fact, and hence our hesitation to operate, that such patients sometimes get well without any operation, by the observance of strict rules in diet, perfect rest, appropriate stimulation, the application of an ice coil to the abdomen, and silver or mercurial ointment inunctions. The importance of rest for such patients is well illustrated in the instance cited. By it the adhesions surrounding an exudate become firmer. The rest should not be confined to bodily quietude alone, but also to intra-peritoneal rest. To obtain this the patients should get such food as will not cause hard fecal accumulations; the food must be of such character that it is easily assimilated, as peptonoids, butter, eggs, beef tea, and strained farinaceous food stuffs. Milk should be avoided, unless it is first peptonized, and even then it should be given sparingly. Among stimulants, Tokay wine, whiskey, or brandy largely diluted with cold water in small quantities should be given, unless the condition of the kidneys forbids their use. Occasionally opiates are serviceable.

For acute bacteræmia I have nothing to suggest. All patients seen by me have died, no matter what method of treatment was adopted. The cases reported as cured from this form of disease, by some method of local treatment or by some opertation, were undoubtedly errors in diagnosis; such patients had, in my opinion, a septic infection with severe constitutional symptoms.

Eberhart[1] recommends infusion of a 0.9-per-cent.-saline solution. In my hands this treatment has likewise been unsatisfactory. The usefulness of an anti-streptococcus serum, as now in use, I consider a delusion in this disease, although I believe that we may look in the direction of a serum treatment to avert death in such patients.

Opening of the cul-de-sac of Douglas and drainage with gauze on the first appearance of infection symptoms, with a view of aborting acute bacteræmia, provided the infection source is not to be found on inspection of so much of the genital tract as can be seen by the eye, and provided that the infection is not attributable to decomposing foreign elements within the uterus, is a method practised by some of my colleagues. I have also performed this operation, but have given it up again. I cannot understand how an incision into the pelvis with gauze placed into it, can drain off micro-organisms in the blood; and what is the use of draining when there is nothing to drain?

Chronic bacteræmia must be treated according to the indications in an individual patient. Metastases, if within reach, should be incised. If we should be able to diagnose metrophlebitis, and have reason to believe that the thrombosis is still so limited that it can be removed by hysterectomy, this operation may be done.

[1] Klin.-therapeut. Wochenschrift, No. 42, 1898.

AN OPERATION FOR THE RELIEF OF STOPPAGE OF THE TEAR PASSAGE, ABSCESS OF THE SAC, ETC.

By ERASMUS A. POND, M.D.,

BANGOR, ME.

The object of this operation is to establish a permanent opening into the nose, and to give in this way free drainage of the lacrymal sac, thus relieving epiphora and obviating any danger of an abscess, in one operation. I have found probing to be unsatisfactory both to the patient and to myself.

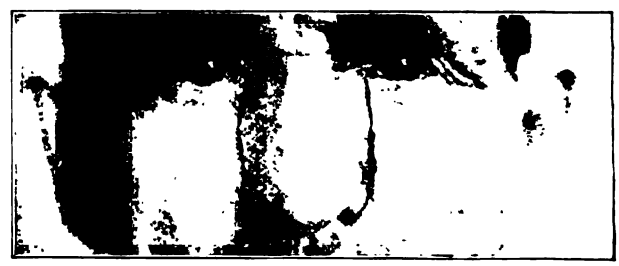
The operation is very simple. A long silver probe with one end blunt and the other end having an eyelet

Case I.

large enough to carry a coarse silk string, is threaded and passed through the canal into the nose, where the end is seized with a pair of forceps and drawn out through the nostril. The probe is then unthreaded and the string is left in this position with the ends

Case II.

tied together. The string is worn about one week, being drawn through the nose two or three times a day. I usually, in tying, make quite a large knot, and when this is pulled through the canal it makes a good large opening. I have used this operation for the past



Case III.

two years with gratifying success. The canaliculus may be slit or not, according to the judgment of the

operator. I have done most of these operations under cocaine, but in some cases have used ether. There is no pain after the first operation, and the string may be turned without causing any hurt. In abscess of the sac the string will give good drainage and so save the necessity of an opening on the cheek. I report three severe cases of long duration which were entirely relieved and remain so after a period of two years. There are many other cases equally successful.

Case I.—I. D——, aged forty-six years, has been bothered with the tears flowing on to the cheek and recurrent abscesses of the sac for ten years. During this time he has frequently had probes passed but without any permanent relief. The eye and nose were cocainized and the string was placed in position. He wore the string ten days, turning it two or three times a day. The result was good.

Case II.—Mrs. W. M——, aged twenty-six years, had stoppage of the tear passage and abscess of the sac. The string was passed under cocaine and worn ten days. The result was good.

Case III.—Mrs. H——, aged fifty years, has had stoppage of the tear passage for many years and had received no benefit from repeated probing. The string was placed in position under cocaine and worn one week. The result was good.

As the string causes no solution of continuity in the mucous membrane there can be no stricture, as is the case in all other operations, hence the opening remains permanent. Another advantage of this operation is the doing away with repeated probing, as this is all done in one operation.

Clinical Department.

THE MALARIAL MOSQUITO ON THE SUSQUEHANNA.

By HARVEY B. BASHORE, M.D.,
WEST FAIRVIEW, PA.

During the past summer I made some observations to ascertain the prevalence of the malarial mosquito (Anopheles) in this locality; namely, the suburb of Harrisburg. The conditions existing this season were, according to the popular notion, very favorable for malarial development—a low stagnant river and considerable hot weather.

The recognition of the Anopheles is extremely easy with the aid of a small pocket lens; the characteristic points being the spotted wings, long "feelers," and resting-position. This resting-position, although rarely at right angles to the surface, is at such an angle that with a little practice one is able to tell Anopheles from the position alone. Mr. L. O. Howard, the government entomologist, kindly verified the species for me. During the great heat wave from August 14th to August 22d inclusive, while the temperature was ranging between 70° and 100° F., mosquitos were exceedingly plentiful and became a decided annoyance, even in the houses which were properly screened. During this period I captured and examined five hundred and forty specimens, of which four hundred were Culex and only one hundred and forty Anopheles (one hundred and thirty-three being quadrimaculatus and seven punctipennis); that is, only twenty-five per cent. were malarial. During this time there was very little malarial fever; I saw, I believe, only one case of intermittent fever in my own practice.

After the great storm in September, a cool wave spread over the region with the temperature in the morning ranging between 50° and 60° F. During this period, although mosquitos seemed very rare, I managed to capture seventy-eight, of which fifty-six were malarial—about seventy-four per cent. Then (hardly a mere coincidence) there was an unusual outbreak of intermittent fever; personally I saw twenty cases in ten days, mostly tertian, requiring large doses of quinine and showing a marked tendency to relapse later on.

Late in September and at the beginning of October the Anopheles occurred only in the ratio of fifty per cent., and during this time there was a diminution of the number of cases of fever—twelve in thirty days.

In the month of October we had several severe frosts, and in the latter part of the month very fine weather, but Anopheles seemed to have gone into winter quarters, for only sixteen per cent. of the mosquitos belonged to that family; likewise the intermittent fever seemed to have vanished, for there existed hardly a case. In every instance the mosquitos were captured in the same place—the back porch and an outbuilding of my own residence—and, although there was no fever in this house, nearly all my cases occurred within a few blocks of it.

PLACENTA PRÆVIA OR DETACHED PLACENTA.

By GEORGE W. SQUIRES, M.D.,
EAST AVON, N. Y.

Mrs. T. Mc——, aged twenty-one years, was taken in pain about 8 P.M., December 10, 1899, with what she informed her husband must be labor, although gestation was only at the eighth month. There coming quite a sharp hemorrhage, they were frightened and called me hurriedly. I arrived in half an hour, found the patient very much excited and complaining of pains low down in the pelvis. As soon as I could clean my hands I made an examination and was sightly disturbed to find a soft mass in the lower segment of the uterus. On sweeping my finger around the body it seemed to be almost entirely detached from the uterine walls, excepting a slight adhesion on the right side. Before I had decided as to my procedures there came a sharp, long pain, when the afterbirth popped out of the uterus and vagina into the bed. I hastily examined to see what we had, and the placenta had been delivered with the cord attached. Expecting hemorrhage, I examined and found the breech presenting, the uterus closely hugging the child with not a bit of bleeding. During slight uterine relaxations I pulled down a foot, but made no traction, rather delaying delivery by encouraging the mother not to strain, so that we procrastinated the delivery for two hours. The child, we were satisfied, was dead, and had been for some days. So having no anxiety for the viability of the child, all attention was for the mother. As long as the uterus grasped the child and there was no concealed or outward bleeding, I waited for Nature and watched to see what she would do. The uterus was not in tetanic rigidity, as there was rhythmical relaxation. The child moved down, but only as the uterine cavity lessened by contraction. Slowly and wisely Nature managed the situation, and with the child slowly extruded, the uterus shut down in permanent contraction, the bleeding having been less than in many a normal labor. The woman made a natural and rapid convalescence.

To Prescribe in the Metric System.—All that it is necessary for the physician to learn is that 1,000 milligrams make one gram; 1,000 grams or cubic centimetres make one kilo or litre; 65 milligrams make one grain; 15½ grains make one gram; 31 grams make one ounce.—American Association for Advancement of Science.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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WHAT SHOULD BE THE LEGAL REQUIREMENTS OF A PRACTITIONER?

WE have repeatedly called attention in the MEDICAL RECORD (February 10 and September 29, 1900) to the need of some revision of legislation bearing upon the practice of medicine, and we have hoped that the matter could be placed before the proper committee in such a way that the present discrimination against the licensed practitioner could be removed.

A bill has been presented to the legislature of this State, which, if passed, will place the osteopath and the Christian Scientist *et id genus omne* in the position of being compelled to pass the State examination in order to practise their peculiar forms of pseudo-therapeutics without interference by the authorities. The proposed act is in the form of an amendment to an existing law, and its important section reads as follows: "Any person shall be regarded as practising medicine within the meaning of this act, who shall prescribe, direct, recommend, or advise, for the use of any other person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, instrument or other appliance, for the treatment, relief or cure of any wound, fracture, or bodily injury, infirmity, physical, or mental or other defect or disease." We should prefer to have the amendment read: "Any remedy, agent, or method whatsoever," and, if thus altered, we do not see how the act could be circumvented by the unlicensed charlatan, or how it could reasonably be objected to by any legislator.

At least one decision has been given in this State (Smith *vs.* Lane) that to practise osteopathy is not to practise medicine, and we have attempted to show the unfairness of this point of view (MEDICAL RECORD, September 29, 1900).

The reasons which led to this decision would also show that to practise Christian Science, or any -pathy or -ology is not to practise medicine, and we think that one argument advanced in favor of this decision has been that no drugs were ordered by the various unlicensed individuals. It is absolutely incomprehensible to us that even the most ordinary lay mind should not at once perceive that the mere ordering or using of a drug is not practising medicine, and that the practising of medicine consists in assuming responsibility, making a diagnosis, and suggesting treatment, be that treatment medicinal, mechanical, or psychical in its nature.

Now, the unlicensed practitioner undoubtedly does all of these latter things, especially when he is an "osteopath" or a "Christian Scientist," and is in consequence just as certainly practising medicine as is the registered physician who straps a sprained ankle, or applies counter-irritation, for instance, though in the case of the former there is no legal responsibility, while the registered physician can be mulcted in damages for any real or apparent dereliction, or lack of skill. This question of legal responsibility is one of great importance, and if it can be properly presented to the committee of the legislature, its decision ought to prove of value to the medical profession. We can make it clearer perhaps by an illustration. A man sustains a Pott's fracture and, consulting a regularly licensed practitioner, is told that he has a sprain of the ankle and is treated accordingly. Two months later he has the characteristic deformity and disability, and, the facts being proved, any jury would award him damages, because the medical man had not used due care. In this instance, the State's license to practise is in a measure a guarantee that the holder of the license is capable, and the possessor of knowledge up to a certain standard, and that the State will hold him responsible if he does not use due care, knowledge, and skill in the treatment of those who apply to him for advice.

In the case of the unlicensed practitioner, the patient is just as well off, as far as recovering damages is concerned in the event of disability or deformity after such an injury as we have described, as if he had asked advice and treatment from the first stranger whom he met after he was injured. No jury would award damages, and there would be no legal redress, because the practitioner is not recognized by law, and the patient has solicited treatment knowing the conditions. This aspect of the case certainly ought to appeal to the public. The medical profession simply demands that every individual who assumes the responsibility of caring for the sick and injured shall pass the State examination, and shall take out a license, so that, no matter what ideas he may have with regard to therapeutics, he shall at least satisfy a duly constituted board that he has a good knowledge of the fundamental branches—anatomy, physiology obstetrics, and pathology. With these conditions fulfilled, the system of therapeutics is not very important.

All members of the profession in this State, who are interested in this matter, and who wish the "osteopath" and "Christian Scientist" to be prevented from practising without a license, should write at once to their assemblymen and State senators asking their support for "Assembly Bill, printed No. 167, Introductory No. 167," which is the title of the amendment.

MYELOPATHIC ALBUMOSURIA.

IT is well known that serum-albumin is not the only withal it is the most important, proteid in the urine. There occur, besides, serum-globulin, albumoses or peptones, hæmoglobin, nucleo-albumin, fibron, an

histon. The serum-globulin is invariably found in association with serum-albumin. Albumose and peptone have been present under various conditions, although a special variety of albumose has been described as occurring particularly in association with a certain disease of the bones, to which the designation multiple myelomata has been given, but T. R. Bradshaw (*British Medical Journal*, November 3, 1900, p. 1304) prefers to describe the condition as myelopathic albumosuria. Only a small number of cases of this disorder have been recorded in the literature, although it is possible that the condition often escapes observation, and at times it may be mistaken for other diseases. In most cases the cancellous tissue of the bones of the trunk is involved by a cellular growth, with disappearance of the osseous tissue and the presence of large amounts of albumose in the urine, which becomes turbid when heated, clear again when further heated, and once more turbid on cooling. Hydrochloric and nitric acids cause a precipitate that can be dissipated by heat, but recurs on cooling. The substance is precipitable also by alcohol, although soluble in water. The albumose has a tendency to separate out spontaneously on standing; such separation may take place in the kidneys and the bladder, and the urine may in consequence present a turbid appearance when voided. In some of the bones, chiefly the ribs, the sternum, and the bodies of the vertebræ, the hard substance may be reduced to a mere shell, which breaks on the slightest pressure with the fingers, while the cancellous tissue has almost entirely disappeared. Spontaneous fractures of ribs are common. The interior of the bone is occupied by a reddish, gelatinous, greasy mass, somewhat like spleen pulp, which can readily be expressed from the thin and brittle bones. Microscopically this consists of round and spindle-shaped cells, and it resembles sarcoma.

The disease in question occurs in the second half of life, and apparently with greater frequency in men than in women. Generally there is first complaint of pain in the lumbar region, increased by movement. In addition, the appearance is anæmic. The pain varies in severity, but gradually becomes more marked and more widespread, invading gradually the loins, the ribs, and the sternum, the latter of which become the seat of tender spots and lose their rigidity. The bones may yield to pressure or undergo fracture spontaneously or on slight provocation. Curvature of the spinal column results, with loss of mobility. The bones of the extremities usually escape, so that the patient continues to go about in spite of pain, weakness, and deformity.

The disease appears to be invariably fatal, although at times its course may be greatly protracted. Remarkable intermissions occur frequently, and may give rise to false hope of improvement. Death results from exhaustion or intercurrent disease, especially pneumonia. Only symptomatic treatment is indicated. The pathogenesis of the disorder is obscure, although the frequent association of albumosuria with disease of the bone marrow is suggestive of a possible relation between the two.

That multiple myelomata is not the only disease of the bone marrow with which albumosuria is associated is shown by a case of lymphatic leukæmia recently reported by Askanazy (*Deutsches Archiv für klin. Med.*, Bd. lxviii., Hft. 1 and 2, p. 54), in which that condition was present. A second case of lymphatic leukæmia was, however, unassociated with albumosuria.

NEED OF ENDOWMENT FOR SCIENTIFIC RESEARCH AND TEACHING.

No medical man will be found bold enough to controvert the assertion that the greatest aid to the advancement of science and to the propagation of a more general knowledge than now obtains among the medical profession of bacteriological research would be the establishment of properly equipped laboratories in connection with all the large hospitals of this country. The chief reason why scientific men of America have lagged behind in original research work has been the want of opportunity of pursuing the same as compared with men of the European continent. Dr. St. John Roosa gave voice to this need a short time ago, and now Sir Michael Foster, in the January issue of the *Nineteenth Century*, utters an almost identical complaint as regards the shortcomings of the large hospitals of London in this respect. Sir Michael Foster says: "The phenomena of disease being phenomena of living beings present themselves, in most if not in all cases, as problems, as mixed problems of physics, chemistry, and biology, to be grappled with by the doctor as they are grappled with by the physicist, the chemist, and the biologist. The analysis to be adequate must be carried out by means of adequate appliances. The days when a test tube, a spirit lamp, and an imperfect microscope supplied all the equipment needed for such an analysis have long passed away. Such an examination as the present state of science makes imperative can no longer be conducted in a corner behind a screen. It is to-day absolutely necessary that for the carrying out of the exact and complete analysis of the phenomena of disease, demanded alike in the interests of the individual and for the well-being of mankind, each hospital should be provided with laboratories, clinical laboratories fully equipped with all the needed appliances of science. And the complaint which I am now making narrows itself down to this, that in spite of all which has recently been done, our great hospitals in London are still very deficient in such an equipment. I venture to assert that in this respect our London hospitals in general are both absolutely behindhand and relatively in the rear of hospitals, not only in other countries but even in our own provinces. During a recent stay in the United States and in Canada I was told, not once only but again and again, that in the experiences of their medical graduates visiting London, while our ordinary medical teaching—the teaching up to graduation—is unsurpassed in excellence, our general hospitals are of little use to the graduate, and that the special hospitals do not supply him with what he needs." The real use of a post-graduate course is not, as many seem

to imagine, to learn what should have been learned before graduation, or even to polish and place the coping-stone on the edifice of medical knowledge, but, as Sir Michael Foster truly says: "The post-graduate study, which alone calls for strenuous support, is that study which fits the student for the task of inquiring after new truth, of grappling not with the known but the unknown." Until that time arrives when America either by private generosity or by the help of the State shall have established laboratories commensurate with the size and wealth of the country, will she be in a position to compete on equal terms with the men of science of Europe. That such a time is advancing with rapid steps we feel assured, and also look forward to the result with complete confidence.

INTRA-SPINAL COCAINIZATION.

The Lancet, in its annual retrospect of affairs medical and surgical, refers to the above subject as follows: "Among the year's events in this department of medical science may be placed first in order, but rather on account of their novel development than of their intrinsic merit, the introduction of spinal cocainization as a definite mode of producing analgesia, and the extension of local anæsthesia by interstitial infiltration. To Leonard Corning, an American physician, must be accorded the initiation of the suggestion (1885) that an extended anæsthesia would follow the injection of local anæsthetic bodies into the sheaths of nerves or of the spinal cord itself." It is gratifying to find that the well-known London medical journal recognizes the fact that Dr. Corning was the first to introduce the method of local anæsthesia into the spinal region, and gives honor where honor is due. Many European medical papers claimed the credit for Tuffier, and more or less ignored the existence of Corning. Some journals on this side also did not appear to be aware that one of their own countrymen was the first to try this mode of using a local anæsthetic. Although it must be admitted that up to the present cocainization of the spinal cord has in no wide sense replaced general anæsthesia and has its own limits of application, yet it is more than probable that by no means the last word has been said on the matter. Under certain circumstances its benefits may be in time fully demonstrated.

University for Women in Tokio.—The *British Medical Journal* is responsible for the statement that in go-ahead Japan the decision has been reached to erect a university for women. This institution will be established in Tokio, and it is hoped will be opened in the early spring of this year. That Japan intends to strive its utmost to keep in the vanguard of civilization seems evident, and the founding of a university for women is but another illustration of this fact. Japanese young women are, it is said, eager to avail themselves of higher education not only in the knowledge of medicine, but also in the Polytechnic School, an institution for the training of civil engineers.

News of the Week.

Glanders in Essex County.—The board of health of Monclair, N. J., says *The Sun*, has become alarmed at the prevalence of glanders in the county, and has decided to present a memorial to the State board of health, and to the district assemblyman, requesting that the legislature be asked to grant a special appropriation of $15,000 to be used in guarding against an epidemic and stamping out the disease.

Dr. Hiram N. Vineberg has been appointed adjunct attending gynæcologist to the Mount Sinai Hospital in this city.

The Omega Upsilon Phi Fraternity (medical) has just organized two new chapters, one at the University of Colorado, composed of fifteen students and several members of the faculty; the other, a graduate chapter in New York City, to be known as the "Henry C. Coe Chapter," in honor of Professor Coe of the University and Bellevue Hospital Medical College.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for week ending January 26, 1901. Assistant Surgeon C. N. Fiske detached from the *Wheeling* and ordered to the *Mohican* when the former is put out of commission. Assistant Surgeon H. O. Shiffert appointed assistant surgeon from December 26, 1900. Medical Inspector D. N. Bertolette detached from the medical examining-board, Washington, and ordered home January 31st. Surgeon A. C. H. Russell ordered to Washington for duty as a member of the medical examining-board, January 31st. Surgeon W. H. Rush ordered to the Pensacola naval station for recruiting and other duty. Passed Assistant Surgeon R. K. Smith detached from the *Pensacola* February 2d, and ordered to the *Wisconsin* February 4th. Assistant Surgeon M. V. Stone detached from the *Solace* and ordered to the *Isla de Luzon*. Assistant Surgeon H. H. Hass detached from the *Isla de Luzon* and ordered to the *Solace*.

A Medical Marriage Bill has been introduced into the Wisconsin legislature which provides that no persons can marry who are suffering from insanity in any form, from drug addiction, tuberculosis, syphilis, or any of various other constitutional diseases named in the bill. Every person who wishes to marry is required to go before an examining-board of three surgeons, to be appointed in each county of the State by the county judge, and must pass an examination before a marriage license can be issued to him or her. In addition, all male candidates for matrimony who are under twenty-five years of age and all female candidates under eighteen years must produce a written consent of their parents before they can secure a license. Any clergyman, justice of the peace, or other person who can perform marriages and who marries any couples who do not produce a certificate from the examining physicians of his county is to be fined not more than $500 or confined in prison not more than one year.

Pekin Invites Pestilence.—A report from Pekin, dated November 15th, says: "Sanitary conditions here are becoming serious. Since the foreign occupation many Chinese have died of smallpox and other infectious diseases. Fearing that their funerals would be interfered with, they have kept most of the coffins containing their dead in their houses and courtyards. The question of removing garbage has become one of grave importance. As the natives are forbidden to deposit refuse in the streets, there is now an enormous accumulation in their dwellings and yards, which threatens a serious epidemic. In view of the large number of troops in and near the capital, the consequences of such an outbreak would be frightful. Smallpox, which is always prevalent, is much more malignant during winter, and the danger here is now alarmingly increased."—*Sanitarian.*

The Queen's Last Illness.—The following account of the gradual failure in the health of the Queen, which is believed to have been written by her Majesty's physicians, is published in the *British Medical Journal* of January 26th: "The Queen's health had been failing for the past twelve months. The symptoms were mainly of a dyspeptic kind and were accompanied by impaired general nutrition and periods of insomnia and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged, although her Majesty's general arterial system showed remarkably few signs of her age and constant brain work through her long life of royal responsibilities and imperial events. The domestic sorrows and anxieties which crowded into her late years may undoubtedly be held in some measure to account for this discrepancy between cerebral and general vessel nutrition. The thoracic and abdominal organs showed no signs of disease. Dyspepsia, which tended to lower her Majesty's original robust constitution, was especially marked during her last visit to Balmoral. It was there that the Queen first manifested distinct symptoms of brain fatigue and lost notably in weight. These symptoms continued at Windsor, where, in November and December, 1900, slight aphasic symptoms were first observed. They were always of an ephemeral kind and were not attended by any motor paralysis. Although it was judged best to continue the negotiations for her Majesty's proposed visit to the continent this spring, it was distinctly recognized by the physicians and those in closest personal attendance upon her that these arrangements were purely provisional, it being particularly desired not to discourage her Majesty in regard to her health by suggesting doubts as to the feasibility of her trip abroad, to which she had been looking forward. The Queen suffered unusual fatigue on her journey to Osborne on December 18th, showing symptoms of nervous agitation and restlessness which lasted for two days. Her Majesty afterward improved for a time both in appetite and nerve tone in response to the more complete quietude than she had previously consented to observe. A few days before the final illness, transient but recurring symptoms of apathy and torpor with aphasic indications and increasing feebleness gave great uneasiness to her physicians. On January 16th the Queen showed for the first time some symptoms of mental confusion. By an effort of the will, however, her Majesty would for a time, as it were, command her brain to work, and the visitor of a few minutes would fail to observe signs of cerebral exhaustion. On Thursday of last week the mental confusion was more marked, with considerable drowsiness, and a slight flattening was observed on the right side of the face. From this time on aphasia and facial paresis, although incomplete, were permanent. On Friday the Queen was a little brighter. On Saturday evening there were a relapse and graver symptoms, which, with remissions, continued until the end. It is important to note that, notwithstanding the great bodily weakness and cerebral exhaustion, the heart's action was steadily maintained to the last, the pulse at times evincing increased tension, but always regular and normal. Frequently the temperature was normal. Throughout the last few hours of life paresis of the pulmonary nerves set in, but the heart beat steadily to the end. Beyond the slight right facial flattening there was never any motor paralysis. Except for the occasional lapses, the mind cannot be said to have been clouded, and within a few minutes of her death the Queen recognized several members of her family."

State Board of Charities and Governor Odell.—On Wednesday, January 23d, there was a meeting at the Charities' Building of many of the most prominent members of the State board of charities, to consider the bill now pending at Albany to abolish the said board, and to substitute in its stead a single commission with two men as associates, who are to be charged with other duties also. The meeting, after listening to speeches from Mr. Canfield, Dr. Felix Adler, Father McMahon, and others, passed resolutions condemning the proposed changes, and appointed a committee of twenty to take such steps as might be necessary to oppose its passage by the legislature. It is argued by the opponents of the proposed bill that such a measure would be a retrograde movement and against the best interests of those directly concerned. The *New York Evening Post*, January 24th, thus comments editorially on the matter: "If the object of the governor and the legislature in abolishing the State board of charities, and putting three politicians in their place (for they will be such eventually, if not now) is to save money, that object will not be attained, unless their proper work remains undone. If the work of inspection is to be performed at all, it must be paid for."

Smallpox News.—Two cases of smallpox were discovered in Syracuse last week, one of which was in a milk peddler. The health officers will probably quarantine the milk association which furnishes a large part of the milk supply of the city. In Utica also two persons have been stricken with the disease, one of them being a street-car conductor. The health authorities have taken all possible precautions to prevent the spread of the disease. The first genuine case of smallpox in Bellevue was diagnosed as such on Thursday, January 24th. The patient was received the Wednesday previous and supposed to be suffering from

grippe. On Saturday he was found to have smallpox, and was removed to North Brothers' Island. Although there are still some sporadic cases of smallpox occurring in New York City, it may be confidently asserted that there is no fear of an outbreak on a large scale, thanks principally to the energetic measures taken by the board of health. President Murphy has appointed fifty deputy sanitary inspectors to assist in the work of vaccination in the city.

A Grateful Patient's Gift.—According to one of the surgeons of the University and Bellevue Hospital Medical School, says the *New York Tribune*, an *x*-ray machine to cost $1,500 is to be given to the school by a woman who was a patient of one of the members of the faculty, and wished to do something to show her appreciation of his services.

Christian Science Again.—Drs. N. B. Van Etten, John Cabot, and Isaac M. Heller, of Tremont, declare that they will report to the authorities the case of Mrs. Frank L. Hopper, of No. 2085 Ryer Avenue in the Bronx, who died of blood poisoning last week, they say, after they had attended her and had been supplanted by a Christian Science "healer."

Lancet for 1901.—The *London Lancet* has celebrated the opening of the new century by a slight alteration in its compilation. The subjects of the leading articles of that journal are now plainly printed at the head of each article. This innovation, although a not very radical one, will doubtless be appreciated by its numerous readers.

Charges against a Buffalo Hospital.—Formal charges of incompetency, brutality, negligence, and imperfect diagnosis of injuries have been preferred against the house staff of the Fitch Accident Hospital, and are now being investigated by the board of consulting and attending physicians and the hospital committee of the Charity Organization Society.—*New York Evening Post.*

Lunacy Commission.—Since the establishment of the State lunacy commission, the law has required that its president and medical member should be a physician of ten years' standing, and that he should have had five years' actual experience in the care and treatment of the insane, and also should have had experience in the management of institutions for the insane. Senator Brackett and Assemblyman Fish have introduced a bill supported by Governor Odell, striking out all such requirements, except that said member be a physician of ten years' standing. The successor of Dr. Peter M. Wise, who was removed from office by Governor Roosevelt, will not be named until this law has been passed.

Queen Victoria's Medical Attendants in Her Last Illness.—Sir James Reid had been the resident physician of Queen Victoria for more than twenty years. He is a Scotchman, from the neighborhood of Aberdeen, fifty years of age, and comes of a medical family. He was selected, it is said, for the position he held so long by the late Sir William Jenner, who was, until his death, physician extraordinary to the Queen. Sir Richard Douglas Powell had been physician extraordinary to the Queen since 1887. He is, as is well known, one of the greatest living authorities on diseases of the respiratory organs, and is the author of several text-books. He was made a baronet in 1897.

Heat Wave in Australia.—A heat wave is reported from Australia, causing many deaths, injuring vegetation, and originating bush fires. The thermometer in some places has, it is said, risen to 120° in the shade.

Site for Marine Hospital.—Secretary Gage has sent to congress a recommendation that $100,000 be made immediately available for reclaiming some three acres of plots in New York harbor adjacent to Ellis Island, as a site for a marine hospital.

Plague in a Russian Province.—The Vienna *Tageblatt* says that hundreds of deaths from plague are occurring in the Russian province of Astrakhan on the Caspian Sea, and that one hundred and twenty doctors have left Odessa for the field of the disease.

Anti-Spitting Notices.—The New York board of health is determined to do its utmost to stop the disgusting and dangerous habit of spitting in cars, ferry-boats, and in public buildings. President Murphy has again directed that a copy of a form of notice, in respect to spitting in public, be posted in a conspicuous place in all public conveyances and buildings.

New Law Regarding Cadavers.—A bill has been introduced into the legislature by Mr. Stewart, amending the law requiring governors, keepers, or wardens having control of prisons, hospitals, and asylums to turn over all cadavers to medical colleges in Tioga, Tompkins, Broome, Chemung, Schuyler, Monroe, Seneca, Steuben, Wayne, Yates, and Ontario counties.

Noble Germans Down with the Measles.—In consequence of attending the obsequies of the late Grand Duke of Saxe-Weimar, a number of persons of high rank contracted the measles in the infected schloss. The Duke Regent of Mecklenburg-Schwerin and the Duchess, who is a daughter of the late Grand Duke, are down with the disease, as is also the young Grand Duke of Saxe-Weimar himself.

To Abandon Randall's Island.—The State board of charities in a special report to the legislature recommends that the House of Refuge on Randall's Island be removed to the country, and that the girls' department of the institution be discontinued, the older girls being sent to the new reformatory at Bedford, and the younger ones to the New York Juvenile Asylum and the New York Catholic Protectory, or like institutions; also that this institution be placed under the rules of the State civil-service commission.

Medico-Chirurgical College and Hospital.—The board of trustees of the Medico-Chirurgical College and Hospital of Philadelphia has been reorganized by the election of the following members: *President*, former Justice Paxson; former Justice Sterrett, Judge

Beitler, Hon. J. A. Logan, Pemberton S. Hutchinson, Joseph L. Caven, Henry D. Paxson, David Milne, W. Howard Pancoast, Theodore P. Voorhees, George A. Huhn, John A. Grady, William King, D. T. Pratt. The membership of the old board was as follows: Drs. John V. Shoemaker, James M. Anders, Ernest Laplace, W. Easterly Ashton, L. Webster Fox, William E. Hughes, William L. Rodman, Isaac Ott, Henry Fisher, W. F. Haehnlen, George M. Boyd and W. C. Hollopeter, Samuel Disston and William King.

The Cost of Alcoholism in Paris.—The Paris *Journal de Médecine*, writing on the waste caused by alcoholism, points out that hospital statistics alone show that inveterate drunkenness in itself costs the city at least 2,000,000 francs per annum, through the lost labor of the individual and through the expenses connected with hospital treatment.

Reduction in Mortality from Diphtheria due to the Use f Antitoxin.—The report of the Lancaster (Pa.) board of health, for the year 1900 shows that there were but 28 deaths among 252 cases of diphtheria treated during the year—largely with antitoxin—as compared with 63 deaths among 260 cases in the year 1892, when no antitoxin was used, and with 68 deaths among 229 cases in 1895, and 38 deaths among 197 cases in 1899.

Philadelphia County Medical Society.—At a stated meeting held January 23d, Dr. Albert E. Roussel read a paper entitled "Report of Three Cases of Malignant Endocarditis: One following Measles; One following Typhoid Fever in a Child and Simulating Splenic Lymphatic Leukæmia; and Another Terminating in Recovery." Dr. John B. Roberts read a paper entitled "Epiplopexy in Cirrhosis of the Liver," reporting two cases in which he attached the omentum to the parietal peritoneum for the purpose of establishing a freer collateral circulation through the abdominal veins. One patient died shortly after the operation and the other survived for six months without recurrence of the ascites. Dr. Albert Bernheim read a paper entitled "Albuminous Nutrition and Nutritious Albumin." Dr. John B. Roberts was elected censor to fill a vacancy caused by the election of Dr. Thomas H. Fenton as first vice-president.

First Municipal Crematorium in Great Britain.—The first crematorium erected by any muncipality in England was opened in Hull, Yorkshire, in the first week in January. The cremating apparatus is a furnace of the regenerative type designed by the late Mr. Simon, of Manchester. The degree of heat can be regulated in the most exact manner. There is no smoke, and little visible flame before the body is introduced, and if the coffin is made in accordance with the regulations there is no smoke and no noise during cremation. The process occupies about an hour, at the end of which there remain only the inorganic bases of the bones, in the form of silvery gray pumice-like fragments. These are removed by passing an asbestos brush through the chamber which causes the remains to fall through an opening into the urn which is to receive them. Undoubtedly graveyards in or near great cities are more or less a menace to the health of the inhabitants. Cremating is in every particular a more sanitary mode of disposing of the dead than earth-to-earth burial. It is probable when the public become conscious of this fact, and when prejudices arising from religious scruples and sentiment have died, that cremation, in towns at least, will take the place of the older method.

The Charities Department and Blackwell's Island.—The charities department, owing to the crowded condition of its institutions, is anxious to get possession of the building on Blackwell's Island now occupied as the women's pavilion of the State Hospital for the Insane. There are five wooden pavilions, two brick structures, and one of stone. The State was ordered to vacate these five years ago, and was given until February 28, 1901, to make other provisions for the patients. The State Commissioner of Lunacy has informed Commissioner Keller that he will move as many patients as possible to Ward's Island, but asks for an extension of time until the new structure at Central Islip, L. I., is ready.

Sanitary Condition of Sydney and Nurses' Complaints.—The latest reports from Australia do not convey a pleasing impression with regard to the state of affairs in Sydney. In spite of the warning given them by the plague, the authorities do not appear to have realized the true situation and their own responsibilities. The perfect climate is always brought forward as a great inducement for emigrants to go to the land of the Southern Cross, but this advantage is more than counterbalanced in the cities by the disgraceful condition of the streets, where filth and garbage are permitted to rot. In the report on the health of Sydney for the quarter ending September 30, 1900, Dr. T. Mailler Kendall stated that the number of deaths from diphtheria, phthisis, diarrhœa, and typhoid showed a marked increase, being one hundred and sixty-six in advance of the corresponding period in 1899, and he asserted that the high rate would continue so long as the present system of scavenging and the removal of house garbage continued. The rubbish receptacles required remodelling in order that the emanations from decomposing matter might not pollute the city. The hours of labor of the nurses of the Sydney Hospital have been brought under the notice of the legislative assembly. According to the Sydney *Daily Telegraph* of November 28th, Mr. Holman informed the assembly that the nurses were kept at work for no less than eighty hours per week, with only one full holiday of twenty-four hours in the year. The Premier said that he had already heard rumors with regard to the way in which the nurses of Sydney Hospital were treated, and he had given instructions that these ladies were not to be worked like slaves.

Faulty Statistics in Brooklyn.—According to the head of the bureau of records of the Brooklyn health board, says the *New York Times*, the excess of deaths over births shown year after year in the reports of the Brooklyn statisticians is due simply to the fact that, while every death of a necessity finds a place in the

tables, a considerable number of births are never recorded. This may relieve Brooklyn from the suspicion of abnormal insalubrity, but it reveals that something rather serious is the matter with the law or those whose duty it is to enforce it. There is little less reason for insisting upon an accurate and complete recording of births, than for a similar recording of deaths, and laxness in the one direction opens the way to abuses almost as serious and dangerous as would result from laxness. These remarks are very true. The keeping of accurate vital statistics is a very important matter, and those in control of the health board of Brooklyn should use their utmost endeavors to bring about this consummation. The physicians of Brooklyn—with whom it is suggested that some of the blame for this state of affairs lies—would do well to co-operate with the bureau of records by giving in every case of birth a certificate.

Land for Scientific Purposes in New Mexico.—A bill has been introduced in the House of Representatives directing the general government, through the secretary of the interior, to secure title to the cliff-dwellers' region of New Mexico for park and scientific purposes, and one in the Senate, appropriating $5,000,000 for the purchase of land in the Appalachian Mountains for a national forest reserve.—*Science.*

Philadelphia Hospital.—In addition to the reelection of the former members of the medical staff, the following appointments were made at a meeting of the Bureau of Charities and Correction on January 24th: To the neurological department, Drs. F. Savary Pearce, William G. Spiller, Charles S. Potts; to the children's department, Drs. William C. Hollopeter, E. E. Graham, J. P. Crozer Griffith, J. Madison Taylor; to the department of orthopedic surgery, Drs. J. P. Mann and G. G. Davis; to the laryngological department, Drs. E. B. Gleason and Charles P. Grayson; to the ophthalmological department, Dr. John W. Croskey.

South African Hospitals Vindicated.—The British Royal Commission appointed to investigate the validity of the charges brought by Mr. Burdett Coutts and others against the management of the hospital in South Africa has just completed its work. The findings are contained in a voluminous report, the gist of which is that, taking the campaign as a whole, it cannot be truthfully asserted that the medical or hospital arrangements broke down. The report declares that nothing in the nature of a scandal has occurred in regard to the care of the sick and wounded, and that there has been no general widespread neglect. Witnesses who had experience in other wars were almost unanimous in the opinion that when everything has been taken into consideration, the sick and wounded had never been so well tended in any other campaign.

Absinthe Legislation in France.—In the course of the past six years the consumption of absinthe in France has nearly doubled, the annual amount drunk being now something like ten million litres. The increase of the drinking habit in France has for long been a source of grave alarm among its thinking men and enlightened legislators. The advocates of temperance have been working quietly but energetically to procure laws in France which shall have the tendency to reduce the sale of drink, and especially of absinthe. This movement has already had the practical effect of inducing the French chamber of deputies to adopt a unanimous resolution calling upon the government to prevent the manufacture and sale of alcoholic liquors pronounced as hurtful or dangerous by the Academy of Medicine. France has only recently been brought to a realization of the risk to the national health and prosperity incurred by the misuse of absinthe, and she is without doubt suffering not only from the evils of absinthe drinking, but also from an undue consumption as a people of other alcoholic beverages.

The Chicago Drainage Canal.—According to reports, the pessimistic prophecies with regard to the Chicago canal have up to the present not been fulfilled. On the contrary, the Illinois River is said to be a purer stream since the opening of the drainage canal than before. The noxious elements in the Chicago sewage have been eliminated within a distance of one hundred miles from the city. The dilution of the sewage with the waters of Lake Michigan has benefited the Illinois valley and improved the quality of the water. The contention of St. Louis, that running water does not purify itself, has been effectually and emphatically demonstrated to be untrue by three independent analyses of thousands of samples of water taken from the stream below the Robey Street entrance to the drainage channel and the water works above the city of St. Louis.

Obituary Notes.—Dr. James Watson Stronach, formerly of New York, died suddenly on January 23d, at his residence in Belleville, N. J. He was sixty-seven years old. Death was due to heart trouble. Dr. Stronach was born in Forres, Scotland, and came to this country in 1860. He was graduated from the College of Physicians and Surgeons in New York in 1872. He had resided in Belleville about a year.

Dr. Eliphalet Nott died at his home in Rexfords Flats, Saratoga County, N. Y., on January 22d, aged sixty-seven years. He was a nephew of the Rev. Dr. Nott, for many years president of Union College.

Dr. Lillian R. Safford died at York, Pa., on January 21st. She was a graduate of the Women's Medical College of New York.

Dr. Frederick G. Bloom died of pneumonia at Martinsburg, Pa., on January 24th. He was one of the oldest graduates of the University of Pennsylvania, and had been engaged in the practice of his profession in Martinsburg for more than sixty years.

Dr. J. Stuart Leech died on January 23d, at Downington, Pa., where he had been engaged in the practice of medicine for fifty years. He was the oldest practising physician in Chester County.

Dr. H. L. Stickel died on January 24th of pulmonary tuberculosis, at Harrisburg, Pa. He was a graduate of Jefferson Medical College.

Dr. William Simpson, of 127 West Forty-fourth Street, committed suicide on Saturday, January 26th,

by shooting himself in the right temple. Dr. Simpson was house physician of the Gerard Hotel.

Dr. H. D. Reardon, a physician, was found dead in bed at Elmira recently. Death was due to an overdose of chloroform.

Dr. Richard Thorburne, of Colborne, Ont., a well-known member of the medical profession in Canada, passed away on December 10th.

In the first week in January several distinguished medical men died in Paris, including Dr. Bérenger-Féraud, formerly médecin-en-chef to the navy, and president of the Conseil Supérieur de la Marine. The death is also announced of Dr. de Beauvais, one of the oldest Paris practitioners, who died at the age of seventy-nine years, and last and the most eminent of all, Professor Potain. The last-named physician died suddenly at the age of seventy-five years. He had retired from active work only six months ago, at which time he delivered his last lecture at the Charity Hospital amid a scene of almost unparalleled enthusiasm and affection. Professor Potain, over and above his scientific attainments, was a kindly hearted man of the old-fashioned, courtly school.

Progress of Medical Science.

New York Medical Journal, January 26, 1901.

Septicæmia, Acute Bacteriæmia and Pyæmia, Chronic Bacteriæmia; the Indications for Hysterectomy and the Indications for Abdominal Section and Drainage in Puerperal Infection.—From a review of recent literature H. J. Boldt would adopt the following definitions: Septicæmia (acute bacteriæmia) is a blood disease caused by parasitic microorganisms invading the circulatory system from some primary seat of infection, the infection producing elements multiplying so rapidly in the blood that the patient generally succumbs within five days after the disease begins. Usually the parasitic germ is the streptococcus pyogenes; other pathogenic germs may, however, be present also. Pyæmia (chronic bacteriæmia) is likewise caused by the invasion of the system by the streptococcus pyogenes alone or in conjunction with other pathogenic germs, but they disseminate from an infected thrombus. They are not diffused into the system in one large quantity, neither are they possessed with the same foudroyant virulence from a clinical viewpoint. The production of the abscesses found in the condition called pyæmia, upon which the pathological difference between the two conditions depends, is due to the parasitic organisms finding a resting-place outside of the blood circulation, and there giving rise to abscess formation. The indications for hysterectomy, under the conditions stated, he gives in the following rules: (1) If, after a full-term delivery or an abortion, there are no conception products in the uterus, and the patient has fever with exacerbations, chills, and a small and frequent pulse (120 to 140 or more), if careful observation should show that the infection comes from the uterus alone, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria being free, if streptococci are found in the uterus, and, especially, if the blood shows the presence of pathogenic germs, as in Prochownick's patients. (2) If there are decomposition products in the uterus, which cannot be removed satisfactorily per vaginam; if, on doing a Cæsarean section, the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis when there is no evidence of an exudate in the pelvis. The annexa are to be left undisturbed unless there is some positive indication to remove them.

Gastro-Enterostomy by the Elastic Ligature.—After giving a history of the introduction and development of this device, T. A. McGraw narrates several clinical histories, laying special emphasis on the necessity of a proper technique. He lays down the following rules: (1) The ligature. This should not be a rubber thread nor a flat band; these lack the necessary strength to cut their way with certainty through the thick walls of the stomach. The surgeon must use a hard, round, smooth, and strong rubber cord, at least two millimetres in diameter. (2) It must include in one loop all of the tissue which it is desirable to sever. The formation of several small connected loops is an error. In general, the larger the amount of tissue included in the loop the quicker and more certainly will the ligature perform its work. (3) The cord must be drawn as firmly and tightly together as possible, and fastened by a silk thread, which is tied around it. He has himself tied the rubber first in a single knot, fastened the silk around it, and then repeated the process for the sake of greater security. This may not be necessary, as the knotting of the silk thread once would probably serve the purpose. (4) Before the rubber ligature is inserted the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimetres, and when the ligature has been tied a similar row in the front should complete the junction. If ever there should be an ill success with the ligature, it will, he believes, occur from its too rapid action. The failures to cut through observed by certain German surgeons have been due to some fault in the technique.

Treatment of Influenza.—W. H. Thomson advocates the use of a pill containing gr. $\frac{1}{12}$ solid extract of aconite, gr. ss. Dover's powder, gr. ii. phenacetin, and gr. iss. quinine, two pills to be taken thrice daily as long as fever is present. The dosage is then to be gradually reduced by one pill until the catarrhal symptoms have passed away. For coryza and nasal symptoms gr. $\frac{1}{4}$ belladonna with gr. ii. camphor are of service. The passages may be flushed with two teaspoonfuls of chlorate of potash and five drops of oil of peppermint in a quart of hot water. Ergot may be given for the supraorbital pains, a drachm of the fluid extract every three hours. For the persistent cough he advises bromide of ammonium gr. xx. with antipyrin gr. x. To clear out the bronchi he gives morphine gr. $\frac{1}{8}$ with chloral gr. viii. added to an emulsion of linseed oil. The patient should go to bed at once and stay there until further orders.

Cereals, Emulsions, and Proteids in Infant Feeding.—T. M. Rotch believes that the only value of adding cereals to infant food, that is, milk, lies in the fact that their presence assists in the finer subdivision of the caseinogen coagulum and that the same effect can be produced by modern methods which are much less irrational. He is disposed to favor emulsions as being at least harmless. He believes further that the management of the coagulum depends on the management of the caseinogen, and that the coagulum will be small and fine if the caseinogen is kept down to its proper relative proportion to the whey proteids; also that by using whey we can obtain these desired percentages of whey proteids, and that in all probability it will in the future be proved that by using whey the coagulum will be finer than that obtained from the use of barley water or any other cereal diluent.

Observations on the Toxic Effects of Some Common Drugs.—By P. H. Harvey.

Journal of the American Medical Ass'n, Jan. 26, 1901.

The Unbroken Skin as an Absorbing Medium.—Thomas F. Reilly states that after many experiments and various theories concerning this subject Waller and others discovered that many substances, which of themselves could not produce constitutional effects when applied to the skin, might be absorbed if dissolved in a volatile substance, such as ether, chloroform, or alcohol, which itself is absorbed in a volatile state. The absorption of aqueous solutions of non-volatile bodies by the normal skin is practically impossible. Whatever absorption takes place in the mineral baths is due to the transmission of the gases evolved and to the presence of exposed mucous surfaces, such as those of the rectum, vagina, etc. The following agents may be absorbed through the skin and produce constitutional effects: mercury, iodine, europhen and iodoform, salicylic acid, silver, quinine, phenacetin, turpentine, guaiacol, creosote, croton oil, ichthyol, pilocarpine, digitalis, belladonna, and carbolic acid. It is customary to give the dosage as two or three times that of the same drug when administered by the mouth. A medicinal agent to be absorbed by the unbroken skin must either become volatile during its application or be incorporated in a fatty base and applied with friction. Occlusion is an absolute requirement in the case of volatile substances. Most of the absorption occurs in the crypts of the sebaceous glands. The effect is much slower, about one-fourth as intense, and longer continued than when the same agent is administered by the mouth. A large number of medicinal agents, which when given by the mouth are intolerable to many patients, may be administered in this way with scarcely any unpleasant effects.

Traumatism during Intubation; its Prevention and Treatment.—Johann von Bokay states that traumatism can result during the act of intubation in three periods: during the introduction of the tube, while the tube is in place, and

when the tube is withdrawn. Traumatisms resulting from the introduction of the tube can be caused by improperly constructed tubes, although the majority are caused by carelessness during the introduction. To intubate properly, we must be thoroughly acquainted with the details of the operation. The writer advises the beginner to intubate children who are not suffering with stenosis, but rather in whom a tracheal fistula exists. Of course, the anatomy of the parts must be thoroughly mastered. Extensive practice is necessary in order to become familiar with all the details. The mouth must be stretched *ad maximum*. Some operators prefer to have the patient on his back, while others advise the sitting posture. The instruments should be in perfect order. Before the introduction of the tube it is well to wash the pharynx with a four-per-cent. boric-acid solution. The instruments should be worked in the median line. The obturator should not be pushed too soon. Great gentleness should be exercised. After a false passage is made, it is wisest to remove the perforating tube and to follow it immediately by a secondary tracheotomy. It is possible that without repeated intubation or a secondary tracheotomy healing may result.

Some Remarks on the Plantar Reflex, with Especial Reference to the Babinski Phenomenon.—J. T. Eskridge concludes that: (1) The Babinski phenomenon is an extremely valuable sign in diagnosis, and probably in prognosis and prevention. (2) It is not a pathognomonic sign of organic disease of the lateral tract. (3) We shall learn by subsequent observations that several poisons or conditions so irritate the lateral tract as to cause a pseudo-Babinski phenomenon, or an apparently genuine one temporary in character. (4) Greater care should be used by the investigator, and the carefully studied cases should be much more numerous.

Diabetes Mellitus; the Mortality Therefrom in the City of New York during the Period from 1889 till 1899, from the Official Records; Comments.—By Heinrich Stern.

A New Objective Test for Mastoiditis, with Report of Case.—By Albert H. Andrews.

Growths in the Frontal Sinus; Two Cases; Operation; Recovery.—By W. D. Hamilton.

Treatment of the Gastro-Intestinal Symptoms in Typhoid Fever.—By J. H. Anders.

Idiosyncrasy as to Mercury; a Case of Erythema Mercuriale.—By Albert Bernheim.

Ocular Manifestations of Diabetes Mellitus.—By L. A. W. Alleman.

Intubation in Private Practice and its Perfection.—By J. Trumpp.

Cutaneous Diseases Accompanying Diabetes.—By M. B. Hartzell.

The Diagnosis of Diabetes Mellitus.—By James B. Herrick.

The Treatment of Neurasthenia.—By Daniel R. Brower.

Post-Anæsthetic Paralysis.—By C. C. Hersman.

Fracture of the Patella.—By James M. Barton.

The Lancet, January 19, 1901.

An Account of the Epidemic Outbreak of Arsenical Poisoning Occurring in Beer Drinkers in the North of England and the Midland Counties in 1900.—By E. S. Reynolds. Under symptomatology the author enumerates findings as to complaint of patient, aspect, skin lesions, nervous system, circulatory system, respiration, digestion, urine, and temperature. From his study of a large number of cases it seems clear to the author that arsenic is almost certainly a cumulative poison, although some authors say that it is not so. Moreover, it is a poison which affects both the skin and the respiratory and digestive mucous membranes, the nerve trunks, both sensory and motor, and the muscles (including the heart muscle) and the liver. The sequence of symptoms is: (1) Digestive symptoms; (2) laryngeal catarrh, bronchitis, and acute skin symptoms; (3) disturbances of sensibility; and (4) motor paralysis (and pigmentation and keratosis). In general it may be said that the course of the disease is a slow one. The gastric, coryzal, and laryngo-bronchial symptoms pass off first, then the acute skin lesions, which pass on to the chronic skin lesions which last many months. The erythromelalgia and sensory symptoms are almost as marked as ever in patients under observation for four or five months, and judging from analogy of so-called alcoholic paralysis the motor disturbances will last for from eighteen months to two years before they entirely disappear. In general grouping the division of the cases was as follows: (1) Those with all symptoms fairly well marked; (2) those with skin lesions principally; (3) those with cardiac and hepatic lesions principally; and (4) those with paralytic lesions principally. Treatment was symptomatic. A caution is uttered against the use of any cardiac depressants. The drugs offering the best results were found to be digitalis, strychnine, gastric sedatives, ammonium carbonate, senega, and morphine.

The Roentgen Rays and the Diagnosis of Urinary Calculi.—By C. Mansell Moullin. After expressing his conviction as to the great utility of this means of diagnosis, the author mentions some of the difficulties in practical application. One of these is the patient's breathing. The kidneys move up and down during even tranquil respiration to a much greater extent than is usually believed. They are not by any means immovable organs, as any one who has ever exposed a kidney during life must know. The patient cannot hold his breath for a sufficient length of time. The plan of making him hold his breath with the thorax fixed in a certain predetermined position, for short periods, at frequent intervals, and allowing the exposure to take place only at those periods, answers fairly well, but requires a very careful patient. A more satisfactory plan is either to direct the patient to take very shallow breaths, or, better still, to put a firm bandage around the abdomen. This fixes it in a position of expiration and has the additional advantage of slightly raising up the opaque mass of the liver. The respiratory movement is less when the patient is sitting upright, but this advantage is more than compensated for by the way in which the abdominal viscera descend and conceal the kidneys. In the case of a very prominent abdomen the prone position, with the plate beneath, has been recommended instead of the supine position, with the idea that the abdomen would be flattened out to the sides and the kidneys brought nearer to the plate. Distention of the bladder with air in the case of a fixed vesical calculus is certainly of use, and provided the air is sterilized first, and due regard is paid to the sensations of the patient, it may be practised with no more danger or unpleasantness than that which attends the process of washing out the bladder.

Urotropin as a Urinary Antiseptic.—By P. J. Cammidge. The author's views are expressed in the following: As a urinary antiseptic urotropin appears to be much superior to those usually employed (*e.g.*, salol, ammonium benzoate, boric acid, guaiacol, naphthalin, and resorcin), especially when the acidity of the urine is insured by suitable means. It is not, however, only in the ordinary forms of urinary infection that the advantages of the drug as a curative agent are so apparent, but in typhoid fever it may be employed from the third or fourth week onward to the advantage of both the patient and the community at large. Recent researches have shown that typhoid bacilli occur much more frequently in the urine than has been generally supposed and that they may persist for very long periods after convalescence (five years). By the systematic use of urotropin in all cases the very real danger from this source which is so frequently overlooked may be entirely avoided.

Infective Parotitis after Abdominal Section.—By W. Elder. A man aged twenty years was operated on for appendicitis and did well till the third day, when one parotid began to swell with the customary signs and symptoms, the surrounding tissues all being enormously swollen. In the course of thirty-six hours the other gland took on similar features. The swellings on both sides were very painful to pressure but did not suppurate. Seven weeks before there had been a case of mumps in the house where the patient lived when taken sick with the appendicitis. The author is inclined to think that one can hardly exclude infection from the first case as the cause of the second.

A Case of Gangrene of the Penis.—By G. A. Clarkson. The patient was a man aged fifty-one years, who suffered for a long time from chronic bronchitis and emphysema. The heart action was weak and irregular and the vessels were tortuous and rigid. He was suddenly seized one day with collapse from which he gradually rallied, but presented evidences of cystitis and probable kidney lesions. On the thirteenth day after the seizure he began to have pain in the penis which was greatly swollen. Two days later patches of gangrene began to appear, gradually involving the whole organ. Death occurred three days later.

Some Cases of Head Injury, Including One in which there was Lesion of the Occipital Lobe.—By H. W. Page.

A Series of Ten Successful Cases of Cæsarean Section.—By W. J. Sinclair.

Cases of Arsenical Peripheral Neuritis.—By R. J. M. Buchanan.

Enlargement of the Prostate.—Clinical lecture by P. J. Freyer.

Reflections on Therapeutics.—By Harry Campbell.

British Medical Journal, January 19, 1901

Spoon-Shaped Indentations in the Skulls of the New-Born.—J. M. Munro Kerr states that indentations of the fœtal skull may be either spoon or furrow shaped. The

occurrence of these two varieties is of about equal frequency. The furrow-shaped variety is far less serious and seldom gives rise to much immediate trouble. The spoon-shaped indentation is generally situated on one or other parietal or frontal bone, near the anterior fontanelle. This deformity occurs, with few exceptions, when there is a deformity of the maternal pelvis, rickets being the most common cause of such. When a deformity of the pelvis exists the indentation is usually caused by the head being pressed against the projecting sacral promontory. Most writers are now agreed that forceps have directly very little to do with the production of depressions. Occasionally two depressions may be found in the same skull, then the one is usually smaller than the other and placed opposite to it. Generally speaking the prognosis is not unfavorable. If the children are born alive the indentations in the majority of cases disappear in a week or two, having given rise to no trouble at the time, and producing no ill-effects later. In a certain number, however, the depressions remain and are a permanent deformity. In such cases there are usually no disturbances, although occasionally there may be minor nervous storms. For the immediate relief of depressions of the fœtal skull many devices have been tried; thus, such things as exhaust pumps and cupping-glasses have been advocated. Trephining has been done with elevation of the depression. The writer then reports a case of his own in which there was a deep spoon-shaped depression of the right frontal bone. The head was firmly compressed antero-posteriorly, and on the first attempt the depression came out, producing a sound as when a dent in a felt hat is removed.

A Note on the Occurrence of Abortion.—J. B. Hellier reports the following statistics taken from gynæcological patients having in most cases some pelvic disorder, so that the tendency among them to miscarry would be above the average for all married women. The 1,800 women had given birth to 6,974 children, an average of 3.87 each. They had had, according to their own statement, 1,288 abortions. This amounts to about one abortion to every 5¼ children. The number of women in the 1,800 who had had abortion but no children was 58. Deducting from the 1,800, 184 women who had never been pregnant, 1,616 remain. So that of 1,616 women who had been pregnant, 58 had had one or more abortions, but had never gone to term. Thus it follows that among a group of women in whom the frequency of abortion might be supposed to approach the maximum, 96.5 per cent. of those who became pregnant did sooner or later bear one or more children at term.

A Clinical Lecture on Diagnosis in Cancer of the Body of the Womb.—M. Handfield-Jones gives the following conclusions: (1) That in cases of corporeal cancer there is a stage of benign adenoma. (2) Uterine scrapings are not perfectly reliable, owing to the tissue being only superficial, and the deep part of the gland not being obtained. Later scrapings, when the disease is more advanced, are therefore more reliable. (3) Clinical signs are more valuable than microscopical evidence. (4) The degree of malignancy varies much, and the disease may run a very slow course. (5) Rapid increase in the size of the body of the womb is the most valuable sign in determining need for extirpation of the whole organ.

Foreign Body Long Retained in the External Auditory Meatus.—J. B. Curgenven remarks that it is astonishing how long a foreign body may lie in the external auditory meatus without setting up inflammatory action. The writer then reports the case of a girl aged sixteen years, who claimed to have been deaf in the right ear as long as she could remember. On examination, the ear appeared full of dark-colored wax. After the ear was syringed a hard body was felt by a probe. With some difficulty this was extracted by forceps and proved to be an acorn. The patient had no remembrance of the introduction of the body.

The Occurrence of Arsenical Neuritis in Moderate Drinkers: a Determining Cause.—By R. G. Henderson.

A Clinical Lecture on Malignant Diseases of the Female Genitalia.—By Thomas Oliver.

Acute Puerperal Sepsis Treated with Antistreptococcus Serum.—By T. G. Parrott.

A Note on the Treatment of Puerperal Eclampsia.—By R. P. Ranken Lyle.

Puerperal Eclampsia and its Treatment by Morphine.—By Clarence Beesley.

A Case of Traumatic Achillotomy: Immediate Suture.—By Robert Turner.

A Second Successful Case of Cæsarean Hysterectomy.—By Colin Campbell.

Impacted and Displaced Gravid Uterus with Fibroid.—By Neil Macleod.

Extraordinary Weight of Fœtus at Term.—By Thomas Wilmot.

The Hydrostatic Test of Still-Birth.—By Charles Randolph.

Insomnia: its Causes and Cure.—By F. P. Atkinson.

Complete Inversion of the Uterus.—By O. Bowen.

An Unusual Cause of Vaginitis.—By Skene Keith.

French Journals.

Treatment of Acute Broncho-Pneumonia of Childhood.—Among the directions given by Carrière for the treatment of this disease are the following: I. Prophylactic measures, indicated in the course of infectious maladies which are often followed by broncho-pneumonia, are: (1) To isolate the patient as much as possible; (2) to avoid chills; (3) to place the patient in a chamber which can be aired as much as possible; (4) to make the air which the patient breathes aseptic by antiseptic vapors, the following solution may be used:

℞ Phenol	20 gm.
Thymol	10 "
Benzoin	10 "
Alcohol	100 "
Water	860 "

(5) to make the respiratory tract aseptic: (*a*) by nasal instillations of mentholated oil, (*b*) by irrigations of the mouth by boric acid; (6) to care for the skin which can be the port of entry for infectious germs; (7) to care for the intestine (calomel); (8) to stimulate the organism (tonics, alcohol, baths). II. When the disease sets in: (1) The patient should be kept in bed, but should not be too heavily covered. The chamber should be well aired without chilling the child. The child's position should be often changed. (2) Alimentation: A glass of milk should be given every two hours; bouillon or beef-juice to children over eighteen months. Abundant fluid should be given. (3) The congestion of the lungs should be relieved. (4) The organism should be stimulated by baths and medication. (5) Antisepsis of the organism should be secured. (6) The emunctories of the body should be carefully looked after. (7) Complications must be treated as they arise. III. When the stage of convalescence is reached, vigilance in the care of the child must not be relaxed until complete recovery supervenes.—*Le Nord Médical*, January 15, 1901.

Polyneuritis following Grippe.—According to Diemer the history of neuritis, particularly of grippal neuritis, is of recent date. The anatomical conditions underlying polyneuritis are not well known, for only one case of this kind has been followed by autopsy. It is not difficult to explain the pathogeny of this neuritis. If grippe is an infection produced by an agent which is peculiar to it, all the phenomena which are its clinical expression are nothing else than an intoxication due to the toxins secreted by this agent. Grippal polyneuritis begins generally during the period of convalescence, like the neuritis of diphtheria to which it has been compared. After some days, perhaps some weeks, the temperature falls, the nervous phenomena properly speaking, thoracic or gastro-intestinal, have disappeared, and troubles of sensation or motor troubles open the scene. Soon there develops a more or less complete picture of peripheral polyneuritis. Motor troubles are constant in grippal polyneuritis. The parts affected by this paralysis are very variable, so that it is impossible to say that grippal polyneuritis has a predilection for any one group of muscles. It can be said that any muscle may be affected by the paralysis and that consequently the functional troubles which are its consequence vary according to the diverse modes of localization of the lesions. The reaction of degeneration is present in the muscles affected. Ataxic phenomena are frequently noticed in this paralysis. Finally, one of the last characteristics common to this paralysis is the flaccid condition of the muscles affected. As to muscular atrophy, it is generally noted but it is not very marked.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, January 13, 1901.

Asystole.—Bonsignorio states that by the term asystole is meant a combination of conditions which result from insufficiency of cardiac contractions as well as from insufficiency of cardiac circulation. This condition appears at the end of chronic heart disease, and its principal manifestations are cyanosis, dyspnœa, stasis of the blood current, congestion, œdema, and finally coma. The essential lesion of this affection is especially dilatation of the heart, notably of the right heart. The pulse is quickened for two reasons: on account of the weakness of the cardiac contractions and on account of the diminution of arterial pressure. Asystole can run a rapid or acute course, or it may be slow in its progress, subject to many remissions. It may last for years, although the lesion may declare itself definitely from the beginning. In these cases digitalis is of no avail. Acute asystole may have a fatal termina-

tion within a few hours, but this is rare. At last, after several attacks, cardiac cachexia precedes the end.—*La Tribune Médicale*, January 16, 1901.

Ano-Rectal Fistulæ Premonitory of Pulmonary Tuberculosis.—Ernest Barié concludes that: (1) In tuberculous patients ano-rectal fistulæ may precede sometimes by a very long period—several years even—the appearance of the first manifestations of pulmonary tuberculosis. (2) These ano-rectal fistulæ premonitory of tuberculosis follow in the train of abscesses appearing most often insidiously, but which may in certain cases succeed a local traumatism.—*Journal des Praticiens*, January 12, 1901.

Berliner klinische Wochenschrift, No. 1, Jan. 7, 1901.

Syphilis and Mental Affections.—Jolly enumerates as neuroses in connection with specific disease nervousness, hysteria, and epilepsy. Manifestations of the latter may be due not to the toxic effect of syphilis but to a masked gumma. Purely mental sequences are melancholia, paranoia, amentia, and dementia, in which latter the speech centre seems to be first affected. Some of the symptoms associated with the latter condition strongly suggest general paralysis of the insane. Paralytic dementia often occurs as a tertiary manifestation of specific disease.

Report of the Royal Poliklinic for Pulmonary Diseases from November 15, 1899, to November 15, 1900.—By Max Wolff.

Modern Colonization and the Adaptability of Europeans for Life in the Tropics.—By F. Hueppe.

Demonstration of the Difference between Syphilis and Skin Diseases.—By O. Lassar.

The Use of the Roentgen Rays in Practical Medicine.—By H. Kummell.

General Therapy of Skin Diseases.—By E. Saalfeld.

On Gall Stones.—By Professor Riedel.

Münchener medicinische Wochenschrift, January 1, 1901.

Cutaneous Sensory Disturbances in Internal Disease, Especially of the Stomach.—Hans Haenel, following in the footsteps of Henry Head, has made extended observations on the effect which disease of the internal organs has on cutaneous sensibility. As a result he finds that under such circumstances definitely outlined zones of hyperalgesia frequently occur. These are usually to be considered reflex and serve to explain many of the symptoms commonly referred to neurasthenia, rheumatism, or hysteria. While it is true that when such hypersensitive areas are to be demonstrated any pain complained of is likely to be genuine and to be dependent on actual internal disease, the converse does not hold and no positive conclusions are to be drawn from their absence. The distribution of the hyperalgetic areas is of use in judging of the nature or location of the primary disorder only when the zones do not cover too much surface and are found constant on repeated examination. When the stomach is involved, the district controlled by the seventh to the ninth dorsal nerves is the one especially apt to show abnormalities of sensation, though no clew is given in differentiating ulcer from other affections.

Pancreatic Abscess.—Marwedel has found in the literature eight cases of pancreatic abscess treated by operation. To this number he adds a successful case which makes the sixth cure. The patient was a man aged sixty years, who for eight months had been suffering from indefinite abdominal pain coming on in spasms and being subject to protracted remissions. At one time constipation and jaundice followed an attack, but subsided under saline treatment. On admission to the hospital the patient was found much emaciated, with a rounded, deep-seated mass in the left epigastric region. The diagnosis of tumor of the pancreas was made and an exploratory laparotomy performed, when the mass was found to contain a cavity holding about a pint of pus. The diagnosis was amended to read retroperitoneal abscess situated in the peripancreatic tissue and originating in the pancreas.

The Etiology of Primary Contracted Kidney.—Oswald Baumgarten, basing his conclusions on the statistics of two hundred and twenty cases of this disease, corroborates the usually accepted views that it is a lesion of middle life, most frequent in men and caused by such factors as alcohol, lead, syphilis, and gout.

The Chief Distinctions between Cow's Milk and Human Milk, and the Value of Substitutes for the Latter.—By G. Edlefsen.

The Defects of the Nursing-Bottle and the Remedy.—By A. Schmidt.

Azoospermia and Paternity.—By H. Eckstein and M. Eckstein.

Nitropropiol Tablets: a New Sugar Test.—By F. Gebhardt.

The Treatment of Club Foot in Adults.—By Oscar Vulpius.

Deutsche medicinische Wochenschrift, January 3, 1901.

Thymic Death.—Hans Kohn collates the views of different writers who have sought to explain the manner of the sudden death sometimes occuring in children subsequently found to have enlarged thymus glands. The two most probable theories seem to be that either the hypertrophied organ produces laryngeal stenosis through its pressure, or that its internal secretion is in some way modified so as to affect metabolism, and especially the heart, unfavorably so that some comparatively trifling external cause is sufficient to produce a fatal result. In a case treated and autopsied by the author a somewhat different state of affairs was found. The patient, a child aged seven months, was moribund when first seen and died two hours later, although no definite physical signs could be elicited. On section it was found that the thymus was enormously increased in size, so that it pressed upon the aorta and caused obstruction to the blood current with secondary dilatation. The heart was dilated and hypertrophied, and the supposition is that it finally became insufficient and collapsed under the gradually increasing stress.

Vomiting after Chloroform and Other Inhalation Anæsthetics, with a Suggestion for its Prevention.—L. Lewin is of the opinion that the larger share of the nausea following the use of general anæsthetics is gastric rather than central in its origin. A considerable amount of the anæsthetic is undoubtedly swallowed, either dissolved in the saliva or in vapor, and a very appreciable irritation of the gastric mucosa follows. Two methods suggest themselves for the prevention of this effect: one preliminary anæsthetization of the lining of the stomach, and the other the introduction of some substance which shall act as a protective to the stomach wall. The first object may be attained by the administration of a considerable quantity of dilute cocaine solution, while mucilages of acacia, tragacanth, or Irish moss introduced immediately before the anæsthesia is begun would undoubtedly protect the nerve endings and prevent the irritating action of the aerial vapor.

The Etiology of Dysentery.—Deycke, working in Constantinople, which is a hot-bed for this disease, describes an organism which is always to be found in the stools, intestinal walls, and abdominal organs of dysenteric patients. Grown in pure culture it appears to belong to the group of the bacterium coli and to resemble the typhoid bacillus. Cats are especially susceptible to the germ, and after one to three days of bloody or purulent diarrhœa with extreme emaciation die with the same intestinal lesions as those accompanying human dysentery. A further report is promised for a later date.

Determination of the Lower Border of the Stomach with the Roentgen Rays.—W. Becher introduces the stomach tube with the patient in the upright position, and standing before the apparatus so that the tube, which throws a visible shadow, can be watched in its descent. If a mixture of bismuth subnitrate in water is now poured through the tube it becomes visible as an oblong shadow around the end of the instrument, and the lower boundary of the stomach is plainly demarcated.

The Causes of the Natural Resistance to Certain Infections.—A. Wassermann publishes the reports of some animal experiments which he thinks definitely prove the accuracy of the theory that the ferment-like bodies present in normal blood and having the power to destroy bacteria actually do represent a most valuable defence against infection.

The Pathogenesis of Gonorrhœal Epididymitis.—Desider Raskai describes a case in which suppuration of the epididymis took place more than a month after the acute gonorrhœal inflammation. In the pus evacuated from the abscess gonococci were found in pure culture, proving the nature of the lesion as well as the vitality and virulence of the organism.

The Quantitative Determination of Indican in the Urine and its Clinical Significance.—By Wolowski.

Protective Inoculation against the Foot-and-Mouth Disease.—By Loeffler and Uhlenhuth.

Vaginal and Abdominal Operation in Tuberculous Peritonitis.—By G. Baumgart.

The Formation of Acetone from Albumen.—By F. Blumenthal and C. Neuberg.

Introductory Address on General Therapy.—By L. Brieger.

The Chemistry of the Bacteria.—By Ernst Bendix.

International Medical Magazine, January, 1901.

The Oxygen Treatment of So-Called Uric-Acid Lesions.—Alfred Careno Crofton claims to have demonstrated that not uric acid, but the so-called alloxuric bases are the

cause of lithæmia, the uratic dyscrasia, gout, and allied lesions. It will, he says, depend on the activity of the oxygenation processes of the organism, whether uric acid, a non-toxic substance, is found, or whether, with deficient oxygenation, the poisonous alloxuric bases are generated instead. In treatment he finds that inhalations of oxygen give uniformly good results. A safe average plan is to give inhalations daily for a week, every other day for two weeks, twice a week for two weeks, and then a weekly inhalation for from one to four weeks more. The good effects persist for months. The diet should be regulated so as to forbid foods that contain alloxuric bases, syn. "nitrogenous extractives," nuclein, or those that are capable of producing a leucocytosis. The indications for drugs are twofold: (*a*) To increase formation and prevent disintegration of red blood corpuscles and their chief oxygen carrier, hæmoglobin; (*b*) to encourage rapid elimination of the alloxuric toxins.

The Uric-Acid Diathesis.—James Tyson holds that the uratic diathesis is remediable in two ways: first, by limiting the ingestion of nitrogenous food, whence uric acid and its congeners are derived; second, by increasing the quantity of the water constituent of urine and by alkalizing the blood and urine with a view of favoring solution and elimination of uric acid. There is no contraindication to the use of carbohydrates and hydrocarbons, provided they do not produce acid fermentation. Nor is there any objection to the use of fruits which are not acid. Exercise, bathing, and massage should also constitute part of the treatment. The alkaline bases should be administered, principally the salicylates, the citrates, and bicarbonates.

Finska Läkaresällskapets Handlingar, December, 1900.

Cysts of the Middle Turbinated Bones.—Albert Sundholm observes that bone cysts for the most part escape observation, although they are of fairly frequent occurrence—a fact which he attributes to their being small, and unaccompanied by marked symptoms. He reports three cases, two of women, one of a man. The whole literature of the subject contains only two cases of men. In one of the cases the cyst was egg shaped and 4 cm. long. The author holds that these cysts are merely aberrant ethmoidal cells developed in the middle turbinated bone.

Double Vagina with Single Uterus.—O. A. Boije reports four cases. He concludes from a microscopical examination of the septum in each case, that these septa are due to imperfect amalgamation of the lower part of Mueller's ducts, during the early months of fœtal life. Nagel, on the contrary, held that a vaginal septum with a normal uterus was due to an amalgamation of two folds of mucous membrane during the second half of fœtal life. Were this the case, Boije remarks, there would be traces of cicatrization or of other tissue changes.

Cirrhosis of the Liver in a Boy of Eight Years.—Max Björkstén reports a fatal case in which the post-mortem findings bore out the diagnosis of cirrhosis of the liver. The author advises determination of the amount of albumin in the abdominal exudate (if there be any) to establish a differential diagnosis between tuberculous peritonitis and cirrhosis.

Vaginal Hysterectomy and Resection of the Vagina in Cases of Uterine Prolapse.—By Axel Wallgren.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-fifth Annual Meeting, Held in Albany, January 29, 30, and 31, 1901.

A. M. PHELPS, M.D., OF NEW YORK, PRESIDENT.

First Day.—Tuesday, January 29th.

President's Inaugural Address.—DR. A. M. PHELPS presented this address, and followed the usual custom of making certain recommendations regarding the work of the society. It was recommended that the position of assistant secretary be created, and that each county society hereafter elect two delegates yearly, for a term of one year. This, he thought, would increase the membership of the society fivefold. It was also suggested that the State society hold in the fall of each year, in one of the cities of the first class in the State, a semi-annual meeting, from which executive business should be excluded. He characterized the bill recently introduced by Senator Grady, to protect hospitals from suits for damages, as vicious, and one which the society should make strenuous efforts to defeat. He stated that it had originated with two immensely wealthy hospitals, one of which was now being sued for $25,000 damages. In concluding his address, the president suggested the organization of an "Atlantic Coast Medical Society," and that the society officially indorse the action taken by the tenement-house committee for the correction of tenement-house abuses.

Report of the Committee on Hygiene.—DR. H. R. HOPKINS presented this report. It referred to the gratifying progress that had been made toward State control of consumption, and the better housing of the poor. In view of the prevalence of gonorrhœa and syphilis, and their dreadful consequences, the committee thought it would be desirable to include these maladies in the list of diseases requiring notification and registry with the health authorities. Reference was made to the grand object lesson afforded by the experience of Schenectady and Albany in the reduction of the mortality from typhoid fever as a result of changes made in the system of water supply in accordance with the light shed by modern sanitary science.

Report of Committee on Legislation.—DR. FRANK VAN FLEET presented this report. It was stated that during the year 1900 no less than two hundred and sixty-eight bills having medical interest had been presented to the legislature. Of these, sixty-three had received the approval of both branches of the legislature, and forty-six had received the approval of the governor. No bill had become a law which was unfavorable to the society as a body or the profession as a whole. The "medical practice act," now before the legislature, the object of which is to secure a proper definition of the practice of medicine, was referred to at length and the society was asked to indorse it. The society, after free discussion, voted to indorse the principle embodied in this bill, and appointed a committee to appear before the legislature in its behalf.

Address of the President of the American Medical Association.—DR. CHARLES A. L. REED, of Cincinnati, Ohio, the president of the American Medical Association, having been introduced and most cordially received, addressed the society as follows:

"Mr. President, and Fellows of the Medical Society of the State of New York. I call you 'fellows' in a spirit of fellowship, because I have been one of your fellows, much to my gratification, for the last ten years. It affords me extreme pleasure to appear before you to-day in response to the cordial invitation of your president. When it was my privilege to appear for the first time before this distinguished body ten years ago this day, I came simply in my capacity as an humble worker in the ranks of the profession; to-day I am introduced to you as the president of the national organization, although a no less humble worker. The terms in which I have been presented to you enforces upon me the duty of extending to you, in the most cordial spirit, the greetings of the American Medical Association. I have been informed that such messages have been a trifle unusual in the past (laughter), and I almost feel that I am in a foreign country, yet it seems to me that you are wrestling with precisely the same problems which have confronted us in Ohio, and the medical profession of all the other States. For a proper solution of this it has been found necessary to have the absolute unity and co-operation of the entire profession. If the American Medical Association stands for one idea over and above another, it is for the unity and for the solidarity of our great national

profession. If there is to-day one spirit actuating it over and above another, it is the spirit which I have expressed in the words just pronounced. This is the one assurance which I bring you, and I am satisfied, from the expressions which I have heard in Albany, that that sentiment is very cordially reciprocated.

"I am sure, when you gather in our national council in St. Paul, we shall be nearer an understanding on the unfortunate questions which have divided us for nearly two decades, than we have been these many years.

"I am gratified, indeed, to notice the expressions which have cropped out in these proceedings this morning, to which I have been a very attentive listener, as they indicate that there is a disposition in your body to be democratic, and to bring within the fold of this society the workers in the ranks of the profession. In my various goings about the country, I have found that those societies seem to be doing the most good and accomplishing the greatest results that have been able to bring within their ranks the largest number of the medical profession. The weak man needs the society, and the strong man is needed by the society, and hence we need them all, but the society must be given a proper degree of respectability. Therefore, I view with satisfaction the initial step which you have taken to-day, looking to the broadening of your influence within the limits of your own State, feeling sure that that influence and that solidarity will sooner or later inure to the benefit of the great national body of the profession. I thank you, Mr. President, for your cordial reception." (Prolonged and hearty applause.)

Report of Committee on Prize Essay.—Dr. A. Jacobi reported for this committee that the prize this year had been awarded to the essay entitled "On the Management of the Interocular Base Line and the Size of the Meter Angle." The successful essayist was found to be Dr. Lucien Howe, of Buffalo.

Report of Committee on State Board of Medical Examiners.—Dr. M. J. Lewi, of New York, presented this report. It was stated that 792 candidates for license had presented themselves, and of this member 143, or 18.05 per cent., had been rejected. Before the board of the State Medical Society 710 candidates had appeared, of whom 132, or 18.59 per cent., had been rejected. Before the Homœopathic board 58 candidates had appeared, of whom 5, or 8.6 per cent., had been rejected, while of the 24 candidates coming before the Eclectic board, 6, or 25 per cent., had been rejected. The regents had licensed 107 physicians during the year. There was reason to hope that by next year one neighboring State would have made it possible for us to *visé* their licenses, and so establish a much-to-be-desired reciprocity.

Recent Progress in the Treatment of Acute Lobar Pneumonia.—Dr. James K. Crook read a paper with this title. He stated that considerable activity had been shown in this field during the past year, upward of fifty references to medical journal articles, devoted to the therapeutics of pneumonia, being contained in the Bibliographia Medica for the preceding twelve months. It was not apparent, however, that any striking innovations in our present methods of treatment had been made, nor was any great advance perceptible in the recently proposed therapeutic measures. The profession stood at variance regarding many minor questions in the management of pneumonia, but the reader of the paper had been gratified to observe a practical unanimity of opinion concerning many of the fundamental principles of treatment. The best sense of the profession, he thought, could be summed up in these admonitions: Put your patient to bed in as cheerful and well-ventilated a room as circumstances will allow. Give him nourishing food, easily digested, but not too abundant—then watch. These were the only routine measures which were indicated in all cases without exception. In the present state of our knowledge, not a single dose of medicine should be given to a patient simply because he has pneumonia. The indications should be watched for. Recent observers were by no means fully agreed as to the best methods of meeting the indications, but the careful practitioner could easily find a safe outline of action suitable for most of the emergencies likely to arise. The reader of the paper had been struck by the general indorsement of the lately almost obsolete procedure of blood-letting in pneumonia. Professional opinion was plainly undergoing a transition regarding the measure. Venesection was at this time evidently undergoing a discriminating revival. All late writers of experience admitted that there were emergencies in the disease in which the speedy abstraction of a few ounces of blood constituted the only sure means of relief for an overcharged and staggering heart. The use of cold applications—ice bags and sponge baths—was happily becoming almost universal. No procedure in the whole range of pneumonia therapeutics could be more safely applied or was followed by more grateful effects. The old-time poultice was being relegated to a well-deserved oblivion. Arterial sedatives were also losing favor, although still advocated by several trusted teachers. The use of opiates was indorsed by some, decried by others. In the conflicting state of opinion, Dr. Crook thought it a wise plan to look for positive indications for their use—obstinate insomnia, intense nervous excitation, or active delirium—and then to administer them carefully and discriminatingly, but without fear. Alcohol should not be administered as a matter of routine. It was usually indicated in drunkards and in old persons, but in the robust and strong it should be given only when the pulse was losing in strength or increasing in rapidity. Few such cases with a pulse rate below 110 required alcohol. Digitalis was undoubtedly losing ground as a cardiac tonic, while caffeine was gaining in favor. Strychnine was generally admitted to be the most useful heart tonic in pneumonia. The specific plan of treatment by drugs believed to be inimical to the life of the pneumococcus had not gained much headway during the year. Several reports of their successful use had accrued, but these had dealt with a very small number of cases, and had not done much to advance the method. Regarding the use of antipneumotoxin, the literature of the year showed a surprising inactivity, especially among the French and Germans. The chief work in this field had been done in our own country. Some very encouraging and instructive accounts of the use both of cultures of the pneumococcus and of animal serum were found in contemporaneous periodical literature. We were still faced, however, with the continued inability of the experimenters to elaborate an antitoxin possessing a uniform and stable constitution. Until this stumbling-block was surmounted, progress in this department would be slow and uncertain.

Dr. Bridges, of Ogdensburg, declared his disbelief in the microbic theory of the origin of pneumonia, though admitting that, under certain conditions, it was a septic disease, manifesting itself even in epidemic form. He insisted that the free admission of fresh air to the sick-room of the pneumonia patient was a most important factor in the treatment. He would use morphine when there was much restlessness or sleeplessness, or for threatened heart failure. Strychnine, morphine, and alcohol were the most useful remedies in this disease.

Congenital Dislocation of the Shoulder.—Dr. Daniel W. Marston, of New York, read this paper and reported cases. He was of the opinion that this

condition arose either from traumatism at birth or in utero or from tuberculosis or osteomyelitis. The majority of cases could be traced to a difficult delivery. The aim of treatment should be to reduce the deformity and secure a useful joint. The treatment should be both mechanical and operative. Manual reduction should be attempted in each patient under three years of age, but failing in this, operative intervention was demanded. It was of the utmost importance to differentiate between congenital dislocation of the shoulder and true obstetric paralysis.

The Relation of Appendicitis to Diseases of the Uterine Appendages.—Dr. A. L. Beahan, of Canandaigua, read a paper with this title. He cited a number of cases in support of the position taken by him. The existence, he said, of febrile disturbance during menstruation, with a swollen, tender appendix, often associated with a constipation and gas formation in the bowel, painful and retarded menstruation, pain in the appendical region, loss of flesh, nervous irritability, and exhaustion made it probable that there was disease of the appendix, and the removal of the appendix became imperative. The full-fledged attack of appendicitis should not be allowed to occur, but should be anticipated by the radical operation.

Small Hospitals and their Administration.—Dr. Louis Nott Lanehart, of Hempstead, gave a brief outline of his views on this subject.

The Necessity of Greater Conservatism in the Use of Vaso-Dilators in Certain Cases of Cardio-Vascular Disease.—Dr. Louis Faugères Bishop read this paper. He said that every form of treatment was much discussed when first used, but later became a matter of form. The nitrites represented a great advance in therapeutics, but had become too much a routine treatment, being often given in so small a dose as to be inert or in such large dosage as to be injurious. In the use of these drugs every case must be a physiological study. Accessory hygienic measures must be employed in the greatest degree to keep down the blood tension. The actual effect of digitalis must be determined by experiment in all these cases. Used in excess, the nitrites caused dilatation of the heart with paralysis of inhibition. Under proper management patients with myocarditis, nephritis, or vascular disease might attain a condition of comparative health and enjoy it for a definite period of time.

What is Rodent Ulcer?—Dr. J. A. Fordyce, of New York City, read a paper with this title, and showed a number of photographs illustrating the clinical as well as the histological features of this affection. He referred to the differential diagnosis of late syphilitic ulceration of the skin, lupus vulgaris (tuberculosis cutis), and the disease in question. He stated that mistakes in diagnosis not infrequently came under his observation. These mistakes in diagnosis were more frequently made in the late stages of this type of cutaneous cancer when it sometimes lost its pearly-gray, ridge-like margin and appeared only as a more or less extensive ulcer. The age at which it began also led to mistaken ideas as to its nature, for although in the majority of cases it made its first appearance near the age of forty, it not infrequently began much earlier in life. The writer had seen it begin about the age of twenty, and Hutchinson had reported a case in which it appeared when the patient was fourteen. Rodent ulcer differed from other types of cutaneous cancer in its apparently insignificant early stage, in its excessively slow course, and in the absence of little new growth. The ulceration kept pace with or exceeded the newly formed tissue, and thus justified the clinical name with which it had so long been identified. While possessing little power to infect the general economy, rodent ulcer, when well established, showed a remarkable tendency to recur after removal, whether the interference was by surgical or the so-called dermatological methods. That the lymph nodes were not always spared was shown by a case that the writer had observed, in which the lymph node over the mastoid had been infected by a rodent ulcer behind the ear. The patient had also been afflicted with a rodent ulcer in the typical location, *i.e.*, on the side of the nose extending to the inner canthus.

Recto-Colonic Enteroliths and Concretions.—Dr. Samuel G. Gant, of New York City, read this paper. Of the fifty-three cases that he had collected, the enteroliths had been located in the rectum in thirty-four cases. They occurred more frequently in women than in men, and in persons past the age of forty. Balls of hair were frequently found in animals that were accustomed to lick themselves, but similar concretions were not unknown in the human subject. Hair balls had been found in the rectum as a result of rupture of a dermoid cyst. Oat-stones were sometimes found in persons who ate large quantities of oatmeal. They were located more often in the colon and rectum than in the small intestine. They were composed, for the most part, of mineral substances.

Esophoria or Latent Squint.—Dr. Francis Valk read this paper. He did not believe in the old theory of Donders, that hypermetropia was the cause of convergent, nor that myopia was the cause of divergent squint, as there were so many cases that would disprove this theory; nor did he accept the innervation theory of Hansen Grut. His own opinions were based on the so-called muscular theory, associated with the fusion force of the eye. He believed in the power of the straight muscles of the eyes, as shown by their insertion, size, and weight, in which one muscle must show a certain power to act under the stimulation of the fusion force, and that this power should bear a certain relation or ratio to the action of the other muscles. This power was shown by the prism test, an old and reliable one, and, in the writer's opinion, the only one that could be depended upon properly to indicate the true balance of power in these muscles or the want of power, as an imbalance, and the probable muscles that were at fault; while all other tests could be used only or depended upon simply as confirmatory tests. In the relation of these muscles, one to the other, he expected the abduction, as compared to adduction, to be as one to three or four, and that outside of these limits we might have latent squints. He accepted this ratio as a standard. After testing the muscles by this method there was frequently homonymous diplopia with the red glass before one eye, a condition that indicated the advisability of an operation. The writer then gave short histories of sixteen patients showing latent convergent squint by the prism test, who had been operated upon with success. The operation was then described. It consisted in a shortening of the external rectus by a "tuck" with catgut suture, the latter being inserted while the muscle was held by the twin strabismus hooks devised by himself. The catgut was allowed to be absorbed, and the reaction, if any, was very slight.

Demonstration of the Ophthalmophacometer, with Simple Formulæ Relating to its Use.—Dr. Lucien Howe, of Buffalo, gave this demonstration. This instrument, he said, was used for demonstrating the images formed by reflections from the cornea and lens. Generally speaking there were three images, viz., (1) from the cornea; (2) from the anterior surface of the lens; and (3) from the posterior surface of the lens, but it was possible to demonstrate as many as seven such images or reflections. In addition to demonstrating the action of this instrument, the first of its kind in this country, Dr. Howe pointed out some of its practical applications.

Can Interstitial Keratitis be Prevented in the Offspring of Syphilitic Parents?—Dr. Peter A. Callan, of New York, read a paper with this title. He said that this form of keratitis occurred in the growing period. Rarely was there a longer interval than ten months before the second eye became inflamed. Interstitial keratitis, due to acquired syphilis, was very rare. The offspring of syphilitics showed the inherited taint in a small percentage of cases only, if those dying before the age of five years were excepted. The author's conclusion was that physicians could delay, but could not wholly prevent the outbreak of interstitial keratitis in a certain number of cases.

Relations between Certain Diseases of the Skin and the Menstrual Function.—Dr. L. Duncan Bulkley, of New York, read a paper with this title. He accepted the view that a woman in her full sexual vigor seemed to pass through a series of psychical changes, in each of which the menstrual period was the climax. Dr. Mary Putnam Jacobi had shown that the excretion of urea was increased during the menstrual flow, and that there was a rise of the body temperature to 99° F. He had records of forty-two cases exhibiting striking cutaneous manifestations in relation to menstruation. Acne was the most frequent skin affection noticed in this connection. In a series of five hundred and ten cases of acne analyzed by him some years ago, he had found it recorded that in one hundred and forty-five, or nearly one-third, there was a relation between the acne and the menstrual flow. In seventy-nine of the cases the acne had been aggravated before the menses, and in fourteen it had been worse after the flow. Some years ago, in a discussion at the New York Academy of Medicine, the late Dr. Peaslee had made the statement that when acne was situated on the chin there was always a relation between it and the menstrual function; and this observation, the speaker said, he had since had an abundant opportunity to confirm.

Dr. A. Jacobi, of New York, said that he had seen a fair number of cases of vicarious menstruation, including cases in which there had been a monthly discharge of blood from varicose ulcerations. He had also observed a similar type of hemorrhage from the ear, and of course a number of cases of periodical epistaxis.

Hysterical Anæsthesia and Analgesia.—Dr. B. C. Loveland, of Syracuse, presented, in this paper, a report of a case occurring in a woman suffering from hysteria major—a rare disorder in this country. Certain deductions were also made concerning the diagnosis of such cases.

Operations for Deformities following Pott's Fracture.—Dr. W. O. Plimpton, of New York, read this paper. He reported six cases in which the operation that he had done had consisted of division of the bone with a chisel at the point of original fracture. Union had been satisfactory and the result uniformly good. Complete excision, he said, was a last resort for extreme cases, usually of long standing, in which milder measures had proved ineffectual.

Dr. Carl Beck, of New York, thought that with the guidance of the Roentgen rays these deformities should not occur; and if they did, the surgeon should, under their guidance, do that operation which seemed to be indicated in the individual case.

Deep Breathing as a Curative and Preventive Measure.—Dr. John H. Pryor, of Buffalo, read a paper on this topic. He spoke of the importance of thorough oxygenation in both men and women as a therapeutic measure, particularly in subacute and chronic pleurisy. The effect on the exudate of free forcible action of the lungs was analogous to that observed when a joint that had been long unused was subjected to motion. Cough was no contraindication to such treatment. The inhalation of medicaments through an inhaler was a valuable adjunct to such treatment.

Dr. J. Riddle Goffe, of New York, spoke of the evils of deficient oxygenation in women, and the advantages of simple gymnastics. His plan was to direct such persons to count off a few steps, making it a point to breathe deeply before and afterward.

Dr. D. H. Goodwillie, of New York, said that alimentation and respiration must go hand-in-hand, and in equal proportion in order to secure good health. He then spoke briefly of the mechanics of respiration and the influence of respiration on the vital organs.

Dr. Styles, of Orleans, regarded going up and down hill after breakfast as an excellent exercise in cases of chlorosis, and to overcome the results of pneumonia.

Dr. H. R. Hopkins remarked that horseback riding was an excellent means of artificially deepening the respiratory movements.

Belladonna versus Scopolia.—Dr. Reynold W. Wilcox, of New York, called attention in this paper to the fact that the last pharmacopœia described these two drugs as having nearly the same composition. This was in line with the results of clinical experience.

Indications and Limitations of the Vaginal Route of Attack in Pelvic Diseases in Women.—Dr. J. Riddle Goffe, of New York, discussed this subject at some length, giving the well-known arguments in favor of this route.

Dr. H. J. Boldt, of New York, said that cancer of the uterus should not always be treated by the vaginal route. The infection of raw surfaces by cancer cells had not yet been proved. For interstitial myomata the abdominal operation was preferable, but the vaginal route could be employed for the submucous variety. Because of the greater width of the operative field by the abdominal route the surgeon was in a better position to deal with tubal disease and other complications.

Dr. Scully, of Rome, said that as hernia was preventable, the liability to this accident was no argument against a particular route.

Dr. A. H. Cordier, of Kansas City, also took the position that it was hard to cope with hemorrhage and with secondary disease if the vaginal route were selected.

Disinfection within and without the Body in Diphtheria.—Dr. M. A. Veeder, of Lyons, read this paper. He advised that the septic sore throat should be treated by the use of local germicides. He warned against the liability of disseminating the disease by frequent examinations, and a neglect to observe certain precautions to prevent infection during the act of coughing.

After-Thoughts on Diphtheria.—Dr. I. N. Love, of New York, in this paper spoke in rather faint praise of antitoxin, his idea being to call attention to the fact that our other methods of treating diphtheria had improved in the past fifteen years, and must needs be, in part at least, responsible for the better results of treatment. The present plan of making the diagnosis by a bacteriological examination led to many cases, formerly known as simple follicular inflammation, being classed as true diphtheria. It would be well, he thought, if these different types of sore throat could be more clearly and practically differentiated.

The Treatment of Persistent Suprapubic Vesical Fistula by Means of Bottini's Operation.—Dr. Willy Meyer, of New York, read this paper, reporting several cases.

The Porro-Cæsarean Operation.—Dr. James H. Glass, of Utica, presented this paper. He stated

that the indications were the following: (1) Sepsis occurring after protracted labor; (2) cancer; (3) large myomata; (4) atresia; (5) ovarian tumors; (6) hemorrhage, and (7) dystocia. In general, the choice of castration in women should be left to the patient herself.

Fatty Degeneration of the Heart.—Dr. Thomas E. Satterthwaite, of New York, read a paper on this subject. He stated that in his experience the terms "weak heart," "myocarditis," and "disease of the coronary arteries" were apt to be misnomers for simple fatty degeneration of the heart. But thanks to Hayem, Sée, Romberg, and Bollinger, the last thirty years' work had so elucidated the pathology of this affection that it was now placed on an intelligible basis. It remained, however, to connect the three degrees of fatty degeneration, described by Bollinger in 1898, with three clinical stages, and this the author of the paper attempted to do in this communication. Six cases with post-mortems illustrated the views advanced. He concluded as follows: "Fatty degeneration of the heart is a common affection, not a disease *sui generis*, but rather a metamorphosis or change attendant on and consecutive to various disorders, and notably compensative in valvular disease. It is caused primarily by fevers, toxæmias, dyscrasias, disorders of nutrition, and mechanical injuries, and occurs in senility and parturition. For practical purposes it is convenient to divide it into early, intermediate, and final stages. In each the prognosis and treatment are different. In the early stage, the prognosis is best for complete recovery, provided the patient recovers from the primary disease, and a complete recovery may be anticipated, provided the heart complication is duly considered and treated. For this stage the first requirement is rest, often rest in bed, with such tonics and nutrients as are best suited for the convalescence from acute diseases. In the intermediate stage, while we hardly hope altogether to dissipate the fatty deposit, we should expect so to reduce it in bulk that the muscular substance of the heart will recover enough of its normal tonicity to functionate physiologically. It is in this stage that carbonated baths and resistant exercises, and a well-regulated diet achieve very brilliant results. In the final stage, when there is secondary implication of internal viscera, the prognosis is always unfavorable, for though, thanks to an intelligent use of modern therapeutic agencies and methods, patients will sometimes recover after attacks of suppression, ascites, and cerebral effusion, such instances are rare exceptions to the general rule."

Recent Experiences with Erythromelalgia.—Dr. Henry L. Elsner, of Syracuse, read this paper, referring to a case that he had presented to this society in 1897. The case reported was of interest, because associated with Raynaud's disease—a combination that Dr. S. Weir Mitchell had declared to be impossible. The speaker also referred to another case in which he had seen erythromelalgia associated with syphilitic endarteritis obliterans. He was of the opinion that the disease depended more upon arterial than upon nervous disease.

Results following the Cure of Chronic Defects in the Vesical Function.—Dr. Eugene Fuller, of New York, read a paper with this title. The author said that while a normal bladder emptied itself completely at the end of each urinary act, there were numerous factors which, if existing, served to cripple that function, and such crippling long established produced certain pathological changes in connection with the urinary tract. His article was to illustrate the fact that, when such factors were surgically removed, the tendency to repair these pathological changes manifested itself strongly. Among these factors were stricture, chronic contraction of the prostatic fibres encircling the vesical neck, senile prostatic hypertrophy, calculi, and tumors. The direct causes for these conditions were vesical tenesmus, stagnation of urine, and urinary infection. Vesical tenesmus, long continued against a slowly increasing obstruction to urination, caused hypertrophy of the muscular fibres of the bladder wall to such an extent that in extreme instances it became thickened somewhat over half an inch. Such bladder walls were firm and unyielding, their cavities contracted, and their capacities small. Stagnation caused vesical distention and stretching of the bladder walls, sometimes even rupture ensuing. An atonic bladder was one that had been greatly overstretched, thereby losing its contractile power. The factor crippling the vesical function generally developed slowly, the gradual increase of vesical muscular hyperplasia for some time keeping pace with the increasing obstruction, but at last, the obstruction getting too great, dilatation of the cavity and stretching of the walls began. The author described the appearance of such a cavity as trabeculated and rugous, in some instances deep sacculi forming. Not alone the bladder walls, but also the ureters and renal pelves showed the effects of chronic vesical stagnation, the uretero-vesical valves becoming in extreme instances so patulous that the tip of the little finger could pass them without resistance; and the natural ureteral resistance to a vesical reflux being removed, the result was the development of an intra-pelvic fluid pressure and the establishment of hydronephrosis. When the hydronephrosis was extensive, the kidney was involved by this stretching process, and its function was finally crippled to a large degree. Vesical infection added the inflammatory element to the above processes; the infective process first manifesting itself by the development of a cystitis. However, it was the ascent of the inflammation along the patulous ureters and into the renal pelvis which was of chief importance in this connection. Inflammation in the renal pelvis was especially dangerous, because it tended to cripple the renal function by a subsequent direct involvement of the secreting tubules. It was reasonable to suppose that the above pathological effects, especially those of a severe grade, would not immediately disappear after the crippling factor was removed, but it was surprising how soon normal conditions would be effected if the remedial operation had been thoroughly performed and the after-treatment properly attended to. The author emphasized the importance of the surgeon bearing in mind that not only should the disturbing factor be removed, but there should also be vesical rest through artificial drainage until the resulting lesions in connection with the urinary tract had had time to repair.

A Simple and Accurate Method of Substitute Infant Feeding.—Dr. Henry Dwight Chapin read this paper. He said that there were three equally important factors in the preparation of a substitute for woman's milk, viz.: 1st. Selection of good cow's milk; 2d. Modification of the milk with reference to percentages; and 3d. The choice of a diluent. Milk was rendered unfit for use by the growth of certain kinds of bacteria. Such growth was prevented by cooling milk to below 60° F. This also promoted the separation of the cream. If the milk were bottled immediately after milking, the cream would have risen by the time the milk was delivered to families. There was great variation in the richness of milk and cream, but the same milkman's supply was quite uniform from day to day. Calculated mixtures of milk and cream were not accurate and served only to confuse, as standardized milk or cream could seldom be procured. The variation of milk and cream in milk bottles was shown by an illustration of a bottle of milk on which the cream had risen. There

were two great classes of milk: 1st, those that formed hard solid curds with rennet (*e.g.*, cow's and goat's milk), and 2d, those that formed soft, flaky curds with rennet (human milk and that from the mare and ass). Digestive enzymes acted by contact, and the food that was most finely divided and could most easily leave the stomach was the most suitable for weak digestions. The proteids of woman's milk easily left the stomach. When the proteids of cow's milk were diluted with water, only a small quantity would readily leave the stomach. Dilution with a wheat or barley gruel, in which the starch had been digested, broke up the curds. Digested gruel was made by boiling a heaping tablespoonful of flour with a pint of water, cooling, and adding an aqueous solution of diastase. The latter could be made at home from malted barley grains. Specimens of milk, diluted with water and digested wheat gruel, and curded by rennet, were presented. The curds, with the digested gruel diluent, passed through a sieve having nine hundred meshes to the square inch; those with water diluent remained on the sieve. Milk should be bottled and cooled at the dairy. From nine to sixteen ounces of the top milk should be dipped off into a pitcher or bowl. Here the fat and proteids were in about the same ratio as in woman's milk. If a siphon were used the sediment went into the infant's food. The infant's food should be made of one-eighth to one-third of nine ounces of top milk, or of one-eighth to two-thirds of sixteen ounces of top milk, the remainder consisting of digested gruel. One part of sugar should be added to twenty or twenty-five parts of food. Fine adjustments of percentages were not needed by this method. Nearly the same percentage results would be attained with any milk. Rich milk would require to be diluted more and poor milk less. Each additional ounce removed from the milk bottles reduced the fat in the top milk from one-half to one per cent., which cut down the fat in the infant's food one-eighth to one-third, depending on the dilution.

Ectopic Pregnancy; Primary Rupture the Opportune Time for Making Diagnosis.—Dr. George McNaughton, of Brooklyn, read a paper with this title. He said that the missing of a menstrual period associated with pain and discomfort should always suggest the possibility of ectopic pregnancy being present. When rupture occurred, suffering was always very great, and was often associated with uterine hemorrhage.

Leprosy in the Hawaiian Islands.—Dr. Charles E. Davis, of Albany, discussed this subject.

An X-Ray Study of the Causes of Disability following Fractures Involving the Elbow Joint.—Dr. Samuel Lloyd, of New York, presented a communication on this subject. He said that in his experience the ankylosis following injuries to the elbow was always bony. The impairment of function might result from the presence of callus, fragments of displaced bone, or the head of the radius. When a satisfactory reduction could not be effected under anæsthesia he advocated a resort to the primary operation, just as one would for an irreducible compound fracture. If the displaced parts could not be replaced they should be removed. The arm should always be put up in a position of flexion, and passive motion should be instituted about twenty-one days later.

Dr. R. H. M. Dawbarn, of New York, said that when the surgeon did not have an *x*-ray apparatus at hand, the swelling could be reduced and the diagnosis greatly aided by the application of an Esmarch bandage under anæsthesia.

The Tonometer and its Value in Determining Arterial Tension.—Dr. Henry L. K. Shaw, of Albany, described this instrument and its uses.

Pleuro-Pericardial and Diaphragmatic Adhesions.—Dr. D. H. Goodwillie, of New York, read this paper. He called attention to the great frequency of interpleural pathological conditions as compared with other pulmonary diseases, as shown by physical examinations and autopsies. Pleuro-plastic exudation, if not early recognized and removed by appropriate measures, thickened the pleuræ, organized and formed adhesions between the costal and pulmonary pleura, the pericardium, diaphragm, and pleura. These latter complications were of serious importance, and were not so readily recognized by the physical examination. He insisted on the importance of a very careful study and observation of rational and physical signs respecting interpleural pathology, and on the auscultator having perfect hearing and ability to recognize, first, normal chest sounds, and then the abnormal sounds which are in great variety, and dependent upon many pathological conditions. The necessity of a knowledge of the laws of acoustics as applied to the chest sounds, and how they were conveyed and changed by passing through the various tissues from the point of inception within to the ear of the auscultator, was also pointed out. In the year 1876, Dr. Goodwillie said, he had by invitation of the late Dr. Leaming, of New York, examined with the latter the diseases of the chest in his service at St. Luke's Hospital. One hospital case was given in full, and many others from private practice were summarized. The autopsies in all cases verified the diagnosis of pleuro-pericardial and diaphragmatic adhesions. Dr. Goodwillie also exhibited colored wax models showing these lesions. During the summer of 1875, by invitation of the committee of the United States government appointed to investigate bovine pleuro-pneumonia, he, with others, had made an examination of condemned cattle. The autopsies had been immediately performed, and had shown the pathological conditions that had been noted in the human being.

Differential Diagnosis in Diseases of the Spinal Cord.—Dr. Edward D. Fisher, of New York, read this paper. He said that the diagnosis in diseases of the spinal cord was dependent on knowledge of the structure and functions of the different parts of the cord. The anterior horns controlled the nutrition and action of the muscular system. Any destruction of this region must cause paralysis and wasting of the muscles involved. The lateral tracts were essentially motor in function, having no sensory or nutritional influence. Hence disease involving these tracts caused only paralysis without wasting of the muscles; and as cerebral inhibition was cut off, exaggerated reflexes, as seen in lateral sclerosis. The posterior tracts were entirely sensory in function; disease here must cause disturbance in feeling and co-ordination, dependent on sensation, as seen in locomotor ataxia. The principal diseases under these headings were easily classified as follows: 1st. Diseases of the anterior horns, as poliomyelitis acute and chronic, progressive muscular atrophy, and hemorrhages into the cord substance. All these diseases were especially characterized by paralysis with atrophy of the muscles. 2d. Diseases of the lateral or crossed pyramidal tracts, as seen in lateral sclerosis following myelitis, injuries, Pott's disease, etc., in which there was paralysis without atrophy. 3d. Diseases of the posterior columns or tracts, which, being only sensory in function, gave sensory disturbance without paralysis or atrophy, as seen in tabes.

Pus in the Peritoneal Cavity.—Dr. Robert T. Morris, of New York, in this paper dwelt at length upon the phagocytic action of the peritoneal cavity and its ability to deal with pus present there.

The Indications for and Limitations of Spinal Cocainization in Surgery.—Dr. George R. Fowler, of Brooklyn, presented a paper with this title, but owing to lack of time he offered only a brief *résumé* of

what was known of this comparatively new surgical procedure.

Masturbational Neuroses. — Dr. William C. Krauss, of Buffalo, presented a few brief considerations drawn from his experience in this field.

Second Day — Wednesday, January 30th.

Appendicitis. — Dr. John H. Doughty, of Matteawan, presented in this paper some theoretical considerations on appendicitis.

Tendinitis and Tenosynovitis Prolifera Calcarea. — Dr. Carl Beck, of New York, reported a case of this kind, with *x*-ray demonstrations.

The Treatment of Puerperal Fever. — Dr. Herman J. Boldt, of New York, presented this paper (see page 169).

The Early Diagnosis of Insanity. — Dr. Charles F. MacDonald read this paper. He said that the subject was of importance to the general practitioner owing to the fact that, in a vast majority of cases of insanity, the responsibility of recognizing its existence, in the first instance, devolved upon the family physician. Its importance was also attested by the fact that insanity was a disease from which no one could claim exemption, it being in effect more frequent, serious, and far-reaching, and involving a wider range of interests than any other malady known to mankind. There were upward of twenty-two thousand insane in custody in the State of New York today, involving an outlay of $20,000,000 for hospital plants and equipments, and an annual expenditure of $5,000,000 for maintenance, repairs, and improvements. There was no disease which was more likely to be mismanaged in its initial stage than insanity. The study of insanity presented nothing new or incomprehensible. Its phenomena, on the mental side, consisted largely of modifications of the natural characteristics of the individual, whether in the direction of exaggeration, perversion, or diminution of these qualities, the modifications being merely the outward expression or symptom complex of disease or disturbance of the intellectual areas of the brain. These symptoms might be summarized as a prolonged departure from the methods of thinking, feeling, and acting, which were usual to the individual when in mental health. Insanity was a comparative state, there being no common standard of sanity, departure from which constituted insanity. In determining a person's mental condition he must be compared with himself, *i.e.*, with his normal mental status, and not with any other man. Two individuals might exhibit precisely similar mental symptoms, and the one be of sound mind, while the other would be a pronounced lunatic. The stage of invasion might occupy days, weeks, or even months, although in some cases the onset was quite rapid and any marked change in the mental or moral tone of an individual should at once arouse suspicion of approaching insanity. Prominent prodromata of mental disease were disturbances of bodily functions, morbid emotional manifestations, and alterations in the mental characteristics of the individual. Somatic functional disturbances expressed themselves in various ways, such as insomnia, headache, tinnitus, vertigo, vasomotor disturbances, anorexia, indigestion, constipation, etc. Any or all of these symptoms might occur in persons who never became insane, hence while they were frequently observed in the prodromal stage of insanity they were not pathognomonic of that disease. When found, however, they were always significant as danger signals, especially if occurring in persons who were predisposed to mental disease. Insanity was rarely due to a single predisposing or a single exciting cause. Usually a combination of causes would be found if sought for, although the immediate cause of all insanities was a state of malnutrition of the brain. Any disease or condition which impaired the bodily nutrition or altered unfavorably the quality or quantity of the blood supply was capable of becoming a cause of insanity. The functional integrity of the mental faculties depended entirely on the healthful activity of the physical system. There could be no unsoundness of mind, in a medical sense, without unsoundness or disease of body. Many cases of acute insanity could be warded off, if the prodromata were promptly recognized and relieved. Prevention was better than cure, and to recognize mental disorder in its incipiency would frequently enable one to adopt remedial measures at the most opportune time for arresting its progress. Doubtless many minds of the highest order had been damaged beyond repair simply for want of appropriate treatment during the early manifestations of their disturbance.

The Role of the Infections in Women. — Dr. Charles A. L. Reed, of Cincinnati, Ohio, presented a paper with this title. At the outset he insisted that the essential antecedent condition of inflammation of any part of the genital tract was an infection. The normal invasion of the genitalia by micro-organisms was limited to the infra-uterine segment by the epithelium and the peculiar structure of the parts. He held that microscopical examination of the infected secretions was imperative, and that, in many instances, it should be supplemented by inoculation experiments. Infection was controlled by the following laws: (1) The epithelial surface of the genital tract in its integrity was a sufficient barrier to the invasion of the underlying structures by micro-organisms; (2) the normal cervix and its secretions were adequate barriers against invasion of the uterus by pathogenic bacteria that were capable of maintaining a habitat in the vagina; (3) the vagina possessed certain powers of self-disinfection; (4) certain pathogenic bacteria, notably the gonococcus, the Klebs-Loeffler bacillus, and the oïdium albicans, found in the warmth and moisture of the parts favorable conditions for growth; (5) pathogenic bacteria, innocuously present in the genital tract, might become virulent when introduced into the underlying structures by a breach of the epithelium; (6) the pathogenic bacteria, when introduced into previously normal tissues, immediately invoked the process known as inflammation; (7) pathogenic bacteria, not overcome by the leucocytes, might enter the lympathics, producing secondary phenomena, such as metastases, septicæmia, pyæmia, and even death.

The President's Address—Hernia. — Dr. A. M. Phelps, of New York, presented this address (see page 161).

A Hair Cast of the Stomach; its Successful Removal by Laparotomy. — Dr. Nathan Jacobson, of Syracuse, reported this very rare and interesting case. The patient was a girl of eleven years. According to the history there had been regularly recurring and severe pain in the stomach at night, and frequent vomiting. In April, 1899, a swelling had first been noticed in her abdomen, and the following summer she had begun to suffer from the colicky pains. Physical examination showed the presence of a hard, slightly nodulated tumor, the lower border of which was on a line with the umbilicus. Its long diameter was about six inches. The laparotomy had been done on May 17, 1900. A kidney-shaped tumor had been found within the stomach. The organ was incised, and a black tumor, made up of a mass of hair, was removed. The stomach was sutured in three layers with catgut, and the patient made a good recovery. After the operation she had admitted that from the earliest years of her life she had been in the habit of

biting off the ends of her hair. There had been no return of the gastric symptoms, and the girl had gained in weight and improved in general health. The tumor, which was exhibited, presented a perfect cast of the stomach when in a state of contraction, and weighted fifteen ounces. On section, it had been found to be made up almost entirely of hair. A review of the literature showed that almost without exception the existence of such a foreign body had not been expected, and that in all of the operative cases the patients had recovered, and had been completely relieved of the previous gastric symptoms.

Dr. Robert T. Morris said that in one case of appendicitis he had found a collection of hair within the appendix to have been the exciting cause. The habit of hair-biting was usually a manifestation of a peripheral neurosis. Having lost one case of gastro-enterostomy as a direct result of the giving way of the catgut sutures of the stomach under the digestive action of the gastric juice, he had since feared to make use of catgut sutures when such sutures penetrated to the secreting glands.

Surgery of the Spleen.—Dr. J. Collins Warren, of Boston, Mass., presented a paper on this subject. The more important of the many diseased conditions for which splenectomy had been done were the following: malarial spleen, splenic anæmia, splenic leukæmia, chronic enlargement of the spleen in infancy, hypertrophy with cirrhosis of the liver, atrophic cirrhosis of the liver leading to enlargement of the spleen, amyloid degeneration, echinococcus of the spleen, cavernous angioma, fibroma of the spleen, wandering spleen, twisted pedicle, rupture of the spleen, sarcoma of the spleen, and tuberculosis of the spleen. With the exception of such grave constitutional conditions as splenic anæmia or leukæmia, or amyloid degeneration, splenectomy could not be said to be contraindicated. The author reported four cases.

Dr. Albert Vander Veer, of Albany, described his experience in the surgery of the spleen, which had been, for the most part, discouraging.

Dr. Robert T. Morris called attention to the two prominent dangers in this field, *i.e.*, hemorrhage and shock. The former could be largly avoided by using a saline infusion on commencing to operate, and by being on the watch for prolonged oozing. The shock in these cases was very largely dependent upon the inclusion in the pedicle ligature of the large branches of the abdominal sympathetic. The use of opium and of nitrous oxide as a preliminary to the usual anæsthetic also tended to diminish the tendency to shock.

Inguinal Hernia.—Dr. Melville Ricketts, of Cincinnati, Ohio, read this paper. He said that the term inguinal canal was a misnomer. The proper word should be annulus, for a canal meant a passageway for fluid. The parts concerned in an operation for inguinal hernia lacked a good nerve and blood supply. All herniotomies should be regarded as modified laparotomies. A statistical study was then presented to show the value of the wire mattress suture and the results of the various methods. The Marcy-Bassini method had been employed in about ninety-five per cent. of all the cases and the wire suture in only about two per cent.

Dr. John A. Wyeth, of New York, said that, to his mind, the essential features in the true method for the radical cure of an inguinal hernia were primarily the entire obliteration of the sac, and secondarily the securing of the proliferation of newly formed and fibrillated connective tissue. As this fibrillation had been shown by laboratory research not to take place to any extent for six weeks, he insisted that his hernia patients remained in bed on their backs for this period after the operation. He objected to the Bassini operation because of the funnel-shaped depression produced in the peritoneum, but added that this could be readily avoided by using Macewen's method of tucking up the sac and suturing it until it was fastened in position permanently by adhesions.

Gastro-Jejunostomy in Gastrectasis.—Dr. A. H. Cordier, of Kansas City, stated in this paper that this operation was useful not only in cases of dilatation of the stomach, but in others, as for example some cases of gastric ulcer. The importance of the operation as a drainage measure had not been sufficiently appreciated.

Dr. A. L. Benedict, of Buffalo, spoke of the value of establishing a jejunal fistula in cases of supposed cancerous or tuberculous disease of the stomach.

Toxin of the Colon Bacillus.—Dr. Victor C. Vaughn, of the University of Michigan, made some remarks on this subject. He said that he had been a warm advocate of the theory that ptomains were the causes of the infectious diseases, but our present knowledge did not afford adequate proof that any ptomain was sufficiently powerful to produce the characteristic symptoms of the disease which was caused by the germ which produced the ptomain. Germs might form the chemical poison within themselves and not by splitting up the soil on which they grew. Some of these germs, and notably the colon bacillus, had very impermeable cell walls. Under ordinary circumstances he was positive that the colon bacillus did not form a poison which would diffuse through its cell wall. Even heating the colon germ in water to a temperature of 356° F. in sealed tubes was not sufficient to break down the cell wall and set free the poison within; hence heating milk containing this bacillus with the idea of sterilizing the milk for food was futile, as this would not destroy the toxin. By a process of artificial digestion, however, the cell wall might be broken down and the poison extracted. Dr. Vaughn exhibited, in the form of an amorphous substance, some of the toxin of the colon bacillus that he had succeeded in isolating by this process of extraction. In reply to a question from Dr. A. Jacobi as to how the colon bacillus set up pathological processes in different organs of the body if its toxin were surrounded by an insoluble membrane, Dr. Vaughn replied that a partial explanation probably lay in the solubility of this toxin in the blood owing to the presence of certain albumins; but it was also likely that while the phagocytes were able to prevent the further growth of the germ, their action in this regard seemed to lead to a setting free of the toxin.

The So-Called Traumatic Neurosis.—Dr. Harold N. Moyer, of Chicago, read this paper, the object of which was to combat the notion that there was such a thing as traumatic neurosis. The back pains of so-called spinal irritation were peripheral and probably represented the effect of the use of muscles in a neurasthenic. They were often indicative also of injury of some of the many joints of the vertebral column.

Officers Elected.—*President*, Dr. Henry L. Elsner, Syracuse; *Vice-President*, Dr. Louis N. Lanehart, Hempstead; *Secretary*, Dr. F. C. Curtis, Albany; *Treasurer*, Dr. O. D. Ball.

A semi-annual scientific meeting will be held in New York City this year.

Septic Intoxication and Traumatic Fever.—As long as the organisms that have gained access to a wound remain limited to the fluids or dead tissues in it, or are purely saprophytic in nature, they are capable of giving rise only to septic intoxication; should, however, any of them be capable of parasitic growth, and they should gain an entrance into the living tissues of the wound, the condition known as traumatic fever arises when the wound is of any size.—Cheyne and Burghard.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, January 14, 1901.

CHARLES N. DOWD, M.D., CHAIRMAN.

Extirpation of the Entire Colon for Hyperplastic Colitis.—DR. HOWARD LILIENTHAL reported this case. The patient, a woman of twenty-one, had been referred to the Mount Sinai Hospital surgical service by Dr. Morris Manges, who had had the patient under observation on the medical service of that hospital. She had suffered for years from frequent foul and mucous discharges from the bowel, and it had finally become necessary to do an inguinal colostomy. This had given only very temporary relief. When seen by him she had had as many as twelve stools a day. Examination of the rectum had disclosed the presence of a number of small polypoid masses. The caput coli was opened through a wound in the right iliac region on December 30, 1899. There was no normal mucous membrane found, the entire mucosa being covered with papillomatous excrescences. One of these had been removed, and on examination by the pathologist had been found to be an enlarged solitary follicle. Everything that could promise relief had been tried, and often with some benefit, but it was evident that the closure of the colostomy wound would again bring back her trouble. Accordingly, the ileum had been divided about four inches from the ileo-cæcal valve, as here it was healthy, and the ileum and lower portion of the sigmoid flexure were then united. This operation had been done early in March. There was much foul discharge from the right iliac wound, and on March 19th the Murphy button had been extracted from the rectum with forceps. By March 26th the number of stools had fallen to about nine a day. On January 15, 1900, the operation for extirpation of the entire colon had been done. The line of anastomosis had been found to be quite perfect. He had cut off the colon at about two inches and a half from the colostomy wound, and had made an effort to evert the stumps of the ileum and colon. The patient had reacted well after this operation, but had developed a pneumonia the next day, apparently as a result of an infection. Dr. Lilienthal said that up to the present time he had been under the impression that this operation was unique, but Dr. Elsberg had just informed him that two such cases had been reported in Langenbeck's *Archiv*, the operation having been done for tuberculous colitis. According to the report of the pathologist the mucous membrane in his case had been unhealthy in every part. It was reported to be a hyperplasia of the solitary lymph follicles.

DR. JAMES P. TUTTLE said that the fecal current had been deflected entirely from the colon in certain cases, and under this enforced rest various new growths had been known to atrophy completely. This operation had been done, even with closure of both ends of the colon, and in one case of this kind that he had himself treated there had been no trouble from this procedure, and the specimen had shown an atrophy of the mucous glands of the colon.

DR. LILIENTHAL replied that it had been utterly impossible to make use of exclusion of the colon in his case because of the very profuse discharge that had been present. He had given the colon a rest of about seven months from the time of the right colostomy. The woman now had two or three well-formed stools daily.

DR. FRED. KAMMERER said that in his experience the colon had been found collapsed so as to be smaller than the small intestine as a result of a few months' rest. The secretion from the excluded colon was very slight. He was disposed to think that a longer period of rest might have accomplished all that was desired without further operation. There were a few cases on record in which total and complete exclusion had been practised without bad results, but such cases were very rare. By complete exclusion he meant one in which not only was exclusion done, but both ends of the colon were closed. He had himself had one such case.

DR. LILIENTHAL said that the woman had not improved after the long rest given, and having in mind the report of the pathologist that malignant degeneration was likely to occur, he had felt justified in extirpating the colon. From inspection of the specimen it was evident that there had been no atrophy of the colon.

A New Operation for Rectal Prolapse.—DR. JAMES P. TUTTLE presented a colored girl of six years in illustration of a new operation for prolapse of the rectum. The operation consisted in making a semicircular incision around the rectum; then dissecting off the rectum thoroughly from the sacrum and scraping the latter free from all fatty tissue. The rectum was then invaginated through the incision and dragged down. Silkworm-gut sutures were passed half an inch apart through the muscular wall of the gut and were then carried up through the opening between the rectum and sacrum. A purse-string suture was introduced temporarily, but the tendon sutures were left undisturbed afterward. He had first done this operation four years ago, and had performed it altogether in ten cases.

Colloid Cancer of the Rectum.—Dr. Tuttle also presented a man twenty-three years old, who had had undoubted cancer of the rectum and sigmoid. Last June he had operated, taking out almost the entire sigmoid after a preliminary colotomy. The colotomy wound had been closed in August. This was the only patient with colloid cancer of the rectum whom he had ever seen live for any length of time after the diagnosis had been made. It was an uncomplicated case of resection of the rectum.

Typhoid Perforation of the Bowel; Successful Operation.—DR. A. A. BERG presented a boy of seven years who had been admitted to the Mount Sinai Hospital early last September. According to the mother, he had been comparatively well until the night before and had been going around, but close questioning had revealed the fact that he had had some headache. The day before admission he had been seized with pain in the right iliac fossa and with vomiting. The bowels had moved naturally, and there had been no collapse up to that time. During the day the pain had extended and had become more severe, and with this there had been a rise of temperature. He had entered with a diagnosis of acute perforative appendicitis. When seen by the speaker about ten o'clock that evening there had been present a diffuse peritonitis, a pulse of 135, and a temperature of 103° F. There were no eruption and no enlargement of the spleen, but some fluid was present in the abdomen. The peritonitis was suspected to be of appendicular origin, and an operation was immediately undertaken. When the abdomen was opened a diffuse purulent exudate was revealed, and the appendix, though congested, presented nothing unusual when excised. The peritoneal glands were noticed to be of unusual size. The whole length of the small intestine had then been explored, and about its middle was found a small perforation, through which the intestinal contents were oozing into the peritoneal cavity. This was the only perforation. The intestine was washed with warm water and replaced, and the abdominal wound, with the exception of an opening for a very small wick drain, was closed after the perforation in the ileum had been sutured. The child had been in collapse at the close of the

operation, but had responded well to stimulation. The next morning the pulse had been 125 and the temperature 104°. The temperature had continued high for a week. On the fifth day a stitch abscess had been found and drained. On the twentieth and twenty-first days a positive Widal reaction had been obtained by the pathologist.

Traumatic Intestinal Perforation; Operation; Recovery.—Dr. Berg also presented a boy ten years old, who had been admitted to the hospital on November 18, 1900. The evening before admission he had been run over by a coal cart. There was severe abdominal pain without vomiting. The urine was passed normally. He had been admitted about twenty-five hours after the accident. At that time the abdomen had been tympanitic and rigid, and there had been absolute obliteration of hepatic and splenic dulness. Evidently there had been a rupture of the intestine with escape of gas and intestinal contents into the peritoneal cavity. An operation had been done immediately. After an incision had been made into the abdomen in the median line the colon was found moderately injected and distended. There was some sero-purulent fluid in the free peritoneal cavity. Systematic exploration of the intestine had been undertaken, beginning at the highest part. A rupture had been found at the junction of the duodenum and jejunum. It was three-fourths of an inch in length and extended about half an inch into the mesentery. From this opening was escaping a small quantity of bile-stained coagulated albumin. A Czerny suture was at once passed through the mucosa at the site of rupture, being inserted parallel to the transverse axis of the intestine. It was impossible to pass the suture at a right angle to the transverse axis nor was resection possible, because the rupture was practically at the junction of the duodenum and jejunum. Two layers of continuous Lembert suture were placed over the first suture. No other rupture was found. The intestine was washed with warm water and replaced, and the abdomen was closed with the exception of an opening for a small iodoform-gauze drain. The operation had occupied about forty-five minutes, and the boy had been in collapse at its completion. He had, however, responded well to stimulation and the next day had had a pulse of 116 and a temperature of 101°. The bowels had moved on the following day. The boy had done exceedingly well up to November 28th, or ten days after operation, when an infection of the stitch holes had occurred. At this time vomiting had set in, and his general condition had suddenly become much worse. Under nitrous-oxide anæsthesia a second laparotomy had been done, and this had revealed a plastic peritonitis around the edge of the wound, and further search had shown an intestinal obstruction produced by a band of adhesion formed around the gauze drain. This had been cut, and from that time on the boy had done well. The wound was now almost healed.

Dr. C. N. Dowd asked on what grounds the diagnosis of typhoid fever had been made. He did this because typhoid perforation in the second week in an ambulatory case was rather unusual, as was also the site of the perforation.

Dr. Berg replied that the perforation had been situated immediately in the centre of a swollen Peyer's patch. Examinations had been made daily for the Widal reaction, but this had not been obtained until the third week, and then it had been positive even with a dilution of one in forty. According to the literature, ambulatory cases were rather prone to this accident.

Fissure of the Head of the Radius.—Dr. Carl Beck presented a case of fissure of the head of the radius occurring in a young woman. He pointed out that fracture of the head of this bone without displacement was always very difficult to diagnose, and hence it was evident that fissure of this part could not be made out without an *x*-ray photograph. The injury in the present case had been caused by falling downstairs and striking the arm against a piece of stone. There had been much ecchymosis, leading to the suspicion of fracture, but when the patient was seen by him two days later it had been impossible to detect a fracture by the usual physical examination. The *x*-ray photograph had, however, cleared up the diagnosis. After four weeks another skiagraph had been taken. The function of the part had not been restored, apparently because of an effusion into the joint. Even now, three months after the injury, the function was far from perfect.

Post-Diphtheritic Laryngeal Stenosis.—Dr. John Rodgers presented a little girl who had been intubated at the Willard Parker Hospital on May, 1898, and as the tube could not be permanently removed it had been allowed to remain until June, 1899. He had then seen the case at the Gouverneur Hospital, and had treated the child by the insertion of a very large tube. With three changes the tube had been left in until March, 1900. The child had suddenly become asphyxiated in the ward one day, and an impromptu tracheotomy had been demanded, and the high operation had been very hastily done in order to save life. She had done well for about two weeks, and then the dyspnœa had recurred. Intubation having been attempted, it had been found that nothing could pass by the lower end of the thyroid cartilage. A careful tracheotomy had then been done, the stricture dilated from below upward, and a large intubation tube inserted. This had been changed every seven or eight weeks until last November. Since then the tube had been out, and she had done well. The speaker said that very few cases of this post-diphtheritic stenosis had been reported, and its pathology was still obscure, but apparently it was dependent upon a hypertrophy of the intralaryngeal tissue. It could be cured only by the insertion of a very large intubation tube.

Dr. Rodgers also presented a man who had had a chronic stenosis and had been treated first by a high tracheotomy and afterward by forcible intubation.

Dr. Emil Mayer said that in a case of gunshot wound of the larynx in which there had been a comminution of the thyroid cartilage he had encountered unusual difficulty in intubating. He had found that the difficulty lay in the fact that the man choked up very quickly with the ordinary method of performing intubation. To obviate this he had devised a hollow introducing instrument for attachment to Dr. Rodgers' hard-rubber intubation tube. If tracheotomy was to be done in a case in which it was suspected that dilatation would subsequently be required it was absolutely necessary that this operation should be done high up.

The Field of Ethyl-Chloride Narcosis.—Dr. Martin Ware presented a paper on this subject, based upon an experience with it in two hundred cases of minor surgery. The form of ethyl chloride used by him was that known as the monochloride. He had been able to find a record of eleven thousand two hundred and seven cases of narcosis with ethyl chloride. A certain degree of concentration of the ethyl chloride in the gaseous state was necessary. It had been recommended to spray it upon the under surface of the ordinary chloroform mask, covered with oil-silk, but such a method was awkward and wasteful, and he had accordingly soon abandoned it for the ordinary mouthpiece of the nitrous-oxide apparatus. The end ordinarily connected with the gas reservoir was to be closed tightly with a plug of cotton. By proper management of this mask the patient got only pure ethyl chloride and oxygen. It was more satis-

factory and far more economical to imitate the "drop method" by spraying the ethyl chloride intermittently in small quantities. This also had the advantage of preventing the formation of hoar frost on the gauze. The inhalation of ethyl chloride was pleasant, and the intense cold was not observed by the person inhaling it. The average quantity required to produce narcosis was between five and six grams, and there was usually but little excitement except in alcoholics and neurotics. At first the pupils dilated; then they contracted, and if the anæsthetic was pushed too far the pupils again dilated. Strange to say, the light reflex was not abolished. Anæsthesia usually ensued abruptly after one or two minutes. Unless a meal had been taken just before the anæsthesia, there was usually no vomiting. Alcoholics required large quantities of ethyl chloride and were apt to remain very rigid. This anæsthetic, the speaker said, worked better in children, as with it there was no struggling or difficulty in breathing, and the relaxation was good. It was as safe statistically in minor surgery as any of the other narcotics. It was cheaper than its chief competitor, nitrous oxide gas, and required no elaborate apparatus. It had proved efficient for curettage, and as an anæsthetic in obstetric practice.

Dr. Willy Meyer said that since he had discarded petrolic ether and had made use of the molecular solution he had added ethyl chloride to the mixture of chloroform and ether. He had been highly gratified with the results obtained with this mixture when administered by the drop method. He had used it now over two years, and it acted on the theory of the boiling-point of the anæsthetic being adapted to the temperature of the body. If too little was given vomiting might occur; if given too freely, cyanosis might result.

A Useful Preliminary to Ether Anæsthesia.—Dr. James P. Tuttle said that he had found ethyl chloride objectionable from the fact that complete muscular relaxation was not obtained. He had used it in a few cases of minor surgery and regretted to say that one of the worst cases of nausea and vomiting following an anæsthetic that he had ever seen had been with the ethyl chloride. The man had come out of the anæsthesia rapidly and then a most intense nausea had supervened and had remained uncontrollable for about thirty-six hours. He had seen no physiological effects from the drug which seemed to him alarming. In nearly two hundred and fifty cases he had used ethyl chloride as a preliminary to ether anæsthesia. By its use in this way patients could be etherized without struggling or excitement, and he believed in the future this would be found to be the chief field for ethyl chloride. His plan was to spray the ethyl chloride on two layers of gauze stretched over the ordinary Esmarch chloroform mask.

Dr. H. Lilienthal said that he had seen ethyl chloride tried in four hospital cases. Two of them were in adults who took ordinary anæsthetics badly, and in them the ethyl chloride had failed. The other two patients were children, and both had taken the anæsthetic readily and had come out of it promptly, but neither child had been sufficiently relaxed to allow of any very delicate operation being done.

Dr. Ware objected to the use of the open mask, particularly because of the great waste of ethyl chloride and the unnecessary expense thereby incurred.

Papillomata of the Larynx in Children.—The treatment is divided under two heads. (1) If dyspnœa is not marked, rest in bed, absolute rest of larynx; tonics, and locally six-per-cent. solution of salicylic acid in alcohol, with three per cent. resorcin added. (2) Operative, either laryngotomy, or tracheotomy, or intra-laryngeal operations.—Dickerman.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 12, 1900.

Eugene Hodenpyl, M.D., President.

Round-Cell Sarcoma of the Thigh.—Dr. F. R. Bailey presented a tumor of the thigh that had been removed by amputation. The patient, a woman aged twenty-two years, was first seen on July 7, 1900. The family history was entirely negative, as was also the personal history in so far as it had bearing upon the present condition. The patient complained of a feeling of slight stiffness in the right thigh, but physical examination was negative. About one week later a second examination was made. There was no pain or tenderness, but on the outer side of the right thigh there was a scarcely perceptible swelling. From this time the swelling slowly increased; the patient began to complain of a dull aching; there was slight tenderness on deep pressure. About the 1st of September an acute condition set in with heat, redness, and a temperature ranging from 100° to 103° F. At this time the swelling presented every appearance of an abscess. These symptoms subsided in about ten days. There remained no pain, but slight stiffness and swelling. The patient went about as usual. The condition was now about the same as when the patient was first seen. The last of October there was a return of pain and tenderness with a rapid increase in the swelling, but without inflammatory symptoms. An exploratory incision was made on November 3d. On incision of the deep muscles and fascia a semi-fluid transparent substance oozed out. Sections from this were exhibited under the microscopes. They showed the growth to be a sarcoma of the small round-cell variety. On November 15th, a hip-joint amputation was performed by Dr. Mravlag. Flaps were cut as short as possible and apparently through healthy tissue. Slight force, used in attempting to rotate the femur during operation, resulted in its fracture, as seen in the specimen. The upper part of the femur had been sawed longitudinally and showed the condition of the interior. The subsequent history of the patient had been uneventful. The wound was entirely healed with the exception of a small area at the point of insertion of the drainage tube.

Aneurism of the Thoracic Aorta.—Dr. Theodore C. Janeway reported the following case, which had been under his observation in the University Medical College clinic from June, 1900. The patient was a Frenchman forty-one years of age, a glass-blower by occupation, who had been exposed to the fumes of lead. There was a history of probable chancre seventeen years before, without definite secondary symptoms. He had been seen for the first time last July. Three years before this he had been taken with pain in the upper part of the abdomen, and this had been pretty constant since that time, and had slowly increased in intensity. He said the pain had always been worse when he was lying on his back. The abdomen was tender in the epigastrium. Examination of the spine had been negative, and jarring had caused no pain. There was a slight area of dulness in the left hypogastric region, which pulsated very slightly. After two or three examinations the diagnosis of a small abdominal aneurism had been made. There were no thrill and no murmur, and the heart was not enlarged. No signs could be found over the back on repeated examination. There was a slight first and second sound to be heard over the tumor. The man had been admitted to Bellevue Hospital in October. While there he had developed a systolic thrill and murmur over this mass, and also over the heart. He had been found dead in the water-closet one morning. At the autopsy a large quantity of blood had been

taken from the left pleural cavity, and an aneurism, apparently of the abdominal aorta, found ruptured into it. A careful examination of the specimen in the laboratory showed that the diaphragm ran down over the tumor mass. Apparently the tendon of the diaphragm made the lowermost portion of the aneurismal sac, and there was no involvement of the cœliac axis by the aneurism, so that it was probable that the aneurism was not of the abdominal aorta. The aneurism seemed to have been given off from the anterior wall of the last portion of the thoracic aorta and grown downward, carrying the tendon of the diaphragm with it. The fact that the aneurism had been held by the tendon of the diaphragm probably explained the very slow increase in size. By dissection through the upper portion of the sac and through the subpleural sac there had resulted a rupture into the pleura. Even at the autopsy the tumor had been taken for an abdominal aneurism.

Horseshoe Kidney.—Dr. A. E. Thayer presented three specimens. The first was a good example of the horseshoe kidney, not discovered during life. The subject was a man of fifty years, who had a varicose ulcer on the right side of the leg. He had died of embolic abscess of the lungs. The specimen weighed 1.3 kgm. and measured, the right, 21 cm. long by 9.75 cm. broad by 7.25 cm. thick; the left, 17 cm. long by 7.5 cm. broad by 5.25 cm. thick. There was a large union of renal tissue at the bases of the kidneys. The pelves were displaced forward. The right renal artery came off low down, close to the junction, and sent a branch to the left kidney. There was one ureter common to both kidneys. There was some parenchymatous nephritis in the left kidney, and in the right were numerous cavities containing a considerable quantity of yellow puriform fluid. There was also a large stone in the pelvis of this kidney.

Interstitial Pancreatitis and Fat Necrosis.—The second specimen had been taken from a German forty-five years of age, who had been in the hospital from October 3d to 26th. There had been a rather obscure train of symptoms, and the diagnosis had rested between abscess of the liver and empyema. There had been no fever and no glycosuria, and very little pain. When the body was opened there had been found general recent peritonitis, and the peritoneal cavity contained about 2,000 c.c. of red purulent fluid. There was gangrene of the lungs. In the abdomen was a large fluctuating mass behind the peritoneum. When this was opened a large quantity of fluid and clotted blood and pus escaped. A small portion of the tail of the pancreas was found wedged in between blood clots. There were areas of fat necrosis over the mesentery. Some of the mesenteric glands were enlarged and cheesy. Microscopical examination showed interstitial pancreatitis and some fat necrosis, but no fat crystals. Smears had been made from the fresh lung, but no tubercle bacilli or other characteristic bacilli had been found. Cultures had also been made, but they had proved negative on ordinary media. By a modified Weigert method a few areas had been found in the tissues which looked a little like a streptothrix invasion. He thought the two conditions were probably coincident.

Arthritis Deformans.—The third specimen was a good illustration of arthritis deformans. The patient had shown multiple dislocations of the joints. The body was extremely emaciated, the total weight post mortem having been about twenty-eight pounds. The patient had been bedridden for twenty-six years. There was firm bony ankylosis of the right hip nearly at a right angle. The stomach showed a number of dark areas surrounded by a hyaline zone—apparently submucous hemorrhages. This woman had developed an acute gonorrhœal conjunctivitis soon after admission to the hospital, and the source of this infection had not been discovered until the autopsy had revealed an enlarged uterus filled with a thick fluid of light green color which contained gonococci.

Dr. James Ewing thought the second case one of very great interest because cases of pulmonary lesions which were not tuberculous and yet resembled tuberculosis were not at all uncommon. He had been fortunate enough to see the cases published by Drs. Larkin and Norris. The particular features of the present case were the lesions in the lungs, the multiple gangrenous foci, and the peculiar caseous character of the lesions in the peritoneum and in the neighboring lymph nodes. When stained, they had failed to show tubercle bacilli, and cultures had also been negative. There had been since then one other probable case of streptothrix pneumonia, but no positive results had been obtained from cultures.

A Method of Obtaining Blood for Chemical Examination.—Dr. J. S. Thacher made some remarks on this subject. He said that his object was to facilitate the making of routine chemical clinical examinations of the blood. He had made use of a flask having a tubule at the bottom ground to fit an aspirator needle. A bandage was tied around the upper arm to congest the veins at the bend of the elbow. The skin was disinfected, and then the needle attached to this flask was plunged into the vein, care being taken not to allow the needle completely to traverse the vein. Two ounces of blood were enough for a urea determination, and this quantity could be readily obtained with but little discomfort to the patient and almost no inconvenience to the physician. The suction was made by the use of a rubber mouth-tube attached to the cork in the mouth of the flask. This study of urea in the blood had already proved extremely interesting. It was very important that the needle should be clean and also perfectly smooth, so as not to cause coagulation within the vessel. Dr. Thacher then gave a demonstration upon himself of the method of obtaining samples of blood with this apparatus.

Remarks on Embedding in Clove-Oil Celloidin.—Dr. E. Hodenpyl made some remarks on the use of a solution of celloidin in oil of cloves and ether as recently advocated by E. M. Stepanow (*Zeitschrift fur wissenschaftliche Mikroskopie*, October, 1900, pp. 185-191). The advantages claimed for the method were (1) It was quite as simple as the use of the ordinary solution of celloidin in alcohol and ether. (2) Impregnation went on rapidly and was so complete that very thin sections—3 μ—could be made. (3) It was applicable for double embedding in celloidin and paraffin. (4) It was especially useful for the central nervous system. Dr. Hodenpyl was induced to try the method on account of the rapidity with which material could be embedded and cut into sections, and he showed sections under the microscope which had been embedded in the clove-oil celloidin for but two hours, which were quite as thin and which stained quite as well as sections embedded in the ordinary way. The following was the composition of the solution recommended: Celloidin, 1.5 gm.; oil of cloves, 5 c.c.; ether, 20 c.c.; absolute alcohol, 1 c.c. It required about two days to make the solution. When finished it was of a lemon-yellow color. The technique of the method was quite simple. The soaking in alcohol and ether was entirely done away with. The specimen could be put directly into the solution of celloidin, from strong alcohol, and after it had remained there two hours or more it could be blocked, hardened partially in the air, and finally in eighty per cent. alcohol. A much quicker way was to immerse the block in pure chloroform; or, after embedding in celloidin, the specimen could be dropped in benzol for a short time and then a frozen section made.

Very much thinner sections could be made if the specimen were first soaked for half an hour in oil of cloves, and then embedded in the clove-oil celloidin.

The Use of the Aqueous Extract of the Suprarenal Capsule as a Hæmostatic.—Dr. W. H. Bates exhibited a preparation of the active principle of the gland of the strength of one part in ten thousand. He also showed three or four other alkaloidal preparations. He said that the aqueous extract of the suprarenal gland was the most powerful known hæmostatic. The effect depended much upon the preparation employed. One part of the dried gland should be mixed with ten parts of water in the form of an emulsion. When prepared immediately before use, this emulsion was decidedly active, but it might lose its efficacy in a few hours. An alkaloid had been obtained from the suprarenal extract by Takamini, which he had named adrenaline. Its keeping qualities were good when sterilized and protected from the air. In controlling hemorrhage from the lungs, stomach, bladder, or other organs, the dried, powdered gland was efficient; tablets were less efficient because the excipient interfered with its action. The extract must be brought in contact with the vessels, and a bloodless operation could be done by frequently repeated applications of the extract. Operations on the skin had been made bloodless by the hypodermic use of the extract. Pain neutralized the effect of the suprarenal extract almost immediately. It seemed to be a specific in hæmophilia. The extract had been used successfully in connection with packing of the uterus to control post-partum hemorrhage. Hæmoptysis could be controlled by directing the patient to chew five to ten grains of the suprarenal extract, and swallow it without water at short intervals. The speaker drew the following conclusions: (1) suprarenal extract was the most powerful hæmostatic known; (2) hemorrhage from mucous membranes could be always controlled by its use, and (3) when it controlled hemorrhage, locally or by internal administration, it did so in less than one minute.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ROYAL COMMISSION ON POISON IN BEER—PRIMARY OVARIAN PREGNANCY — PLAGUE—METRIC SYSTEM — S. COLERIDGE'S ANTI-VIVISECTION MOVE—THE LATE DR. POTTER.

London, January 11, 1901.

Beer and poison still hold the field as topics of the day. Our newspapers supply daily statements; medical journals contain cases and observations, societies discuss the epidemic, and coroners inquire and adjourn. It is impossible to keep pace with the accumulation of interesting facts. The Liverpool Institution has held a full discussion on the epidemic which so closely affects that city. Here the Royal Medical and Chirurgical Society has given an evening to it and adjourned its consideration to the next meeting.

The inquests at Manchester, which, as I told you, were adjourned to the 10th, were duly reopened yesterday, and after some rather extraordinary evidence again adjourned.

This morning it is announced that a royal commission has been appointed to investigate the epidemic, and the terms of the reference include exceptional sickness and death from arsenic in beer or in other articles of food or drink, the way in which arsenic was introduced, and the safeguards against such contamination. The commissioners are Lord Kelvin, Sir W. S. Church, P.R.C.P., Professor Thorpe, Dr. Buchanan, Dr. Whitelegge, Sir W. H. Dyke, and Mr. Cosmo Bonsor.

The Obstetrical Society had the good fortune to signalize its first meeting of the century with a paper which will be historical. It was by Drs. G. P. Anning and H. Littlewood, of Leeds. These gentlemen described a case which seems to prove that primary ovarian pregnancy is an occasional fact. The patient, aged twenty-eight years, had been married eight months and was operated on last August for a ruptured ectopic pregnancy about thirty-six hours after the rupture, which occurred fourteen days after the last menstrual period. About two pints of blood and clots were removed. An ovum the size of a Barcelona nut was found which fitted into a firm envelope composed of laminated clot. There was a rent in the right ovary leading to a cavity containing some blood: into this the ovum and sac exactly fitted. Both tubes were examined and showed no rupture. The patient made a good recovery. The specimen and sections of ovum, sac, and ovarian wall were exhibited.

Mr. Bland Sutton, who until recently doubted the existence of ovarian pregnancy, was constrained to admit that this case proves it. He said that he had lately made a trip to Amsterdam to see for himself the specimens of the case related by Mlle. Tusschenbroek at the International Congress of Obstetrics and Gynæcology. He was satisfied that Mlle. Tusschenbroek had proved her case, and through her kindness he brought back a section of the ovum *in situ* which he now exhibited to the society. This specimen and that of Drs. Anning and Littlewood were incontestable proofs of the existence of ovarian pregnancy. In the light of these new facts, another condition of very special interest, viz., blood-cysts of the ovary, would have to be investigated afresh.

Dr. Galabin said he had long believed in the possibility of primary ovarian as well as abdominal pregnancy, though he had not seen a case of the former, but he had met with one which he thought was really primary abdominal pregnancy.

The president, Mr. Alban Doran, who was previously as sceptical as Mr. Sutton, also accepted this case as proof positive, and said it fitted in with that of Mlle. Tusschenbroek and with one of Patenko's, in which fœtal bones were found in an ovarian cyst.

It seems quite in the fitness of things for the Epidemiological Society to discuss the outbreak of plague at Glasgow. Accordingly, at the last quarterly meeting (on the 14th ult.) Dr. A. K. Chalmers read a paper in which many of the facts were set in order. How the first case was contracted is still a mystery. The first man was a docker employed only on coasting vessels, and he took it from his wife, who sickened simultaneously with her infant, whom she carried with her when hawking fish. There were some other cases the origin of which could not be traced. The men employed in disinfecting all had doses of Yersin's serum and none suffered; but the wife of one who lived at a distance and had no contact with other patients was attacked. It is suggested that her husband carried the infection in his hair, as all the men wore overalls when at work.

As it has been shown by Dr. Rosenau, of Washington, that plague bacilli retain their virulence for forty-eight days in fabrics kept in the dark at 20° to 23° C., it may perhaps be conjectured that they might do so in the holds of ships, and as the cases at Glasgow were remarkably mild, according to the testimony of those who have seen the disease in other countries, it may well be that some intervening ones were so slight as to escape recognition, or even not to lead the person to seek medical aid.

The part played by animals was alluded to by several. Dr. Chalmers said it might be merely a coincidence, but the old black rat of this country disappeared before the irruption of the brown rat about the time when plague died out.

Dr. Payne said that when plague reappeared in any country it always did so in several places simultaneously. He also said the existence of the bacillus as a saprophyte was undoubted.

Dr. F. Tidswell contrasted the personal contagion, which was so marked in Glasgow, with the activity of rats observed in Sidney. There the rats died by thousands, and six out of fifteen caught on one wharf yielded plague bacilli, as proved by cultures and inoculations. The rats were attacked first, their dead bodies being found before any human beings were attacked. He believed that fleas were intermediaries; for though he had failed to infect by them animals under natural conditions, he had done so by inoculating an emulsion of fleas and found the bacilli in their bodies.

Dr. Willoughby asked if the Australian rats were the same as those of China or India. It might be some were dangerous, others harmless, as in the case of mosquitos.

Dr. P. Manson (president) said he believed in rats and in fleas also. There were many species of rats. One, the musk-rat, was said to be immune. The Chinese illogically hold a dead rat a protection against plague, and he had heard of a native and his guests being attacked after dining on rats dead of plague.

The extension of the metric system is not viewed with satisfaction by all. Quite a number of persons regret its alternative introduction to the new pharmacopœia. Some are strong advocates of our duodecimal weights and measures; among them Brigade-Surgeon Lieutenant-Colonel E. Nicholson is a doughty champion of our British system,

which he defended last month in a paper read before the Liverpool Institution. He traces our system to the Egyptian cubit through the Alexandrian talent and the Roman *libra*. He said the decimal system was vigorously pushed by persons who were in reality ignorant of the subject, and warned his hearers against the plausible use of the word scientific. He said the metric system was disliked in France after a century's use, and was evaded as much as possible.

The challenge thus made was accepted by Dr. Grossman, who expressed exactly opposite views. He admitted that the Egyptians had done many things we should not attempt; some that we cannot even explain. Still, their method of weighing and measuring was far less suited to modern requirements than the decimal system, the adoption of which would relieve the brains of the children and facilitate international trade. He considered our cumbrous system only fit for a museum beside the cubit and other relics of antiquity.

Mr. Stephen Coleridge, the advocate of the Anti-vivisection Society has made another move. He has circulated, in a portentous envelope nine by eleven inches, a pamphlet of twelve pages of tables to show which hospitals have any connection with vivisection or any one on the staff licensed under the act. This he calls "a guide for the charitable in the disposition of their gifts and bequests." His object clearly is to gratify his clients by injuring the principal hospitals. As he has favored me with a copy, I have referred to some items and find he has included hospitals as to which he is obliged to admit that the licensed vivisector is no longer on the staff. This, then, is not the case of an error, but of something near akin to deliberate misrepresentation. If Mr. Coleridge thinks his profession privileged in defending a prisoner, he might distinguish such a case from one in which an attack is made on the opinions and action of others. Yet he has ventured to introduce the name of God as a preface to such slanders as these words express:

"These torturers of wretched dogs call themselves physiologists and defend their doings under the traduced name of science. . . . All experience teaches us that it is cowards who are cruel and the truly brave who are merciful."

I wonder if Mr. Coleridge thinks himself brave in making this attack.

The death of Dr. J. B. Potter was referred to by the president of the Obstetrical Society at its last meeting. Dr. Potter was obstetric physician to the Westminster Hospital and a past president; also for many years treasurer of the society. A vote of condolence with his widow was unanimously passed. Dr. Potter held a number of other honorable positions to which he was elected by his brethren, who had the utmost confidence in his trustworthiness and skill. He was an able obstetrician whose aid in difficulties was most welcome, an upright man whose example was a power for good.

LETTER FROM NEW ZEALAND.

(From our Special Correspondent.)

DEGENERACY IN NEW ZEALAND — PREVAILING DISEASES — TAKERS OF QUACK MEDICINES.

AUCKLAND, December 25, 1900.

THE question, What is the preponderating influence, heredity or environment? seems to be one for the solution of which facts are rapidly accumulating. In old and stationary communities, in which from generation to generation people live in the same place, on the same food, and follow the same occupations, the influence of heredity seems overwhelming. But take those people away from their environments, give them a somewhat different climate, but one not so different as to kill them off; give them different fool and different or even the same occupations, and mark the change in even one generation. I have seen the feeble indolent Hindu, who was incapable of anything but the lightest form of manual labor, but who could keep on at that for fourteen hours a day when fed on rice and ghee, become a meat eater, and in a few years quite able to do hard work in the sun, and far more reliable, because more steady, than the robust and muscular negro. The change from the slow and stolid Anglo-Saxon—industrious, patient, and persevering—to the quicker-witted but indolent New Zealander, working only eight hours a day, with a day and a half of holiday every week, besides about fifteen other whole-day holidays during the year, his or her teeth decaying almost as soon as they are formed, and generally replaced (in the towns) by at least one jawful of artificial teeth before twenty-five—excessively fond of seeing sports, of betting and gambling, temperate in drink, but smoking to excess, and eating butcher's meat and drinking tea at every meal, is a most remarkable one. It is quite easy to distinguish "natives," as they delight in calling themselves, at a glance.

We who belong to the older generation do not think the change an improvement. Notwithstanding (or because of?) the exceedingly nutritious dietary, only a very small minority, perhaps one in twenty of the mothers, can suckle their children, and as wetnurses are unknown, the children are brought up on artificial foods. As you see the young women pass along the street, it is quite evident to the eye of an experienced medical practitioner that not more than five per cent. are fitted for maternity. Medical practice teaches the same conclusion. The young women suffer from dysmenorrhœa, chlorosis, menstrual irregularities, dyspepsia, headaches, neurasthenia, want of appetite, and whenever they are examined per vaginam prove to have more or less prolapsus with ante- or retroflexion of the cervix. Most of these evils are the direct effect of tight lacing, which is just as prevalent now as it was fifty years ago. How is it that these young women, who have been educated in a way that their grandmothers never were, are as ignorant of the commonest facts of the anatomy of their own frames as ever their grandmothers were?

I should say that a celibate life on the part of the men, and that, coupled with tight lacing, "preventive measures," and factory occupation instead of domestic or outdoor work in the women, are producing a rapid degeneration of the British population in New Zealand which will have the most serious consequences in another generation or two. The excessive use of tea and meat, and, on the part of the men, of tobacco, with tight lacing in the women, ought to be lectured against in every public school. But, then, our school teachers are nearly all such poor creatures themselves!

The plague seems to have entirely died out in Australasia. We in New Zealand have had only two or three very doubtful cases. We have had no epidemic, except influenza, for years past, worth calling an epidemic. And yet people will send their sons to be doctors! The people here are splendid customers for quack medicines, and I should think nine-tenths of the latter come from the United States.

LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

THE IMPERIAL SOCIETY OF MEDICINE—DEATH OF DR. OTHAN VITALIS — QUARANTINE AGAINST SMYRNA — WAR AGAINST SACCHARIN.

CONSTANTINOPLE, January 6, 1901.

SINCE the jubilee of the twenty-fifth year of the Sultan's accession to the throne there has been little doing in the medical world of Constantinople. The public health has been unusually good, in spite of the dampness and varying temperature which have characterized the autumn and early winter seasons.

The Imperial Society of Medicine has resumed its regular work. It must be admitted that the séances and discussions have been somewhat stale and trivial—worn-out subjects of hygiene, disinfection, poisoning of rats by carbon-dioxide gas, spitting in public as a mode of spreading consumption, reports of individual treatment, etc., which, sad to say, are reported in the local newspapers—an undignified proceeding anywhere, but doubly so in a place like Constantinople. This society apparently does not, at present, take itself seriously.

The Imperial Society of Medicine is another of the institutions founded in the reign of Sultan Ab-dul Medjid. Having imperial support it became, at that time and for many years afterward, an important factor in improving the sanitary conditions of the empire. It had many able foreign members of most nationalities, and the reports and discussions of those bygone days, published in the society's journal, may even now be read with pleasure and profit. It really was a national consultative body on all matters relating to quarantine, epidemics, disinfection, especially in plague and cholera. Many of its members sat on the international health congresses, and greatly contributed to the results arrived at. Dickson, Millingen, Sarell, Müllig, Zaenhaco, Funel, Paspati, Mungeri, Malie were all men of high attainments who gave tone and dignity to the discussions—*quantum mutaties ab ille!* The discussions now are rather subjects of newspaper *réclame* than of real scientific work. Whether from lack of imperial support or becoming overshadowed by the improved School of Medicine, it has ceased to be the thing it was. It may, however, after Eastern fashion, have a revival.

Dr. Othan Vitalis, sanitary inspector and member of the Ottoman health board, died a short time ago. He was greatly respected by his colleagues of the board, and was generally esteemed by the various nationalities here. An incident of some importance has occurred with reference to the appointment of a successor.

The health board, consisting of international delegates (assuming their right of appointing their executive officer),

nominated Dr. Duca, their delegate on the Egyptian health board at Alexandria, to the vacant post. The Sultan, however, did not confirm the nomination of Dr. Duca, but by imperial *iradé* appointed a certain Namyk Bey, an employee of the custom house—not a medical man. This the council resented and declined to recognize the appointment. Here was an old question revived, *i.e.*, is the health board an Ottoman or an international institution? It is variously known as "L'Intendance Sanitaire de l'Empire Ottomane," Ottoman Health Board, and International Sanitary Council. It is generally considered an Ottoman institution, in which European delegates have a place.

The matter has for the moment been tided over. Dr. Vitalis held the double appointment of sanitary inspector and a member of the board. Dr. Zitterer, of the upper Bosphorus sanitary service, has been appointed sanitary inspector without a vote, and Namyk Bey, member of the board with a vote. This, however, is the palace mode of action. The European, or, rather, the international delegates are still recalcitrant, and it is understood have the support of their respective embassies in opposing the pretentions of the palace.

January 4th. Notice of the imposition of ten days' quarantine on arrivals from Smyrna has been issued; comprised between Nova Phocea, included, and Vourla, excluded, dating from January 3d. "This quarantine, with disinfection, of an extremely strict nature will be purged in one of the lazarettoes of the empire." No further information has been vouchsafed. A local paper, however, states that on Friday a man, twenty-one years old, died at the hospital of the Orthodox Community, who had fallen ill at Tomaso. Four persons of his family had already died from a similar malady, which the sanitary inspectors considered a pneumonic influenza.

From the Turkish paper *Servet* of January 5th, however, it would appear that "plague had exerted its ravages twenty days before it was discovered, the symptoms being simply pneumonic. During these twenty days there were fourteen cases, of which twelve were fatal. The local authorities are taking the necessary precautions and from Constantinople Prof. Adil Bey was sent, and his analyses prove the existence of *bacille pesteux*. Dr. Nouri Bey, assistant to Dr. Nicolle of the Bacterial Institute, will also go to Smyrna to superintend the prophylactic measures."

A crusade against saccharin has arisen. The medical council, called upon to decide as to the properties of the substance and its influence on the public health, strongly condemns it, enumerating its dangers from prolonged use. This is but one of many of the somewhat dilettante fads of scientific energy which occasionally occur, and all to preserve the public health. Saccharin is generally considered to be a harmless substance. Other more manifest and daily dangers abound and are allowed to pass unnoticed. If a small portion of the *iradés* relating to sanitation, practice of medicine and pharmacy, and analyses of food, had any practical outcome, Turkey in these matters would be in advance of every other country. The ubiquitous microbe would have no chance. Cleansing streets and alleys, flushing drains, and otherwise disposing of grave health nuisances are minor considerations worthy only of municipal legislation, which, however, they imperfectly receive.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 26, 1901:

	Cases.	Deaths.
Tuberculosis	331	185
Typhoid fever	33	12
Scarlet fever	329	22
Measles	110	2
Diphtheria and croup	332	52
Smallpox	11	1

Serum Treatment of Malaria.—The Berlin correspondent of the *London Lancet* says: "An important communication concerning malaria has been made by Dr. Sander, of Berlin, in the *Deutsche medicinische Wochenschrift*. He has received a letter from Dr. Kuhn, chief medical officer to the South African field force, to the effect that he (Dr. Kuhn) had succeeded in curing malaria by injections of serum. The serum is obtained from horses which have contracted the so-called 'sterbe' disease. By injections of this serum, malaria becomes altered from a chronic relapsing disease to an acute one curable in from two to six weeks; immunity is also obtained; after the injection slight fever of a more continued character generally appears, but no local reaction takes place. Fifty natives, immunized by Dr. Kuhn, did not take the disease in the malarial season of that year, while numerous others who had not been immunized fell ill, but were cured by the injection. Dr. Kuhn being on his way home, more detailed information will be received very soon." It is to be hoped that Dr. Kuhn's specific for malaria may really prove to be an effective prophylactic. His countryman, the well-known Dr. Koch, after travelling far and near for the purpose of investigating the etiology of malarial fever and the best modes of treatment, announced with a mighty flourish of trumpets that the disease was undoubtedly due to a species of mosquito, and that the most effectual remedy was quinine. Of course, it must be gratifying to Manson, Ross, Celli, and the other Italian investigators that so great a man as Koch should set the seal of his approval upon their discoveries, but it would have been still more gratifying if the German scientist had given them some of the credit. From a perusal of Koch's conclusions, one, if ignorant, might easily be led to think that to him alone belongs the honor of tracing the cause of malaria. His dictum concerning the value of quinine in the treatment of the malady is still more amusing, that drug having been recognized as the only one for very many years.

The Training of Sight.—Lord Wolseley having lately remarked upon the good sight of the Boers as one cause at least of their good shooting, and having ascribed this good sight to its constant exercise in the open air, Mr. Brudenell Carter has pointed out that it is not merely a question of open air but of the training of the sight upon things that are far off and difficult to see. The defective vision possessed by so many children who have been brought up in towns is not caused by errors of refraction alone, common as these are, but an actual deficiency in acuteness of vision, a lack of development in the nervous structures involved in the act of seeing. "Vision," he says, "like every other nerve function, must be cultivated for the attainment of a high degree of excellence. The visual power of London children is not cultivated by their environment. They see the other side of the street in which they live, and the carts and omnibuses of the thoroughfares. They scarcely ever have the visual attention directed strongly to any object which it is difficult to see or which subtends a visual angle approaching the limits of visibility; and hence the seeing function is never exerted to anything like what should be the extent of its powers. With a country child the case is widely different." Mr. Carter would like to see a place given to excellence of vision among the various physical qualifications which are habitually tested by competition, and for which prizes are awarded, and he urges the desirability of volunteers taking up exercise and training of sight. "It is at least certain that our riflemen would not shoot worse for having learned to see better."—*Hospital.*

The Pygmies of the Great Forest.—A very instructive article on pygmies is contributed by Mr. Lydekker in *Knowledge* for November. This peculiar race of people live in the Upper Congo forest, which is so vast that one may journey through it for weeks without coming to the other end. "In this perpetual gloom live the pygmies, the most diminutive of the human inhabitants of the globe, of whose existence

there have been more or less authentic rumors since the time of Herodotus and Aristotle, but whose true characteristics and mode of life it has been reserved for recent times to disclose. . . . In 1861 Dr. Touchard records the destruction of a tribe of dwarfs, whom he calls Akoa, in the interior of the Gabun; and states that an adult who had been captured measured only four and one-half feet in height and had a comparatively short and rounded head. In still more modern times, when the interior of the Dark Continent was gradually being opened up, Stanley heard of pygmies whom he calls Watwas, in the country within the great bend of the Congo, who hunted the lordly elephant to death with poisoned arrows, and whom he described as of a chocolate-brown color, and a Dr. Wolff refers to the members of the same or an allied tribe as never exceeding four feet seven inches in height, and averaging four inches less. But to the celebrated German traveller, Dr. Schweinfurth, was reserved the honor of first making known to European science the Akeas of the ancient Egyptians, whom he first met with at the court of the ruler of Mambeth, but whose home is on the Aruwimi, a tributary of the Upper Congo in about latitude three degrees north and longitude twenty-five degrees east. It will also be remembered that Dr. Donaldson Smith, while exploring the virgin forest abutting the Amazon and Orinoco, came across a tribe of pygmies who were even smaller in stature than those met with in Africa."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended January 26, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
District of Columbia, Washington	January 12th to 19th	2	
Florida, Jacksonville	January 12th to 19th	7	
Illinois, Cairo	January 5th to 19th	5	
Chicago	January 12th to 19th	12	
Kansas, Wichita	January 12th to 19th	6	
Kentucky, Lexington	January 12th to 19th	2	
Louisville	January 4th to 18th	1	1
Louisiana, New Orleans	January 12th to 19th	7	2
Shreveport	January 12th to 19th	5	
Massachusetts, Lawrence	January 12th to 19th	1	
Minnesota, Minneapolis	January 12th to 19th	11	
St. Paul	January 5th to 12th	8	
Nebraska, Omaha	January 8th to 15th	7	
N. Hampshire, Manchester	January 12th to 19th	39	
New Mexico, Fort Stanton	January 14th.	1	
New York, New York	January 12th to 19th	9	5
Utica	January 12th to 19th	1	
Ohio, Cincinnati	January 12th to 18th	3	
Cleveland	January 12th to 19th	57	
Oklahoma, sixteen counties	January 11th	289	
Pennsylvania, Erie	January 12th to 19th	1	
Pittsburg	January 12th to 19th	3	
Tennessee, Memphis	January 12th to 19th	6	
Texas, Houston	January 12th to 19th	44	
Utah, Salt Lake City	January 12th to 19th	32	
Wisconsin, Green Bay	January 12th to 20th	1	
SMALLPOX—FOREIGN.			
Belgium, Liege	December 15th to 22d	1	
Brazil, Pernambuco	December 8th to 15th	..	34
Egypt, Alexandria	December 17th to 24th	2	2
England, Leeds	January 5th to 12th	1	
London	December 29th to January 5th	1	
France, Paris	December 29th to January 5th	6	
India, Bombay	December 18th to 25th	..	1
Mexico, Vera Cruz	December 29th to January 5th	..	3
Scotland, Edinburgh	December 29th to January 5th	1	
Glasgow	January 4th to 11th	66	3
Leith	December 29th to January 5th	1	
Straits Settlements, Singapore	December 1st to 18th	..	2
YELLOW FEVER.			
Colombia, Cartagena	January 1st to 7th	2	
Cuba, Cienfuegos	January 14th	1	
Havana	January 5th to 12th	..	2
Mexico, Vera Cruz	December 29th to January 5th	..	1
CHOLERA.			
India, Bombay	December 18th to 25th	..	4
Straits Settlements, Singapore	December 1st to 18th	..	58
PLAGUE.			
India, Bombay	December 18th to 25th	..	118
England, Hull	January 19th	..	5*
Russia, Tsarevak District	January 5th	19	15

* On steamship *Friary*.

Alcohol as an Antiseptic.—Regarding the value of alcohol as a disinfectant, particularly for the hands, Salzwedel and Elsner report the result of experiments made by them in Koch's laboratory. The authors maintain that these researches show that alcohol is of use in preparing the hands for operations, not merely because of its hardening effect on the epidermis, but also as an active antiseptic; in this respect they assign it a potency intermediate between carbolic acid and corrosive sublimate. They recommend that the hands after washing with soap and water be well soaked in eighty-per-cent. acidulated spirit (which is diluted to the proper strength by the water remaining on the hands) before the performance of an operation.—*The Hospital.*

Successful Use of Tuberculin in the Treatment of Lupus Vulgaris.—Dr. Edward F. Maynard reports to the *British Medical Journal* from the Sussex County Hospital, England, a successful case of treatment of lupus of the nose of three years' standing. In October, 1900, the patient had been well ever since discharge from the hospital in the previous August. The nose had given no trouble whatever, there was no evidence of any disease, and considering the extent of the scraping operations and of the tuberculous infiltration as shown by the reaction to the injections there was remarkably little deformity. Whether the cure will be permanent or not remains to be seen, but at all events the considerable amelioration, both as regards suffering and the time given up to successful operations, warrants the retaining of tuberculin among the most useful of anti-lupus remedies.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. By Arthur R. Cushny, M.D. 8vo, 732 pages. Illustrated. Lee Brothers & Co., Philadelphia and New York.

FLESH FOODS. By C. Ainsworth Mitchell. 8vo, 336 pages. Illustrated. Charles Griffin & Co., London, England.

DISEASES OF THE HEART. By Albert Abrams, M.D. 12mo, 170 pages. Illustrated. C. P. Engelhard & Co., Chicago, Ill.

DEUTSCHE MEDICIN IM NEUNZEHNTEN JAHRHUNDERT. By C. A. Ewald and C. Posner. 8vo, 491 pages. August Hirschwald, Berlin, Germany.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. 8vo, 340 pages. Illustrated. Fourteenth session. Published by the Association.

THIRTY-SECOND REGISTRATION REPORT, MICHIGAN. By Justus S. Stearns, Secretary of State. 8vo, 151 pages. Robert Smith Printing Co., Lansing, Mich.

AN INTRODUCTION TO MODERN SCIENTIFIC CHEMISTRY. By Lassar-Cohn. 12mo, 348 pages. Illustrated. D. Van Nostrand Co., New York.

URINARY DIAGNOSIS AND TREATMENT. By John W. Wainwright, M.D. 12mo, 134 pages. Illustrated. G. P. Engelhard & Co., Chicago, Ill.

MEDICO-SURGICAL ASPECTS OF THE SPANISH-AMERICAN WAR. By Nicholas Senn. 8vo, 379 pages. Illustrated. American Medical Association Press, Chicago.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, M.D. 8vo, 511 pages. Illustrated. F. A. Davis Co., Philadelphia, Pa.

THE USE OF THE ROENTGEN RAY BY THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WAR WITH SPAIN. By W. C. Borden. Folio, 98 pages. Illustrated. Government Printing Office, Washington, D. C.

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Original Articles.

SUMMARY OF THE PROGRESS MADE IN THE NINETEENTH CENTURY IN THE STUDY OF THE PROPAGATION OF YELLOW FEVER.[1]

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IF we cast a retrospective glance over the track of medical opinion during the past century, in matters relating to the propagation of yellow fever, it is curious to observe its wavering course until the last two decades, when a steady advance was set on foot, leading in the end to the glorious truth so recently proclaimed by some distinguished members of this congress.

As far back as 1812, Dr. Bartolomé Colomar, describing the severe epidemic of yellow fever which in 1811 had decimated Murcia as well as other towns in Spain, refers to the limited radius of influence (considering the patient as a centre) which characterizes the virus of yellow fever, the limit being variously estimated at from eight to sixteen yards. He also states that the general belief that the infection was conveyed by immediate contact with the sick, or by stuffs and clothes impregnated with its miasms, was a mistake, as the attacked were mostly those who lived in houses already infected by the presence of another case, even when no intercourse had existed between the inmates; that the mere touching of a patient or visiting him for a few moments, as happened with physicians, did not convey the contagion, the result having proved that they were never attacked unless a case occurred in the vicinity of their own dwellings. On the other hand, when the epidemic was at its worst, many persons took the infection by merely entering the city of Murcia for a few moments, even though they had neither seen nor touched any of the sick or dead. Finally, the author of the old pamphlet, as if forestalling modern ideas about germ diseases, says: "Contagious miasms, like the seed of vegetables, remain hidden within the body during a longer or shorter period until they reach their proper development and produce the disease of which they are the germ. The same thing occurs in yellow fever —its virus requires a certain lapse of time for its development, the infected persons retaining in the mean while the appearance of perfect health. That space of time is commonly, as experienced here, from to five to six days. On some occasions it extends until the fourteenth, and even until the twenty-second, a point which should be taken into account in determining the number of days as a minimum for quarantines and observation, not limiting it without foundation to four, six, or ten days."

In 1814 Dr. Bailly, after carefully sifting the evidence brought forward both by contagionists and non-contagionists, emphatically declares that he has reached the intimate conviction that yellow fever is very often contagious, but that it is not always so.

Unfortunately, however, the above suggestions were not accepted by those who were supposed to be in a better position to judge, and the generality of physicians in the endemic centres of America maintained the opinion that the disease was not contagious in any sense of the word, but was entirely due to mephitic emanations diffused through the air and arising from the soil, from the corrupt waters of the seashore, from decomposed animal or vegetable matter, etc., under the influence of undefined climatic conditions.

In the midst of the prevailing confusion of ideas a disastrous epidemic broke out in 1853, extending far and wide in South and Central America, in the West Indies and in the United States, which aroused a feeling of necessity for immediate action among the members of the medical profession throughout America, but principally in the Southern States of the Union. The report of the sanitary commission of New Orleans on that epidemic displayed the most praiseworthy diligence in collecting numerous and valuable testimony from the various places where the disease had prevailed, and thereby contributed a most important source of information for every student of yellow-fever etiology. Among many other points of interest I shall merely call attention to the following as having a direct bearing upon the subject under consideration:

1. Dr. E. Barton showed, upon reliable data, that in New Orleans a temperature of 60° F. was incompatible with the persistence of the disease in an epidemic form; and in his report (page 283) informs us that at Rio the fever appears when the thermometer is at 77° F., adding that he conceives that too high temperatures, above 90° F., are rather unfavorable.

2. Dr. Pennell, of Rio de Janeiro, pointed out the remarkable fact that during the epidemic of 1853 many people carried the disease from Rio to Petropolis (thirty miles distant, and with an altitude of three thousand feet), and eleven died there, but did not communicate it to a single resident. Many also took it with them to Tijuca (forty miles from Rio and eight hundred feet above the sea level), but in no instance communicated it to the residents at that place.

3. Drs. Axson and McNeil in their report call attention to the remarkable fact that "at Memphis, in the City Hospital, sixty-five cases of fever, carried from this place sick, or taken sick on the river, were treated, and in not one of these instances was there any communication of the disease to either the medical attendants, the nurses, or the other inmates of the hospital. The results were limited to the original subjects, whether these were in recovery or death."

4. Several of the "testimonies" mention the unusual abundance of mosquitos during the prevalence of the epidemic. Judge Louis Selby, in particular, asserts that they were multiplied a hundredfold, and that whereas commonly at Lake Providence, La., they are a dirty yellow, "these had gray rings around their bodies, bit quicker and stung harder than heretofore." With regard to this point Laroche, in the encyclopædic work which he published the following year, calls attention to the superabundance of those insects in

[1] Read before the Pan-American Medical Congress, Havana, February 6, 1901.

Philadelphia during the epidemic of 1797, as recorded at that time, and also in the Southern States in 1853, "when a similar effect was observed."

The report of the New Orleans sanitary commission reproduces the general conclusions of the general board of health of England, in which some of Colomar's remarks about the epidemic of Murcia appear confirmed. But neither in England nor in the United States was any notice taken of the Spanish author's assimilation of yellow fever to a germ disease; on the contrary, every circumstance continued to be so interpreted as to corroborate the idea that the disease was always of local origin and never contagious.[1]

The next quarter of a century following the publication of the above report and of Laroche's classical work constitutes a memorable epoch in the annals of yellow fever. The recognition of albuminuria as a most prominent symptom of the disease, through Blair's admirable work in British Guiana, the remarkable report of Alvarenga on the epidemic of Lisbon in 1857, that of Melier on the epidemic of Saint Nazaire in 1861, Faget's monograph on the relations between the pulse rate and the temperatures in yellow fever, the regular use of the clinical thermometer which gradually became established, the writings of many keen observers (Dutouleau, Cornillac, Bérenger-Féraud, Bemiss, Stillé, Gama-Lobo, Pons y Codinach, etc.), by degrees prepared the way for a clearer understanding of the nature and mode of propagation of the disease.

In 1880 two most important reports were published —one by the yellow-fever commission which was sent to Havana by the United States national board of health to investigate the causes of the so-called endemicity of yellow fever in Cuba; the other by the United States navy department, "on the yellow fever on the United States steamship *Plymouth*." In the former the idea that yellow fever must be a germ disease is clearly expressed; and the fact that it is not of local origin nor originates in the bay is fully demonstrated. Dr. Burgess' experience is given in evidence of the fact that vessels with non-immune crews may lie in the harbor during the height of the epidemic without becoming infected, provided that no intercourse be established with the shore nor with infected ships; and in the "general conclusions" of that remarkable report it is averred that winds fail to infect vessels even at a short distance from the shore, and that other facts also demonstrate that the poison is distributed by winds to only very limited distances. Another important point demonstrated by the commission was that "natives of Cuba as of all other countries, of every age, sex and race (?), are liable to yellow fever; and only those who have had the disease, or have constantly resided in infected localities, enjoy immunity." The facts thus brought to light, together with others previously ascertained, left no alternative but to admit that, although the yellow-fever infection must always be derived from a previous case of the disease, yet the mere presence of susceptible persons and apparently favorable climatic conditions (as in the Memphis hospital in 1853) were often inadequate to reproduce the disease, so that a third factor must be discovered to account for this circumstance. The first attempt at a solution of this problem, I believe, appears in a foot-note in the report on the *Plymouth*, where Dr. Bemiss' opinion is quoted to the effect that the poison of yellow fever "is reproduced chiefly, if not wholly, within the body of the patient, but undergoes some change after its escape from the body, which increases its toxic qualities." This ingenious suggestion, however, afforded no clew as to the circumstances which might or might not enable the passive human germ to undergo the change into an active and virulent one, capable of reproducing the disease. Even supposing that certain unsanitary conditions might provide the necessary "nidus" for the extra-corporeal transformation, the theory afforded no explanation as to the mode of penetration of the virulent germ into the body of non-immunes. Food and drink, as well as contact upon the skin, having been excluded as a means of contamination, only the air passages were thought of as a plausible mode of entrance for the qualified germ; that alternative, however, appeared to me unsatisfactory, inasmuch as it implied diffusibility of the germs through the air, in contradiction with the averred fact that winds influenced very little, if at all, the propagation of the epidemic.

It was upon the above line of reasoning that I conceived the idea that the yellow-fever germ must be conveyed from the patient to the non-immunes by inoculation, a process which could be performed in nature only through the agency of some stinging insect whose biological conditions must be identical with those which were known to favor the transmissibility of the disease. At that time I considered unnecessary the supposition that the human germ required to go through any extra-corporeal transformations in order to become virulent, but in recent years I have also included this consideration in my mosquito theory. My first public allusion to my theory was at the International Sanitary Conference of Washington (session of February 18, 1881), where I expressed the opinion that "three conditions are necessary in order that the propagation of yellow fever shall take place: (1) The presence of a previous case of yellow fever; (2) the presence of a person apt to contract the disease; and (3) the presence of an agent entirely independent for its existence of the diseased and of the sick, but which is necessary in order that the disease may be conveyed from the yellow-fever patient to a healthy individual." In making that statement I had in my mind the Culex mosquito, which I had been for some time investigating from that point of view in Havana, but I had refrained from naming it, not wishing to do so until I had carried out a crucial experiment which I had in project, namely, the application of a non-contaminated mosquito to a severe case of yellow fever, and two or three days later allowing the same insect to sting a non-immune. This I did after my return to Havana. With the acquiescence of Captain-General Blanco twenty recently arrived recruits from Spain were set apart at the Cabañas barracks, and would not be allowed to come to the city except on certain days, when five or six would be brought to my office to have their blood corpuscles counted, and, *passim*, I would try my experiment upon some of them. This I did with the valuable assistance of my friend and constant collaborator, Dr. Claudio Delgado, which I gladly take this opportunity of acknowledging, the more so that I doubt if without his active support I would have persevered during so many years in the defence of a theory which was received only with doubts and sneers. My first inoculation was performed upon a soldier of the third batch that was brought to my office. I ap-

[1] How unprepared even the cleverest men were at that time to reach the true explanation of so many apparently contradictory facts may be judged by the following quotation from Dr. Ed. Barton's elaborate report: "If yellow fever is contagious, *it is a law of the disease*, this it must carry into all places, and under all circumstances (like the smallpox). A *contingent contagion* is a medical misnomer, void of a precedent, and has no parallel in the annals of science. Every device has been resorted to, in the way of experiment, to show the contagious quality of yellow fever, if it existed, but all have signally failed. That it may be *infectious*, under certain circumstances, is admitting nothing more than that it is caused by *impure air*, and that this air can be carried in the hold of a vessel, or any similar mode, by which the air of one place is conveyed to another, or even through clothing (in some special cases and to a very limited extent), is not denied." (Report San. Com. N. O., p. 273.)

plied to the back of his elbow (on the 30th of June, 1881) a mosquito which had stung, two days before, a severe (hæmogastric) case of yellow fever in the fifth day of the attack. On the 9th of July he began to feel unwell, but was sick enough to report himself only on the 14th. He was sent the same day to the Military Hospital, where his case was carefully followed by Dr. Felix Estrada, by Dr. Delgado, and by myself. He presented the typical symptoms of the invasion; his fever reached the maximum of its first paroxysm with 38.8° C. (102° F.) on the second day; the remission fell to 37.6° C. (100° F.) on the third day A.M.; the maximum of the second paroxysm was 38.8° C. (102° F.) the third day P.M.; and defervescence took place on the sixth day. The patient had albumin in the urine from the third day until defervescence, distinct yellowness of the eyes till convalescence, and his gums bled on the fourth day. Four years later I ascertained that he had never had another attack of yellow fever. On the 16th of July I applied a non-contaminated mosquito to a severe case of yellow fever; on the 20th I applied the same insect to my own hand; and, finally, on the 22d, I applied it to another of my twenty soldiers. Five days later, on the 27th, the inoculated soldier was admitted to the Military Hospital with the usual symptoms of the disease, and his case was officially recorded as "abortive yellow fever." He was seen by Dr. Delgado and myself only on the fifth day of his attack (July 31st); he had then scarcely any fever and no albumin. My next experiment was of a different kind, and therefore was omitted from my first paper. I applied a nocturnal mosquito and allowed it to fill itself from a case of yellow fever. After pricking the side of the insect's abdomen I mixed the blood which escaped with a drop of sterilized syrup and fed with it a fresh Culex mosquito, and finally applied the latter to a third soldier (on the 29th of July). Two days later, July 31st, the soldier went to the hospital with a fever which was also recorded as "abortive yellow fever." My fourth inoculation was on the 31st of July; I applied to another soldier a mosquito which had stung, two days before, a fatal case of yellow fever on the third day of the attack. Five days later, on the 5th of August, the soldier returned to have his blood examined, not considering himself sick. His face was flushed, and taking his temperature I found it at 39.6° C. (103.3° F.), and his pulse at 110. He was sent at once to the hospital. He had but one paroxysm of fever (it may have been the second); there was no remission; no albumin was found in the urine and defervescence occurred on the fourth day. His case was recorded at the hospital as "abortive yellow fever."

In the course of the following month I inoculated two other soldiers; one, with doubtful result, having presented himself at my office fifteen days after his inoculation with rapid pulse and fever, but he never took to bed, and no further record of his case could be obtained; a second inoculation on the same man remained without effect. The other soldier never returned to my office, but I ascertained that he had not reported himself sick.

During the two months that my experiments lasted none of the other soldiers of the twenty, except the inoculated ones, experienced any form of yellow fever; and four years later I ascertained that none of the inoculated had been subsequently reported as having had any other attack of yellow fever beyond the one which had followed my inoculation.

Both Dr. Delgado and myself agreed that no further proof was needed to prove the transmission of yellow fever by the Culex mosquito; and on the 14th of August, 1881, I read at a meeting of the Havana Academy of Sciences my first paper on "The Mosquito Hypothetically Considered as the Transmitter of Yellow Fever." The following year I devoted to the study of mild cases of natural yellow fever so as to be able to compare them with the mild experimental ones which might be expected to occur after the preventive inoculations that I intended to undertake as soon as I should find suitable subjects for the experiment; that is, presumably free from previous infection, and about whose medical history I might get reliable information during their subsequent residence on the island. Tables showing the particulars about my inoculations in the one hundred and four persons who have submitted to them in the course of nineteen years (1881–1900) have been prepared. In those preventive inoculations, be it remembered, my principal object was rather to avoid than to seek the development of a severe attack; in point of fact, only seventeen showed any appreciable pathogenic effects after their inoculation. I felt sure, however, that severe or fatal result might follow an inoculation either with several mosquitos contaminated from severe cases of the disease, or from a single insect applied several days or weeks after its contamination, having come to this last conclusion in view of the facts connected with the *Anne-Marie* and the epidemic of Saint Nazaire. The incubation period, in the seventeen who did show pathogenic effects, varied from two to twenty-five days; it was five days in four of them, fourteen days in two, sixteen days in two, and two, seven, nine, ten, fifteen, seventeen, twenty-two, twenty-three, twenty-five, respectively, in the others. Notwithstanding that my technique must now be considered very imperfect, some immunizing effect must have attended my inoculations; for out of the one hundred and four only four (3.8 per cent.) subsequently contracted a fatal attack of yellow fever—two of them the same year, but the other two after five and six years' residence in Havana; and out of the eighty-seven who did not have any perceptible pathogenic reaction at the time of the inoculation, thirty-nine (forty-three per cent.) never had any subsequent attack of yellow fever of any kind during the years of their residence in Cuba.

I must, however, bring to a close this account of the evolutive phase of my mosquito theory and leave to others the satisfaction of describing how, in their more accomplished hands, its perfect "image" has been developed. They will tell how, with almost mathematical precision, they have proved, not only that the Culex fasciatus does transmit the disease from one patient to the next, but also that when the contaminated mosquito has been excluded, the yellow-fever infection becomes intransmissible. Not, I do believe, since the days of Jenner, one hundred years ago, when that great benefactor of mankind, after years of fruitless efforts, succeeded in convincing the medical profession all over the world of the incontrovertible reality of the cowpox vaccination, has another achievement been recorded equal to that of Drs. Reed, Carroll, and Agramonte.

Echinococcus Cysts of the Kidney.—Professor Rummo reports a case in which a tumor reached from nearly the left iliac crest inferiorly to the vertebral column posteriorly and to the sixth rib above. Its margins were rounded, its consistence was hard and elastic. It was somewhat mobile. The author gives at length the differential diagnosis between tumors of the kidney and spleen and retroperitoneal tumors, and the reasons for concluding that this was a case of renal tumor. The introduction of a needle and the withdrawal of a clear fluid containing echinococci settled the diagnosis. Before resorting to operation, the author intended to experiment with Baccelli's method of injecting bichloride of mercury into the sac.—*La Riforma Medica*, December 4, 1900.

INVESTIGATIONS UPON CORPOREAL SPECIFIC GRAVITY, AND UPON THE VALUE OF THIS FACTOR IN PHYSICAL DIAGNOSIS.[1]

By HEINRICH STERN, Ph.D., M.D.,
NEW YORK.

Absolute Body Weight.—The determination of the absolute weight of an individual has for years been regarded as an important adjuvant in the practice of the physician and the medical examiner in general. Frequently, however, the absolute body weight does not reflect the real physical condition of the organism. It is true, both the marasmatic and the corpulent present abnormal absolute body weights, but exceedingly light or heavy people need not necessarily be afflicted with a wasting disease or with obesity.

The phenomenon of rise and fall in the absolute body weight, *per se*, is but of limited diagnostic significance. In itself, the patient's absolute weight does not disclose definitely a morbid systemic state, as is evinced, for instance, by the one symptom of chronic glycosuria. To the therapist, on the other hand, the absolute body weight is of a somewhat greater value: its decrease or increase points out to him whether his treatment is taking effect or not; that is, whether the emaciated has gained or the stout has lost in absolute body weight.

Most fraternal beneficiary organizations and life insurance societies require their examiners to ascertain the body weight of an applicant; yet in every instance it is the absolute weight which is determined, though the life assurance companies, as a general rule, seek to consider the relation of body height to body weight. The majority of these institutions—in the United States—have a fixed and common standard requiring for each centimetre of body height 446.45 gm. of body weight, which is equivalent to two and one-half pounds for every inch, but concede fifteen per cent. underweight and twenty per cent. overweight to the applicant otherwise regarded as good risk. Thus, although the employment of a fixed standard is certainly an improvement over the primitive method of ascertaining the absolute weight *per se*, many totally sound people are prevented from obtaining insurance and the companies deprived of additional business.

The specific weight of an individual and the density of his structures have been assigned entirely too insignificant a rôle in medical diagnosis and therapy. Jaeger's voice, raised more than twenty years ago in behalf of the consideration of the specific gravity of the body for clinical purposes, has passed away unheeded;[2] for it is the density of the organism and its tissues, and not its absolute weight, which discloses with an almost absolute degree of certainty its soundness as well as a variety of systemic disturbances and alterations.

Methods for the Determination of the Corporeal Specific Gravity.—By corporeal specific gravity is understood the proportion of absolute body weight to the weight of the volume of water or air displaced. Troublesome procedures and lack of ready facilities seem to be the main reasons why the specific gravity of the body has not become a more potent factor in medical diagnosis.

Apparatus for practical use in the determination of corporeal specific gravity have not been devised as yet. Jaeger[3] who estimated the body volume by a series of measurements, which, according to his own statement, gave results sufficiently accurate for purposes of comparison in a number of persons, but not exact enough for the determination of one individual's density *per se*, is of the opinion that this could be best accomplished with the assistance of a modified Kopp volumeter. Kopp's volumeter is based upon the following principle:

If a mercury manometer is properly attached to a closed chamber containing air and the latter by means of a tightly fitting piston is compressed to a known volume, the rise of the mercurial column may serve as an indicator of the quantity of compressible air contained in the chamber. The smaller the amount, the higher rises the mercury, provided there is an equal and absolute diminution of space. If a solid body is brought into this chamber the air contained in it becomes still more condensed, which results in the rise of the mercurial column. The volume of the solid body may be exactly determined by a comparison of the manometer readings obtained prior and during the former's presence in the chamber.

An apparatus based on this principle, but greatly modified for the special purpose, may be used with advantage in the determination of the corporeal volume. The results obtained with the assistance of such a volumeter—theoretically speaking—should be more accurate than those arrived at by the employment of any other conceivable apparatus. As a matter of fact, this device for volume mensuration of the living organism offers but one objection, viz., the individual, by his entrance into the chamber, changes the condition of the air contained in it by imparting to it a somewhat higher temperature and by communicating water vapor. Instruments of precision, such as thermometer and hygrometer, are therefore indispensable for more exact determinations.

In my own experiments I have ascertained the corporeal specific gravity by employing the Archimedean principle. The density is thus obtained by dividing the amount of the absolute weight of the body by the loss of weight which it sustains when suspended in water. For instance, if the absolute weight of an individual is 65 kgm. and his loss of weight in the water amounts to 61 kgm. his specific gravity will be $\frac{65}{61} = 1.066$; therefore, the volume weight of the individual's body is greater by 0.066 or by $\frac{1}{15}$ than that of water.

I have discarded the huge hydrostatic balance of my own construction which I employed in my early experiments, as I found that simple submersion in water, without suspension, gives almost identical results. From the volume of the water displaced the corporeal volume weight is easily ascertained. An individual whose absolute weight, for instance, amounted to 64 kgm. displaced 59.75 kgm. of water by actual weight; his volume weight, therefore, was $\frac{64}{59.75} = 1.067$.

The determination of the corporeal density by the Archimedean method also offers one drawback, which, for practical purposes, however, especially if certain precautions are taken, I deem even of less importance than the inaccuracy eventually arising when a Kopp volumeter is utilized. I refer to the air contained in the lungs and intestinal tract which produces a slight increase in the body volume and consequently a greater displacement of water. This fact derogates, it is true, from the absolute value of the method, but it is certainly of little practical moment, as the inflation due to the normal amount of air within the organism does not cause a material change in its litre weight. Moreover, the body air, being a constant though somewhat varying constituent, may be included in all determinations. Besides this, the intestinal gases may be reduced to a minimum if the individual's bowels have been evacuated prior to ascertaining his body density, and by submerging him during the period of forced expiration the thorax will not be overvoluminous.

The determination of the corporeal litre weight by

[1] Read at the meeting of the New York State Medical Association, October 18, 1900.

[2] "Seuchenfestigkeit und Constitutionskraft und ihre Beziehung zum spezifischen Gewicht des Lebenden," Leipzig, 1878.

[3] *Loc. cit.*, p. 132.

the submersion method gives far more accurate results than can possibly be obtained by a series of body measurements. On the other hand, volumetric determinations by means of a modified Kopp apparatus seem preferable to the rather crude Archimedean method; however, the mechanics I consulted about the construction of a Kopp apparatus thought it impracticable and would not guarantee its accurate working. Moreover, the employment of such an apparatus would call for tedious mathematical calculations.

The Volume Weight of the Living Organism.—The density of the animal body discloses in a most interesting manner the physical condition of its structures. Among the principal tissue constituents there is but one body of a lesser density than water. Fat derived from the human organism has an average specific gravity of 0.932. Mitchell[1] found even a lesser degree of density—0.9033 at 25° C. and a consistency somewhat below that of butter fat. Fat is normally found throughout the human organism, partly as the principal element of adipose tissue, nearly eighty-five per cent. of which is composed of fat, and partly uncombined, as in the chyle, lymph, blood, serous fluids, milk, and other secretions. It frequently appears pathologically—occurring as fatty infiltration or as fatty degeneration, altering by its presence in excess the density of the affected tissues and organs and of the body in general. Abnormal fatty deposits reduce the specific gravity of the individual in the ratio of their preponderance over other corporeal components, principally bone and muscle tissues. On the average 1.4 per cent. of fatty matter is present in bone tissues, whereas in the healthy muscle it occurs to the extent of about three per cent. In the male the bony and muscular structures possess a higher specific gravity than in the female. The muscles of the latter are of a lighter color, and their fibres are softer and more subtile. While contractile tissue forms almost the entire muscle in the healthy male, a relatively large quantity of cellular and adipose tissue is deposited in the muscles of the female, bolstering up the interspaces and thus imparting to the feminine body its characteristic rounded and undulated appearance. Large accumulations of fatty material are met with especially in the glutei muscles of the female, where it is often deposited in exceedingly thick layers of great consistence. The volume weight of the component parts of the female organism being, as a general rule, lower than that of similar parts in the male, naturally gives occasion to a lesser specific gravity of the female body *in toto*. While there exists a discrepancy in the specific gravities of the healthy male and female, the density of both is physiological. If, however, a masculine subject possesses the volume weight of a normal woman, he in all probability has a diminished vital resistance or is pathologically affected, and *vice versa*, the female showing a corporeal specific gravity as high as that of a normal man, in all likelihood has no or but a scanty catamenial flow, or may be afflicted with an atrophic or another metabolic disorder.

In childhood the corporeal specific gravity is below the density of the adult organism, and the mean specific gravities of both sexes in very young children are not at variance.

Water forms almost seventy-five per cent. of the total absolute weight of the adult, and in the neighborhood of ninety per cent. of that of the embryo. The quantity varies in each group of tissue. The mean proportion of water in some of the textures of the adult is as follows:

	Per cent. in weight.		Per cent. in weight.
Enamel	0.2	Nerves	78
Teeth	10.	Glands	79

[1] Chem. Centralblatt, 1896, ii., 498.

	Per Cent. in weight.		Per Cent. in weight.
Bones	13–15.	Blood	78–80
Cartilage	57–70.	Cellular tissue	80
Muscles	72–76.	Kidneys	82
Brain	75–78.		

The various tissues, it will thus be seen, vary greatly in their consistence.

The fluids of the body naturally are composed of water to a far greater extent than are the tissues. The following body fluids contain of water:

	Per cent. in weight.		Per cent. in weight.
Milk	83–92	Urine	90–99.
Bile	87–90	Gastric juice	98–99.
Spermatic fluid	90–95	Liquor amnii	98–99.
Chyle	90–95	Saliva	99–99.75
Lymph	93–96	Sweat	99–99.75
Pancreatic juice	95–97		

In old age the amount of water contained in the different tissues is considerably smaller and the fluids of the body are greatly diminished in quantity. Senility, which is virtually nothing else but physiological atrophy, is characterized by a general shrinking and drying up of the body textures; hence, the volume weight of the aged is above that of individuals in middle life.

The quantity of water in the living organism is dependent upon two main factors, viz., the cellular absorptivity and the hydrolytic force of the system in general. In the state of physiological retrogression the potency of these factors is more or less diminished. The fluctuations in the density of the body are for the most part due to its greater or lesser contents of water. The more of this is held in the fluids of the body, and especially the more the tissues are saturated with it, the smaller will be the volume weight of the organism.

The inorganic substances of the body, constituting three to six per cent. of the total body weight during adult life, play an important rôle in the corporeal density. Calcium phosphate, the most abundant of all mineral salts entering into the composition of the animal textures, forms almost sixty per cent. of all osseous tissues. If the proportion of the latter to the total body material is 1 : 15.5 and if the absolute weight of the total body substance amounts, for instance, to 75 kgm., the weight of the bony tissues would be 4,830 gm., and that of the calcium phosphate 2,898 gm.

The amount in which this salt occurs in the bones is almost six times greater than the combined quantity of all other inorganic constituents of the bony texture. Its office in the organism seems to be rather a mechanico-physical one than one of a chemical nature. This is evidenced by the inconsiderable quantities in which it is found in the body fluids by its limited metabolization and by its peculiar deposition in the firmer structures. The rigidity and density of the osseous and cartilaginous tissues are practically dependent upon their contents of phosphate of lime. The volume weight of a bone is the greater the more the calcareous element preponderates. All other mineral substances of the animal body are practically of no moment in the determination of the corporeal specific gravity. The widely distributed sodium chloride even, the most important of all inorganic body constituents by reason of its potency in the processes of nutrition and other phenomena of life, does not influence the corporeal density, as it exists in the organism in quantities little more than 100 gm. Within certain limits, however, the greater or lesser presence of this salt in the organism may cause fluctuations in the density of the most important animal tissue, the blood.

The blood—in point of density—occupies a place between the fluid and the solid components of the animal body. Stintzing and Gumprecht calculated the

mean normal percentage of water in the blood to be 78.4 for the male and 80.2 for the female. Becquerel and Rodier arrived at similar figures, 77.9 per cent. for the healthy man and 79.1 per cent. for the healthy woman. The same investigators, according to v. Limbeck,[1] recorded fluctuations in the blood density in the healthy male between 1.058 and 1.062, in the mean 1.0602; and in the female between 1.054 and 1.060, in the mean 1.0576. Lloyd Jones found as normal values densities between 1.035 and 1.068; Hammerschlag, between 1.056 and 1.063, and Peiper, between 1.0455 and 1.0665 (v. Limbeck).

My own observations, which extend over a period of almost five years, were made partly by means of the method of Roy, partly by that of Hammerschlag. The blood density of the healthy adult male between the twentieth and fiftieth year of life I found to range between 1.057 and 1.0635, and that of the healthy woman, during the same period of life, between 1.051 and 1.061. In advanced age above the fiftieth year I found, as a general rule, an increase in the specific gravity of the blood. Thus I found a blood density of 1.0695 in a healthy male of seventy-three and one amounting to 1.0685 in a healthy woman of sixty-two.

Lloyd Jones (v. Limbeck), who has made extensive studies as regards the blood density in the different periods of life, informs us that the specific gravity of the blood—in both sexes—is highest (1.066) soon after birth. After the second week of life the density declines to 1.048 in boys and to 1.050 in girls, to remain at this minimum until the close of the second year. Thereafter a slow but steady rise sets in, which culminates in the male between the thirty-fifth and the forty-fifth year and in the female after the menopause. In the advanced period of life the blood density—in both sexes—is raised once more. It thus attains toward the close of life a similar degree of concentration as at the time of birth.

Density of Blood an Indication of Corporeal Density.—The volume weight of an organism in the physiological as well as in the pathological state is reflected in the specific gravity of its blood. A high blood density is an indication of a high body density, and *vice versa*, a non-transitory hydræmic condition is mostly met with in an organism of low specific gravity. Slight deviations in the density degrees of blood and body are almost always the rule; exactly analogous figures are hardly ever obtained. This difference, however, seems to be rather due to inaccuracies of the methods for the determination of the specific gravities of both blood and body than to an unequal distribution of the watery contents of the animal organism.

The volume weight of the living organism and the density of its blood were ascertained by me in the following instances:

1. Normal man, aged thirty-one years. Absolute weight, 80.5 kgm. Volume weight, 1.066. Blood density, 1.0605.

2. Normal man, aged twenty-eight years. Absolute weight, 68 kgm. Volume weight, 1.0675. Blood density, 1.063.

3. Normal male youth, aged seventeen years. Absolute weight, 64 kgm. Volume weight, 1.067. Blood density, 1.0615.

4. Normal man, aged twenty-five years. Absolute weight, 59.5 kgm. Volume weight, 1.0643. Blood density, 1.059.

5. Normal man, aged thirty-three years. Absolute weight, 84.25 kgm. Volume weight, 1.0664. Blood density, 1.0605.

6. Normal man, aged twenty-four years. Absolute weight, 61 kgm. Volume weight, 1.07. Blood density, 1.0635.

7. Normal man, aged twenty years. Absolute weight, 55.5 kgm. Volume weight, 1.069. Blood density, 1.063.

8. Normal man, aged twenty-three years. Absolute weight, 63 kgm. Volume weight, 1.0678. Blood density, 1.0615.

9. Normal man (colored), aged twenty-eight years. Absolute weight, 70.5 kgm. Volume weight, 1.0682. Blood density, 1.062.

10. Normal man, aged twenty-nine years. Absolute weight, 67.5 kgm. Volume weight, 1.067. Blood density, 1.061.

The blood in every one of the heretofore cited instances was obtained by puncturing the tip of the middle finger of the left hand, without exercising any friction previously. The latter precaution was taken to secure the blood at as near its normal temperature as possible, for the reason that the blood density becomes lessened even if but a slight momentary temperature elevation has ensued.

Another precaution which I have taken in all my investigations was never to puncture for blood after the individual, the specific gravity of whose blood was to be ascertained, had perspired. Perspiration invariably calls forth an increase in blood density. For obvious reasons water at its maximum of density—40° C.—could not be utilized. However, by weighing the amount of water displaced, the difficulty was overcome.

These observations tend to demonstrate the relation between corporeal and blood density in the healthy individual. The higher degrees of blood concentration, without exception, corresponded with a higher specific gravity of the total organism. From my observations, it is true, a fixed ratio between the two density degrees cannot be learned; nevertheless, such a ratio may exist, particularly in the healthy body of adults—males and females.

We are certainly not far from the truth if we accept the mean difference in the density degrees of body and blood as recorded in my observations as the deviation standard. The two densities varied from each other on the average 5.8 points. The standard or coefficient for the estimation of the corporeal specific gravity of healthy adult males from the blood density would be + 5.8, or in round figures + 6; for the determination of the blood density from the specific weight of the body the coefficient −5.8, or in round figures −6 will give approximate results. Hence, if an individual's blood density was found to be 1.061, for instance, his approximate volume weight will be 1.067, and *vice versa*, a corporeal specific gravity of 1.067 presumably concurs with a blood density of 1.061, or thereabout.

My observations upon the relation of the volume weight of healthy adult women to the density of their blood are as yet quite limited. However, there is no doubt that the mean deviation in the two densities will not differ greatly from that which I have found in the male.

The connection between blood and body density is found during all the periods of life. One is reflected by the other, in health and in disease.

My experiments as regards the relation of both densities in children and in individuals above the fiftieth year, while not very numerous as yet, have clearly demonstrated the intimate connection of these two factors.

Instead, therefore, of ascertaining the corporeal density *per se* by one of the aforementioned laborious methods, it is far more practical and will give almost analogous values by calculating it with the help of a coefficient from the degree of blood density. When it has been generally conceived that the corporeal volume weight can be computed by such a simple proce-

[1] "Grundriss einer Kleinschr. Pathologie des Blutes," zweite Auflage, January, 1896.

dure, then the moment has arrived when it will be one of the salient features in physical diagnosis.

The Corporeal Specific Gravity as a Factor in Physical Diagnosis.—The information furnished by the body density of an individual will assist to disclose the following points:

First: Body soundness. A volume weight in the healthy adult male below 1.063 or above 1.073 denotes unsoundness of the organism. The lesser density is indicative of a general texture satiation with water or of the preponderance of adiposis, or of both conditions together. The higher degree of density reveals a disturbed metabolism, a general atrophic or sclerotic state, or premature senility.

Second: Body immunity. A volume weight below the minimum degree of normality signifies that the system is predisposed to infectious diseases, and one above the maximum of normality announces its susceptibility to or the presence of eliminative disorders.

Third: Qualifications as to physical work. A body whose tissues are satiated with water or infiltrated with abnormal quantities of fatty material cannot during a certain period perform that amount of work which can be accomplished by another organism of the same age and absolute body weight but of normal specific gravity; the individual with abnormal high volume weight also lacks the strength and endurance of one with a lesser but normal density.

Fourth: Probable duration of life. All given conditions being alike, a person of normal volume weight will attain a greater age than one with an excessively low or high density. Individuals, therefore, whose specific gravity is abnormal, should be considered bad risks by life assurance examiners.

Special pathological processes, in as far as they are the originators of abnormal body densities, may often be recognized by the condition of the latter.

In phthisis pulmonum the blood density may not stand in exactly the same relation to the body density as in the healthy organism, that is, the discrepancy between the degrees of the specific gravities of both may be either above or below that in the normal body; however, it seems to be beyond question that there always exists a direct relation between the density of blood and that of the body. The blood density frequently, but not in all instances, varies during the different stages of the tuberculous affection.

The blood of a great number of phthisical patients which came under my observation at various stages of the disease showed an average density of 1.055. The highest blood density observed by me in a phthisical male individual was 1.058, the lowest 1.0505. The lessened specific gravity of the blood in phthisis pulmonum may well serve as an indication of a diminished corporeal volume weight.

I have found abnormal blood densities—to which in most instances proportionate abnormal body densities undoubtedly corresponded—in a variety of metabolic disorders, in renal maladies, in oligocythæmia and other blood affections, and in many febrile conditions.

It is, however, beyond the scope of this paper to enter more fully into the discussion of the relation of corporeal density to certain pathological states; this I reserve for a future communication.

56 East Seventy-sixth Street.

Enuresis and Irritable Bladder in Children.—The treatment which the author especially recommends is hot sitzbaths once or twice daily, the appropriate treatment of accessory causes, the restriction of fluids in the evening. At night the child is laid so that the head is lower than the hips. In older children local treatment through the endoscopic tube is recommended.—Bierhoff.

THE USE OF THE AQUEOUS EXTRACT OF THE SUPRARENAL CAPSULE AS A HÆMOSTATIC.[1]

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In this paper I wish to emphasize some facts already published, and to call attention to some new uses of the suprarenal substance as a hæmostatic. After using it for six years I still believe it to be the most powerful known astringent and hæmostatic. When properly used it will control hemorrhage from all mucous membranes.

Preparations.—The successful use of the extract depends very much on the preparation employed. For local use a solution, which is efficient when applied to the normal mucous membranes of the eye or nose, should make it white in less than one minute. Satisfactory results have been obtained with the following: One part of the dried and powdered gland is mixed with ten parts of water. This forms an emulsion which has been successfully employed to control or prevent hemorrhage after operations on the nose and urethra. It is important that the mixture be freshly prepared, as it soon spoils; sometimes in two hours. For use in the eye or ear the emulsion should be filtered. The solution may be sterilized by heat without losing its efficiency.

For internal administration to control hemorrhage the dried and powdered gland is efficient; it keeps indefinitely. Tablets are useless. Solutions of the extract prepared from the dried gland and from the alkaloid are also satisfactory in controlling hemorrhage from the internal coats of the eye, hemorrhage from the lungs, stomach, and uterus. One does not need to use the hypodermic method, as all the preparations are absorbed by the mucous membrane of the tongue immediately, and the effect follows in less than one minute.

Eye.—Operations on the eye muscles cannot be made bloodless unless the visible vessels are made to disappear by the action of the extract. When the scleral veins are cut, the bleeding may be considerable and the blood invades the subconjunctival tissue for some distance. To control the bleeding a hypodermic syringe is useful to apply the solution to the cut vessel; but little benefit follows the application of the suprarenal to the outside of the blood clot. In lacrymal operations the nasal duct has been incised without the loss of a drop of blood by using the extract frequently during the operation alternately with cocaine, especial care being taken not to cause pain. As soon as the patient feels pain the suprarenal extract ceases to prevent hemorrhage.

Ear.—Dr. G. M. Black has removed the membrana tympani and ossicles without hemorrhage by the use of suprarenal. Dr. Wendell Phillips has found the extract a valuable hæmostatic in operations on the middle ear with the patient under ether. During operations on the mastoid the spurting of the incised arteries of the soft parts is controlled at once by the local use of the suprarenal solution, and the oozing of blood which fills the wound after chiselling the bone has also been materially lessened.

Nose and Throat.—The local action of the suprarenal is less when the parts are inflamed, swollen, or tender, and when the patient is depressed. Epistaxis even in "bleeders" can usually be controlled at once, in less than one minute, when the solution is applied directly to the bleeding surface. It is necessary in some cases to use a syringe. The internal administration is also valuable in controlling nasal hemorrhage. Operations on the septum can be made bloodless by

[1] Read before the New York Pathological Society, December 12, 1900.

keeping the parts blanched white with suprarenal during the operation. Secondary hemorrhage is lessened. I make it a rule to give the patient some suprarenal solution for use at home in case the after-bleeding becomes annoying. Since I have learned the great value of the extract in controlling nasal hemorrhage after operations, I have not used "tampons."

Before closing this short paper I wish to report some new uses of the suprarenal in which the internal administration controlled hemorrhage.

Dr. F. A. Mandeville treated a girl who for two years had suffered daily from nosebleed. The attacks also occurred occasionally at night. The internal use of the suprarenal, gr. iii. t.i.d., was followed by immediate relief. When the suprarenal was stopped a relapse occurred. Suprarenal was again administered and the hemorrhage ceased.

Dr. E. L. Kellogg treated a case of hæmophilia in a child aged one year. The frænum of the upper lip had been cut. Hemorrhage followed, which continued without intermission three weeks. It was treated with styptics, the actual cautery, and by pressure without benefit. Suprarenal solution applied locally stopped the bleeding at once for a time. It was also administered internally. In thirty-six hours the relief was permanent.

Dr. F. J. Quinlan treated a man with hemorrhage from the stomach with nitrate of silver and other astringents without benefit. Pulverized suprarenal, gr. v. t.i.d., was prescribed and relief followed at once. The patient also suffered from bleeding hemorrhoids, which were greatly relieved by the suprarenal.

Dr. J. J. Miller, in consultation with Dr. H. C. Dalton, observed the suprarenal stop hemorrhage in a second case. It was administered (gr. v.) every three hours.

Dr. J. B. Moore treated two cases of epistaxis associated with organic heart disease by gr. xx. of the powdered gland administered by the stomach. The remedy was also applied locally. The bleeding ceased at once. In one case of hæmoptysis the internal administration of the powdered gland, gr. x. every half-hour for six doses, stopped the bleeding. The patient had phthisis pulmonalis and died five days later of exhaustion.

In one case of post-partum hemorrhage the uterus was packed with a large tampon of cotton soaked in a saturated solution of the extract. Ten grains of the powdered gland were also administered internally and a second dose was given half an hour later when the tampon was removed. The hemorrhage had ceased and the patient made a rapid recovery. He is the first to report the local use of the suprarenal extract in post-partum hemorrhage.

Dr. F. A. Mandeville, of Rochester, N. Y., reports the following, which is the first case in which the internal administration was used to prevent nasal hemorrhage during an operation, and in which it was employed after the operation to prevent secondary hemorrhage. A woman, aged thirty-seven years, had a myxomatous growth in the left naris. It bled readily when touched with a probe. An operation for its removal was followed by severe and alarming hemorrhage. Two months later the growth returned. The suprarenal, gr. iii. chewed, was administered every three hours for two days before and on the day of the second operation. Under chloroform the growth was removed in the same manner as at the first operation, with the loss of an insignificant amount of blood. It was noted that the slight hemorrhage ceased almost immediately after the completion of the operation. No dressing was applied. The patient recovered from the chloroform within an hour. The suprarenal was administered every hour, gr. iii. chewed for a day, then every two hours for another day. No secondary hemorrhage followed. The doctor has used the suprarenal internally in other cases with success in lessening primary and preventing secondary hemorrhage after nasal operations.

Urethra.—The successful use of the extract as a hæmostatic after internal urethrotomy has been published by Dr. J. A. Moore and after external urethrotomy by Dr. E. L. Kellogg.

Uterus.—Dr. G. T. Harrison reported the use of suprarenal internally to control uterine hemorrhage from subinvolution. One case of hemorrhage from cancer relieved at once by the extract is on record. A second case was successfully treated by Dr. F. Churchill.

The following case of uterine hemorrhage is reported by Dr. S. Floersheim, and is the third on record in which the internal administration of suprarenal controlled hemorrhage from cancer of the uterus: Mrs. S——, aged forty-three years, was operated upon in August, 1900, for uterine cancer by Dr. West at the New York Post-Graduate Hospital. Not all of the diseased tissue could be removed. The patient afterward suffered considerable pain, for which morphine was administered frequently. On December 4th she had a copious hemorrhage but refused treatment, as she wished to die. This continued for two days and the patient became very weak. Two three-grain capsules of the suprarenal powder were given the patient to chew and swallow without water. She was first told that the medicine was intended to relieve the pain. Within two minutes the hemorrhage, to the surprise of the attendants, was completely controlled. Sixteen days later no hemorrhage whatever had occurred.

The first case of hæmaturia successfully treated with the suprarenal gland is reported by Dr. S. Floersheim. A woman, aged sixty-four years, had suffered two years with vesical tenesmus and a feeling of burning or heat over the hypogastrium. She became very weak and had been confined to her bed two weeks. Treatment with nitroglycerin, digitalis, ergot, spiritus ætheris nitrosi, hyoscyamus, belladonna, salol, infusion of buchu, and potassii acetas during her illness was followed by no benefit. Finally all treatment was stopped and suprarenal powder, gr. iii., was chewed and swallowed without water. The dose was repeated three hours later. To the astonishment of her physician and friends the patient stated that after the first dose she was immediately and completely relieved of all her symptoms. Two hours later she was attending to her household duties and felt perfectly well. The hæmaturia or other symptoms had not returned two months later. The patient was cured by only two doses of suprarenal.

Conclusions.—1. The suprarenal extract is the most powerful known hæmostatic, and has, when properly used, no objectionable properties.

2. When it is used locally, hemorrhage from mucous membranes can always be controlled.

3. The internal use of the extract as a hæmostatic is efficient in some cases.

4. The suprarenal extract, when it controls hemorrhage locally or by the internal administration, does so in less than one minute.

50 East Sixty-fourth Street.

Retinitis Albuminurica in Pregnancy.—Retinitis occurring in pregnancy gives evidence of a toxic condition of the blood which endangers the life of both mother and child, and unless remedies prove efficacious, abortion is justifiable, especially when it occurs in the early stages of pregnancy, or if a previous pregnancy has already injured the retina or the optic nerve.—Francis W. Alter.

THE CLINICAL SIGNIFICANCE OF DULNESS IN APPENDICITIS.

By H. T. MILLER, M.D.,

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In reviewing the literature on appendicitis for the past year one is strongly impressed with the difference of opinion as to the proper course to pursue in the treatment of this disease. There have arisen two factions to this interesting question. On the one side you see arrayed statistics seemingly as formidable as those on the other; one proclaiming to the world that he can as successfully treat this disease by remedial measures as the surgeon can by operative intervention; and in some instances you even read of those who discountenance the resorting to the knife, and positively proclaim that appendicitis is and can be successfully treated by other measures than operative. That they have grounds to formulate such an opinion is at once made apparent by the heated discussions that have taken place in nearly all the society meetings within the past year. You even find not a few of the most prominent surgeons denouncing surgical interference in some cases as unnecessary, holding that there are cases that can be and are successfully treated by other means than operative.

Logically, one cannot but deduce from this difference of opinion that our knowledge of this disease is not such as to lead us to any definite conclusions as to the proper course to pursue, for when one positively states that he has had cases of appendicitis that he has successfully treated without resorting to the knife, one must give ear and feel that a mistake in diagnosis could not have been made in every instance. This being the case, the surgeon is forced to take a more moderate course and not view the opinion of the physician as reprehensible ignorance. Until within a very few months a physician would have hesitated to announce that he had had a case of appendicitis, and had successfully treated it with other means than surgical. For fear of his diagnosis being questioned he would maintain a discreet silence. Heretofore he has remained among the silent majority, allowing the audible minority the whole field.

That a reaction is taking place no one who keeps himself well informed can for a moment question; and that this reaction is for the good we all must admit. Not that I would place this disease in any other category than that of surgery, but rather that I would, from what knowledge I have had from clinical experience and from the perusal of current literature, say that the disease can be treated conservatively up to a certain point; and when that point is reached all conservative measures should be abandoned and radical measures at once taken. I can say with considerable confidence that all, with but few exceptions, have agreed that when the stage of the formation of pus has arrived operative intervention is inevitable. In arriving at a diagnosis of appendicitis, considerable weight should be attached to the presence of an actual inflammatory exudate in the appendical region. If this cannot be detected, and there is simply local tenderness in the iliac region, with some fever, Dr. Bull has said he is rather disposed to wait.[1]

In a certain percentage of cases of operation for appendicitis the appendix is found in a healthy condition. It is a well-known fact that appendicitis has been mistaken for pneumonia and tonsillitis. There are certain conditions of the peritoneum, cæcum, and even the appendix that are not operable. Sentiment should play a very minor part in an age in which we are so very practical; yet one cannot but feel that a serious check is placed upon the art of surgery when an eminent surgeon operates upon a case of appendicitis, with only the symptom of pain to suggest appendicitis, and finds a normal appendix, and the patient dies within forty-eight hours after the operation. One distinguished surgeon has asserted that even should we operate and a mistake be made, the mistake is generally in favor of operative intervention. I think I can say with considerable confidence that should the profession freely express its opinion on this point, it would never agree with this eminent surgeon. We cannot dispute the fact that more cases of "inflammation of the bowels" are saved to-day than there were a decade ago. We can well afford to be more circumspect in our management of these diseases of the bowels. A sentimental view of appendicitis is taking the disease in the abstract, 'tis true, but nevertheless it should hold good in all cases, for we are dealing with life, and that should always be of paramount importance.

The symptoms of this disease, from the moment of its invasion, through its gradations up to the formation of dulness, have been ably described in classical papers, so I will leave these to the knowledge of the reader, and give my reasons why I should be disposed to wait for the formation of dulness in the appendical region before attempting operative intervention. If the alarming symptoms of an acute attack subside within twenty-four to forty-eight hours, we certainly can afford to wait; if, however, there should be no indication of a subsidence in the severity of the symptoms within that time, and we can detect the presence of an actual inflammatory exudate, we would be unwarrantably jeopardizing the life of the patient by deferring operative intervention. We have been taught that pus as pus is never absorbed, then its presence is a veritable sword of Damocles, and the sooner it is removed the better it is for the patient.

In my opinion sufficient stress has not been placed upon the "point of dulness." In every instance in my experience in which I have relied upon this symptom I have been led to a correct conclusion. In cases without any pronounced inflammatory symptoms and in which the dulness was marked, I found the appendix indurated and adherent to the adjacent tissue.

Case I.—A boy, aged nine years, returned from school suffering with severe pain in the region of the appendix. Temperature, 101°; pulse, 100. On the second day the symptoms were about the same, excepting that the pain had increased. On the third day the temperature and pulse increased, with marked dulness over the region of the appendix. I strongly advised operation. This being refused, I retired from the case. A colleague, called in, continued with the oil-and-salts treatment. Two weeks later I was called in to operate, which I refused, as the patient was moribund—dying the following morning. Post-mortem was requested but not allowed.

Case II.—N——, aged forty-six years, was admitted to the hospital March, 1898, in the fourth attack of appendicitis. Temperature, 99°; pulse, 100. Pain in the appendical region was marked, but there was no dulness. Operation revealed the appendix in a healthy condition, but firmly adherent to the abdominal wall. The appendix was removed and the pain relieved. Recovery.

Case III.—A young lady had pain in the appendical region, which was increased on deep pressure; temperature, 100°; pulse, 110. She was ordered gr. $\frac{1}{10}$ of calomel every hour, with oil-and-salts treatment and rectal injections. The patient improved rapidly, and was discharged cured. It is now over a year and a half ago, and there has been no return of any of the symptoms.

Case IV.—M——, aged nineteen years, suffered severe pain in the region of the appendix, with fever and increasing pulse. Dulness was pronounced.

[1] Medical Record, May 26, 1900.

Operation was not allowed. Calomel, oil-and-salts treatment, and rectal injections were ordered. Death occurred four days after he entered the hospital. Post-mortem examination revealed a gangrenous appendix in a large abscess and suppurative peritonitis.

CASE V.—G. P—— entered the hospital in June, 1898, suffering severe pain in the region of the appendix, with marked dulness, fever, very rapid pulse, free sweating, and vomiting. Operation was performed on the afternoon of the day of admission. A gangrenous appendix and omentum and a large abscess were found. The appendix and about six inches of the omentum were removed. Recovery with hernia ensued.

CASE VI.—S——, aged nine years, was admitted to the hospital suffering from an acute attack of appendicitis. Dulness was pronounced. Operation was performed four hours after admission. About four ounces of pus were found. The appendix was not removed on account of intense adhesions. Recovery.

CASE VII.—S—— was admitted in December, 1898, to the hospital, after having driven five miles, suffering from an acute attack of appendicitis. Dulness was marked. Operation was performed the following day. Pus was found, and the appendix removed. The patient did well until the eighth day, when he died of suppurative peritonitis. I cannot help feeling that the mistake made in this case was the use of hydrogen peroxide in cleaning out the abscess cavity.

CASE VIII.—G. P——, second attack, March, 1898, with fever and increased pulse. No dulness was present. The attack lasted four days under regulation treatment. Recovery.

CASE IX.—W——, aged twenty-one years, in the last stage of an acute attack of a week's duration. The fever was high and the pulse thready. Operation was performed soon after admission to hospital. A large quantity of pus and a gangrenous appendix and intestine were found. The abdomen was washed out with decinormal salt solution and the wound closed. Death ensued the following day.

CASE X.—Miss W—— had a third attack July, 1898. Fever and pain had been present for four days. There was no dulness. Apparently she recovered, as there has been no return of either fever or even the slightest sensitive spot.

CASE XI.—T——, aged twenty-two years. The abdomen was tympanitic, with marked dulness in appendical region. Operation: the abscess cavity was irrigated and the appendix removed. Death occurred six months later of tuberculosis.

CASE XII.—Miss S——, aged twenty-three years, had a third attack June, 1900. Pain and dulness existed in the appendical region. The temperature and pulse were slightly increased. Operation: pus was found and the appendix removed. She recovered with a fistula, which subsequently closed.

CASE XIII.—Miss O'D——, aged thirteen years, had an acute attack of two days' duration. Temperature, 103° F.; pulse, 130. Pain and dulness were pronounced. At the operation about two ounces of pus were evacuated and a gangrenous appendix was removed. Recovery.

CASE XIV.—M—— was attacked July, 1900, with severe pain in the region of the appendix. These attacks had occurred for the past ten years and had always been thought to be bilious attacks. Temperature, 101° F.; pulse, 100. Pain and dulness in the appendical region were marked. The operation was performed by A. W. Johnstone, of Cincinnati, Ohio. The appendix was perforated and evidence was present that an abscess had emptied itself through the appendix. Recovery.

CASE XV.—B——, aged nine years. Temperature, 101° F.; pulse, 115. Pain and dulness were present in the appendical region. At the operation about an ounce of pus was removed. The appendix was not removed on account of firm adhesions. Recovery.

CASE XVI.—J. D—— was attacked last July with pain in the region of the appendix, fever, and increased pulse. On account of the patient's large abdomen it was a difficult matter to outline absolute dulness; however, there was a decided flatness in the region of the appendix. The patient seemingly recovered. While visiting in Cleveland, Ohio, pain in the region of the appendix recurred. The operator, Dr. George W. Crile, of Cleveland, reports: "The appendix, omentum, and caput coli were bound together in very firm adhesions. The appendix was found lying down over the brim of the pelvis. It was œdematous, thickened, and very brittle." Recovery.

CASE XVII.—F. C——, aged twenty-three years, was admitted to the hospital suffering from an acute attack of appendicitis. Temperature, 102° F.; pulse, 115. Severe pain and marked dulness were present in the appendical region. Operation was performed on December 16, 1900. About a drachm of pus escaped, and the appendix, inflamed and adherent, was removed. Recovery.

CASE XVIII.—C. Y——. I was called in the country to see this case on December 28th last. Temperature, 102° F.; pulse, 105. The pain was intense and dulness very marked. Operation was performed the following day. About four ounces of pus escaped; the appendix, found ulcerated and firmly adherent, was not removed. The temperature and pulse fell to normal two days after the operation, and have remained so up to the writing of this paper.

CASE XIX.—I was called to see this case by a colleague. There were chills, fever and sweat, and marked pain and dulness in the appendical region. I strongly advised operation, which was as strongly refused; I then offered as the only hope of recovery the emptying of the abscess into the intestine, stating that this was taking a very desperate and almost hopeless chance. I was not a little surprised to learn the following morning that this was just what had happened. There was an immense discharge of pus from the rectum; the temperature and pulse immediately fell to normal, and the case ended in recovery.

Remarks. The foregoing cases show the significance of the formation of dulness. In every instance in which dulness was present pus was diagnosed, and this was verified by either an operation or a post-mortem examination, with the exceptions of Cases I. and XIX. In Case I. the presence of peritonitis with the general septic condition of the patient would lead one to a correct diagnosis; and in Case XIX. the outcome of the case was all that was necessary for a correct conclusion. In Case II. the patient was a laborer, and all attacks were brought on by heavy lifting; a few days' rest, with prompt treatment, would soon dissipate all the symptoms. Case X. is somewhat similar to the one just described, only this instance happened to be in a young lady who had nothing else to do but to attend to her health, and not having to do work of any description, the attacks have seemingly disappeared. Cases I., IV., and VII. would bear me out in the conclusion that the presence of pus is a constant menace, and that an operation is imperative once the diagnosis is made. And this is true, in my opinion, in the remaining cases in which the presence of an actual inflammatory exudate was defined by the presence of dulness.

Chronic Enlargement of the Spleen in Infancy.—John Lovett Morse states that chronic splenic tumor is much more common in infancy than in later years, occurring not only under the same conditions as in

adults, but in many others not associated in them with splenic enlargement. It is an almost constant accompaniment of leukæmia, pseudo-leukæmia, cirrhosis of the liver, and malaria. In malaria the tumor develops early, attains considerable size, and persists a long time. Enlargement of the spleen may occur from amyloid changes. Malignant disease of the spleen in infancy is almost unknown. Most of the chronic affections of infancy cause enlargement of the spleen. All forms of anæmia in infancy may be associated with enlargement of the spleen. The presence or absence of leucocytosis in connection with the anæmia seems to have no direct connection with the size of the spleen. The liver may or may not be enlarged in connection with the splenic enlargement. Of the chronic affections of infancy associated with cachexia, two are especially likely to be associated with splenic enlargement. These are rickets and hereditary syphilis. The writer's experience has shown the comparatively rapid diminution in size of the spleen in anæmia and rickets, with the relief of the causative condition. He is also inclined to think that in hereditary syphilis, too, it usually disappears under treatment.—*Annals of Gynecology and Pediatry*, December, 1900.

Pathogenesis of Gall Stones.—Hugo Summa thus concludes his study of the subject: The causation of gall stones is very manifold. Their formation requires a union of at least two factors. Notwithstanding all our efforts made so far, there are still a number of etiological factors unknown to us. We do not as yet understand the chemical changes in the bile, and the anatomical changes in the gall bladder in various, especially febrile, diseases. One very important group of gall stones is apparently due to the combined effect of temporary impediments in the outflow of bile and lithogenic catarrh of the biliary system. The chief material of these gall stones, cholesterin and lime salts, is not derived from the bile, but from the destruction of the epithelial cells of the mucosa. The pathogenesis of gall stones is still in its infancy.—*St. Louis Medical Review*, December 8, 1900.

The Rational Treatment of Vesical Ulcer.—F. Kreisel endorses the endovesical operation through the cystoscope. It can be performed under local anæsthesia within twenty to forty minutes, according to the extent of the ulceration. Curetting and cauterizing is perfected under the control of the eye, and the manipulations are rendered almost bloodless if care is taken not to carry them over the edges of the ulcer into the adjoining mucous membrane. The patient is up and around the day following the operation, the symptoms subside rapidly, all that remains for a few days is a sensation of soreness in the urethra in the male patient, which is due to the tension of and pressure by the cystoscope, unavoidable on account of the shape of the urethra and the situation of the prostate gland. At the end of the first week shreds representing parts of the eschar appear in the urine, and upon their disappearance within another week the urine becomes clear, and normal conditions regarding the function and capacity of the bladder are restored.—*The Chicago Medical Recorder*, December, 1900.

Case of Lupus Healed under Treatment with Roentgen Rays.—William Allen Pusey reports the case of a woman suffering from lupus, which was extensively situated on the left side of the face and neck, and reached over upon the right side of the chin and upon the right cheek beyond the angle of the mouth. Treatment by exposure to *x*-rays was given with intermissions for about six months, and a cure has resulted. Whether it is a complete cure or not can be determined only by the lapse of time. There remain now, except the scars, no evidences of the disease, and even should more or less recurrence of the lupus take place, the author believes that the results may still be called extraordinary. The only thick scars left are those which were in existence before the treatment began, and these have become less prominent, softer, and more pliable. The scars which have taken the place of the ulcers present when treatment began are soft, thin, flexible, and white, and are as healthy looking as they could possibly be. Finsen's treatment by ultra-violet light probably attains no better results, and in celerity of treatment cannot compare with the *x*-rays.—*The Chicago Medical Recorder*, December, 1900.

The Abortive Treatment of Pneumonia, Catarrhal and Croupous, in Infants and Children.—H. Illoway feels certain that in infants and children the pneumonic process can be arrested at its outset, and more than that, that we have the means and have long had them, wherewith to do it. He proceeds to give a number of histories of his own cases. He has had great success in the use of aconite and veratrum viride. Again in other cases with tumultuous heart action the writer has used digitalis (the infusion or rather decoction) with satisfaction. He believes that the combination of the tincture of aconite root with the tincture of veratrum viride (Norwood's) is the more powerful therapeutic measure, and the one he would resort to preferably. He considers the repetition of the medicine at short intervals a vital factor in the achievement of success.—*Pediatrics*, December 15, 1900.

Oral Sepsis as a Cause of "Septic Gastritis," "Toxic Neuritis," and Other Septic Conditions.—William Hunter says that the condition of the mouth associated with the presence of decayed teeth and rotten fangs is a condition of profound sepsis, differing from ordinary sepsis in that all the pus organisms are continually being swallowed. It is also a sepsis connected with diseased bone. The gastric juice has fortunately a great capacity for killing organisms, but this capacity is not complete in the intervals between food. Cases of gastric catarrh become septic catarrh; septic absorption from teeth and gums must be considerable, and there is also danger of infecting the tonsils, with consequent danger of tonsillitic, pharyngeal, and Eustachian-tube infection. The treatment should consist in removal of diseased stumps and roots, or if that be not possible, in the direct application to each diseased tooth of carbolic acid, one in twenty or one in forty, rubbed in by means of a camel's hair brush or a piece of cotton wool.—*The Practitioner*, December, 1900.

The Human Temperaments and their Application in Medicine.—J. C. Bateson states that by temperaments are understood the states of the body and mind with respect to the predominance of different qualities. A knowledge of temperaments is essential to the physician. According to the Fowler brothers in 1839, the following classification, based upon the three grand anatomical systems of the body, was formulated: (1) The motive or mechanical system. (2) The vital or nutritive system. (3) The mental or nervous system. Corresponding to each there is the motive, vital, and mental temperament. In the motive, there is a superior development of the osseous and muscular systems. The vital is indicative of well-developed digestive organs. The mental is characterized by a frame relatively slight and a head proportionately large. There is great intelligence. Every person has the three primary temperaments in combination, but one or two will generally appear most prominent. When the motive is prominent there is

love of action; capacity for severe and prolonged exertion of mind and body. In the vital there is a fondness for the luxuries of life. In the mental, the brain predominates and shortens life. A knowledge of temperament furnishes a scientific basis for the proper exercise of tact. Idiosyncrasy is a peculiarity of temperament which may be observed to some degree in almost every individual. "One man's meat is another man's poison." These different manifestations are largely due to temperament. If physicians made a study of temperament there would soon be almost a complete cessation of the superstitions and fads of today, for the process of curing would be known to depend on the exercise of the law of healing in accordance with certain conditions of human temperament, and not on some supernatural power.—*Pennsylvania Medical Journal*, December, 1900.

The Bactericidal Power and the Alkalinity of the Blood in Leucocytosis from Intoxication by Mineral Poisons.—A. Bentivegna and F. Carini from the results of experimentation conclude that the presence of leucocytes in cases of mineral poisoning has the same biological significance as that attributed to it in bacterial intoxications and infections, and that the mechanism of defence of the organism acts against mineral toxic substances with the same energies that up to the present time have been considered a special manifestation in the case of bacteria and microbic toxins.—*Lo Sperimentale*, Vol. 54, No. 8.

Abdominal Relaxation a Probable Factor in the Pathogenesis of Gall Stones.—Jesse S. Meyer concludes that: (1) Visceral ptosis consequent upon abdominal relaxation and other causes results in stagnation of the bile through interference with its normal expulsion. (2) The inactivity of the gall bladder and stagnation of the bile predispose the mucous membrane to infection. (3) This infection may be either hæmatogenic through the portal system, etc., or an ascending infection from the duodenum. (4) This results in a catarrhal inflammation of the mucous membrane, an albuminous exudate, and the exfoliation of expithelial cells. (According to Naunyn, the addition of albumin to the bile produces a copious precipitation of the stone-forming elements.) (5) This precipitate, with clumped bacteria and degenerated cell masses as nuclei, forms biliary calculi.—*St. Louis Medical Review*, December 15, 1900.

The Treatment of Acute Inflammation of the Middle Ear.—S. S. Bishop says that in the first stage filling the ear with warmed vaseline and the practice of gentle inflation will suffice to give relief. In the second stage cocaine may be instilled into the ear in eight-per-cent. solution and a full dose of morphine given. Leeches are often of service. Poultices are mischievous. He has seen the following device give great relief. A piece of clean cotton is placed lightly in the mouth of the auditory canal. A pipe is partly filled with tobacco and lighted. Then a piece of thin cloth is placed over the mouth of the pipe-bowl and blown gently through, while the lip-piece of the pipe-stem rests against the cotton pledget. This filters the warm smoke through the cotton into the canal of the ear, and a grateful sedative effect is soon obtained. If, however, pain and bulging of the drumhead continue, paracentesis should be done.—*Laryngoscope*, December, 1900.

The Diplostreptococcus and its Significance in the Etiology of Puerperal Peritonitis.—M. Walthard draws the following conclusions: (1) The diplostreptococcus is a pathogenic germ of the streptococcus group and not a saprophyte. (2) Like the streptococcus pyogenes the diplostreptococcus is found with saprophytic characteristics on dead material, such as the vaginal secretion, the lochia, or the intestinal contents of healthy individuals. (3) The diplostreptococcus is found in pure culture as a producer of inflammation in the diseased tissues of the endometrium and the tubal mucosa, as well as in the exudates of endometritis, salpingitis, oöphoritis, peritonitis, and pericarditis puerperalis. (4) The diplostreptococcus can reach the peritoneum through the endometrium and tubes and produce fatal suppurative inflammation without having entered either the blood or lymph channels. (5) The fatal peritonitis caused by this organism differs from streptococcus peritonitis in its insidious and protracted course, finally ending in the classical picture of diffuse suppurative peritonitis. —*Monatsschrift für Geburtshülfe und Gynäkologie*, December, 1900.

Experiments in the Prophylactic Treatment of Malaria on the Coast of Sardinia.—Raffaele Procaccini gives the results of efforts to suppress malaria among soldiers and sailors who were obliged to work and sleep in districts infected by the disease. In 1895 there were 700 cases of malaria there, in 1899, 113 primary cases and 318 relapses. The prophylactic treatment consisted in protection against the Anopheles mosquito, either by means of locking the men at night into rooms the windows and doors of which were thoroughly screened, or by having them sleep in masks and gloves. The results were unexpectedly brilliant. Among 104 men, there was only one case of malaria, and that in a boy of twelve who had not been sufficiently protected from mosquitos.—*Annali di Medicina Navale*, November-December, 1900.

Neuropathies of the Extremities.—A. Cardarelli enumerates a number of affections, such as torpidity of both hands coming on at night, Raynaud's disease, or swelling and redness of the fingers following shock or chilling, sclerodactylia, Dupuytren's disease or retraction of the palmar aponeurosis, and acromegaly. He believes them to be due, usually, to a functional central lesion. The reasons of the disturbance being so often limited to the extremities, especially the hands, are: 1st, the richness of the nerve supply to the hands; 2d, the fact that when the circulation is disturbed the effect is usually first shown in the extremities; 3d, the fact that the hands are exposed more than other parts to outside irritating agents. The author holds that there are only two forms of treatment which are of use in these cases: electricity, with a constant current along the nerves of the extremities, and massage.—*Rivista Critica di Clinica Medica*, December 15, 1900.

The Intracranial Extirpation of the Gasserian Ganglion without Ligature of the Middle Meningeal Artery.—J. Dollinger sums up his experience as to hemorrhage in the course of extirpation of the Gasserian ganglion, as follows: 1. The Gasserian ganglion can be extirpated without ligature of the middle meningeal artery. This is proved by his five cases. The operation is thereby much shortened, and the complications arising from the ligature are obviated. 2. The anterior division of the artery in half the cases lies in the closed canal of the parietal bone more frequently than in the open sinus, but even then hemorrhage does not in every case occur on turning down the bone flap. 3. With regard to these rare cases of bleeding, we need not previously cut down on the external carotid artery, because, should hemorrhage occur, while compressing the common carotid artery we have plenty of time to plug the foramen spinosum, or, when necessary, to ligature the external carotid artery.—*Medical Press and Circular*, December 19, 1900.

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INSECTS AS CONVEYERS OF INFECTION.

WITHIN the past few years the belief has been steadily gaining ground that insects are important factors in the dissemination of various diseases. With regard to the propagation of malaria by the agency of a species of mosquito, the theory to that effect has received striking and conclusive confirmation and is now accepted almost universally. The statement made some considerable time ago, that yellow fever is spread in a similar manner by another species of the same gnat tribe, which would appear to have been further strengthened by the result of the recent experiments in Manila of Drs. Reed, Carrol, and others, may perhaps soon be also accepted as proven. Flies—even before the Spanish-American War—had been under suspicion as carriers of infection, and especially as conveyers of the germs of typhoid fever. Dr. George M. Sternberg had as early as 1885 drawn attention to the necessity of isolating and disinfecting excrement. Many investigators have shown clearly that Asiatic cholera is often transmitted by the agency of flies. Dr. George M. Kober, of Washington, D. C., declared it to be his opinion some years ago that flies played a prominent rôle in transmitting typhoid fever. After the outbreak of the Spanish-American War the opportunities for closely investigating the subject were numerous, and in 1898 Dr. H. A. Veeder published in the MEDICAL RECORD of September 17th an exceptionally able article entitled "Flies as Spreaders of Disease in Camps," adducing a number of strong arguments in support of his contention, that flies are prolific conveyers of typhoid fever when the sanitary arrangements of camps are not properly supervised. These views were practically established by the investigations of the army medical commission, appointed to inquire into the origin and spread of typhoid fever in the United States military camps during the Spanish War, and to the findings of which commission reference has been frequently made in this journal and in other medical journals, both American and foreign. The fact may be taken, therefore, as definitely decided, that flies are responsible for much of the spread of typhoid fever which occurs in military camps and other places where good sanitary arrangements are not sufficiently regarded. Dr. L. O. Howard, of the United States board of agriculture, who has just published a paper on the subject, pertinently points out that, in all the literature dealing with the question, there has been no discrimination made between the different varieties of insects concerned. The word flies is used indifferently by writers, as if all flies were guilty, or as if there was but one kind of fly—presumably the house fly. Dr. Howard accordingly has undertaken a careful investigation of the insect fauna of human excrement, especially of the flies which breed in human fæces or are attracted to them. The result of these researches was exceedingly instructive. It was discovered that the number of species of insects found breeding in or frequenting human excrement was very large, of which the Diptera alone were of significance from the disease-transfer standpoint. The conclusions reached were that it appears plainly that the most abundant species breeding in or attracted to human excrement do not occur in kitchens and dining-rooms; but it is none the less obvious that while the Musca domestica (house fly) under ordinary city and town conditions as they exist at the present day, and more especially in such cities and towns or in such portions of cities as are well cared for and inhabited by a cleanly, respectable population, may not be considered as an imminent source of danger, it is nevertheless under other conditions a factor of the greatest importance in the spread of intestinal disease. It is shown that the house fly prefers horse manure as a breeding-place, but it is also shown that in army camps, where human excrement is left exposed, it will and does breed in this substance in large numbers and may be attracted to it without necessary oviposition. The use of box privies should for similar reasons be abolished, and such a course would, in the opinion of Dr. Howard, tend to diminish the prevalence of typhoid fever. He also advises that boards of health everywhere should look after the proper treatment or disposal of horse manure, primarily in order to reduce the number of house flies to a minimum, and that all regulations regarding the disposal of garbage and foul matter should be made more stringent and should be more strictly enforced. It is a fact that in cleanly towns and localities flies are not generally numerous. By the adoption—in civil communities and in military camps—of as sanitary measures as circumstances will permit, and, above all, by the prompt disposal of garbage and other filth which may be calculated to attract flies, a demonstrated cause of spreading disease will be greatly curtailed.

THE GRAND JURY AND BELLEVUE HOSPITAL.

THE presentment of the grand jury respecting the administration of Bellevue Hospital will be generally received with mingled feelings of gratification and regret. The conviction has long been present in the mind of every one who has given the matter any thought, that all was not as it should have been in Bellevue Hospital, and that a thorough probing of the methods of management prevailing there would result in the public insisting upon a cleansing of its Augean stables. It was also recognized that an investigation by the grand jury would be a beneficial forward movement.

The report issued by the grand jury has to some extent justified this confidence, though many persons, and especially the medical profession as a body, will feel that some of the strictures contained therein are undeservedly harsh and do not cast the blame where it is rightly due. The investigation has clearly proved that gross abuses characterized the management of Bellevue as a whole. It has shown that out of seven hundred insane patients sent from Bellevue to Manhattan Hospital in the year 1900, upward of two hundred and fifty received contusions and bruises upon various parts of the body, and the fact was likewise demonstrated that these injuries, or at any rate the great majority of them, could have been incurred nowhere but at Bellevue. The evidence was too sufficiently plain that the nurses in charge of the insane pavilion were inexperienced in the care of the insane, that there was practically no one to supervise their actions and no expert to instruct them in the performance of their duties. Furthermore, the investigation showed that the methods of restraint in use at Bellevue are out of date and, so far as the mechanical forms are concerned, obsolete; that the books have been kept in a negligent and incompetent way; that appointments are sometimes made through political influence, and not by reason of fitness; and, finally, that the Bellevue Hospital building proper is antiquated and unsuited to modern hospital purposes.

The grand jury has performed a most creditable public service in laying bare the above evils, but the conclusions drawn from these investigations will not altogether meet with the approval of the medical profession nor of those best acquainted with the internal economy of Bellevue Hospital. The grand jury concludes as follows: "It is fairly deducible from the testimony submitted to us that in point of fact the medical board is directly and absolutely responsible for the administration of Bellevue. It has not been made clear to us how this state of affairs has been brought about, but it would appear that it has resulted from the gradual and steady encroachment of that body upon the prerogatives of the commissioner of charities and the superintendent of the institution."

On all hands the fact that the condition of Bellevue is in most respects unsatisfactory and in many absolutely deplorable is freely granted; but that the medical board should be branded as entirely and alone responsible for this unsavory state of affairs is distinctly unfair. Probably, if all were known, it would be found that the reverse of this is the case, and that on more than one occasion the medical board has battled hard to introduce necessary reforms into the administration of Bellevue, but has been overruled by the lay members of the management. Again, it would appear that Dr. Moore was unjustly treated in being summarily dismissed; and that Mr. Keller agreed with the medical board in this opinion was evinced by Dr. Moore's reinstatement, and by the decision of a committee of five from the medical board that the work of caring for patients in the alcoholic and insane wards is too great for one interne. The truth is, that it is the system which is at fault in Bellevue Hospital, and not the commissioner of charities, nor the superintendents, nor the medical board.

If, as before suggested in the MEDICAL RECORD, the municipal hospitals of New York City were to be reformed upon the lines recommended by the charter revision commissioners, there is every reason to hope that friction would be avoided, and that these institutions would be run smoothly and in the best interests of those for whose benefit they were established.

THE ELMIRA REFORMATORY UNDER THE NEW MANAGEMENT.

THE twenty-fifth annual report of the board of managers of the Elmira Reformatory, for the year ending September 30, 1900, has been submitted to the legislature. The gross number of inmates on the books during the past twelve months has been 2,050; of whese 666 were received during that period, and 774 dismissed, producing a daily average of 1,365. The part of the report, however, dealing with the methods of administration will attract the most attention, for the reason that the past year is the first in which the methods pursued by the new board have been in regular working order. The report, commenting upon the situation, says: "The radical differences of view which had existed between the remaining members of the so-called old board and those more recently appointed by Governor Roosevelt, had made harmony of action impossible, and it was not until the beginning of the present year that the latter were able to undertake and enforce the measures for improvement.

"For a number of years tuberculosis has been an increasing and dangerous feature among our prisoners. Many have it upon arrival in a more or less advanced stage; others develop it under the trying conditions of prison life and association with those already affected. The management further became convinced by careful scrutiny, extending over many months, that prisoners, healthy on arrival, became affected." With regard to the medical carelessness of their predecessors, the board declares that there was a marked absence in the preceding medical department of full and detailed records, both as to cases of ordinary disease and those of insanity. Under the head, "Discipline," the report says: "Since the statement in the last annual report, that flogging had been abandoned at Elmira, some sincere friends of the reformatory have expressed the fear that its discipline would deteriorate. The board has not shared this fear. The economic system of the administration has been marked by a serious lack of economy and system. To use a hackneyed phrase, it was saving at the spigot while wasting at the bung-hole. The reformatory has never, to our knowledge, had a steward upon whom was laid the sole responsibility for the purchase of food and materials. There has been no central storehouse and no single storekeeper of full responsibility. The maintenance of the educational system by the present board has been seriously questioned by those who profess to see in the withdrawal of Mr. Brockway the first step toward the destruction of the fabric he has laboriously

created. The board finds in his system much to admire and uphold; something to criticise and modify, and something to condemn."

The notorious phrase, that "new brooms sweep clean," is truer perhaps than many of the much-vaunted axioms that have been handed down to us from our epigrammatic forefathers. It certainly seems, in the case of the Elmira Reformatory, that the present management intends to put the words into practice as far as is possible. To a certain extent, there can be no doubt that the infusion of fresh, vigorous blood to any administrative body has the tendency to quicken the circulation and to impart renewed energy to the whole system. Nothing could be wiser than the remarks of the board with regard to the infection and spread of tuberculosis among prisoners, and any means its members see fit to use in order to stamp out and check this disease will meet with the highest approbation from all grades of society. It is perfectly right, too, that a public institution should be administered as economically as is compatible with the moral and physical well-being of its inmates. The abolition of flogging was probably the result of the public outcry against its continuance, voiced somewhat clamorously by some of the lay journals. If discipline can be properly maintained without flogging, by all means do away with it.

The fact cannot be denied that under Mr. Brockway's rule the Elmira Reformatory took a very high position among such institutions, in the estimation of experienced penologists. The hope is here expressed that the new methods of management may be equally successful in retaining the reformatory in the foremost rank.

THE X-RAYS IN MEDICINE.

The use of the *x*-rays is insufficiently understood by the majority of non-professional men. Some believe that it is possible to see clearly through the twenty-foot wall of an old Norman donjon keep by their aid, while others are quite sceptical as to their efficacy under any circumstances. Dr. Francis H. Williams, of Boston, has an article in the *International Monthly Magazine* in which the powers of the *x*-rays are plainly defined. He says: 1st. They act on a photographic plate like ordinary light. 2d. They excite wonderfully brilliant fluorescence in certain substances which disappear instantly as soon as the *x*-rays are cut off. This property is utilized for medical purposes by means of a fluorescent screen which is made by spreading on a piece of cardboard a thin and even layer of properly made crystals of tungstate of calcium or of platino-cyanide of barium. 3d. These rays pass readily through substances light in weight, such as cardboard, wood, leather, clothing, paper, fat, muscle and skin, but with more difficulty through heavy substances, such as bones and all the heavy metals. This characteristic of the *x*-rays demonstrates that our ideas concerning the transparency of objects must be modified and adapted to the form of radiation under consideration.

The *x*-rays have proved to be of great use in both medicine and surgery, and in no one of either branch more than in tuberculosis. The chief object in this disease is to diagnose tuberculosis as such in the earliest possible stage. This is often an extremely difficult, and in some cases an impossible matter by ordinary means. By the aid of *x*-rays, however, those changes in the organs which are the first signal can be detected in the very beginning of the malady, and thus the patient is able to take the steps necessary successfully to fight the disease before it has gained too strong a hold. The benefits conferred on both the individual and the community at large are plainly of the greatest value. As Dr. Williams says, "The limitations and uses of the *x*-rays not being generally understood, *x*-ray examinations may and probably will be used to play upon the imagination and credulity of patients. To avoid this danger it is well for persons desiring to be examined by the *x*-rays, to bear in mind that, in medical cases, this method must be used by the physician, and in surgical cases its results must be interpreted by a surgeon." The full possibilities of the *x*-rays have not been thoroughly ascertained as yet. There is still a wide field for their intelligent use.

DEATH OF A WELL-KNOWN BRITISH MEDICAL EDITOR.

On Saturday, January 9th, Archibald Hamilton Jacob, B.A., M.D., T.C.D., F.R.C.S.I., died at his residence in Dublin, Ireland. The deceased physician, who was sixty-three years of age, was one of the most widely known and best liked members of the medical profession in Ireland, and had a distinguished career as a practitioner. He took his M.D. degree in 1862, and commenced practice as an ophthalmic surgeon in Dublin, and had for many years occupied the position of professor of ophthalmology in the Royal College of Surgeons, Ireland; he was also at the time of his death oculist to the lord-lieutenant of Ireland, besides holding several hospital posts.

Good, however, as was Dr. Jacob's reputation as a practising physician, his fame as a writer was much more extensive. In 1865 the *Medical Press* of Dublin and the *Medical Circular* of London were amalgamated, and throughout the thirty-five years intervening from that date he has been editor-in-chief and part proprietor of that journal, having succeeded his equally eminent father, Dr. Arthur Jacob, on his retirement.

Dr. Hamilton Jacob, as a writer and reformer, was somewhat of the type of the late Thomas Wakley, the founder of the *Lancet*, being an uncompromising opponent of all sham and jobbery and an ardent supporter of any measure likely to benefit his profession. At the same time his ideas were in a high degree practical, as evidenced by the beneficial alteration effected through his agency in the Irish poor-law medical service and the amelioration he brought about in the situation of the medical poor-law officers of Ireland.

As a writer Dr. Jacob was terse and to the point, and by his judicious conduct in the editorship of the *Medical Press and Circular* he brought that journal to quite the front rank of the medical journals of Great Britain.

He was also a striking example of a man who was able to combine the arduous work of a large public and private practice with the no less trying duties which must necessarily fall upon the shoulders of an editor of a largely circulated journal. Dr. Jacob's qualities in private life were as estimable as those he exhibited in a public capacity; for those who had the pleasure of a personal acquaintance with him say that he was one of the most delightful and intellectual of companions, a clever speaker, a charming *raconteur*, a good musician, and that, over and above these gifts, he possessed a warm and generous heart.

News of the Week.

Dr. Seymour Oppenheimer has been appointed consulting otologist and laryngologist to the Hebrew Sheltering Guardian Society of New York.

No Hearing on Board-of-Health Bill.—The objections to the bill abolishing the present State board of health and establishing a single-headed commission have evidently been satisfied, for the parties that asked for a hearing last week before the Senate commission on public health withdrew their request.

Influenza of Glandular Type in London.—There is said to exist in London at the present time a recrudescence of influenza presenting the distinctive feature of swollen, tender submaxillary glands. No confirmation of this rumor has been received, although this is the season when the ubiquitous malady is wont to make its reappearance.

Mortality Statistics of New York State.—The number of deaths from all causes reported for the year to the State Board of Health is 128,468. This exceeds the mortality of 1899 by 6,647 and the average of the past five years by 8,000. Besides these reported deaths there were 1,600 returned too late for the report, making the death rate for the year 18.5. The increase over last year is largest in the maritime district, where there were 5,600 more deaths than in 1899. Infant mortality was 4,000 greater than last year, but the percentage of deaths under five years of age is the average of the past years.

Discovery of Smallpox Cases.—On Wednesday night, January 30th, and on the following morning, no less than nineteen smallpox cases were found in "Little Italy" between 116th and 125th streets. A raid was made in that district by health inspectors in quest of smallpox and this was the result. No reports of the cases had previously been made. The Italians whose families had been attacked had concealed their sick in order that they might not be sent to the Contagious Diseases' Hospital.

Accidents at the Funeral of the Queen.—There were a number of accidents during the crushes in London on Saturday. Several persons were badly hurt through falling from elevated places. The hospitals cared for thirteen hundred persons who were injured in the crowd; of this number, however, only sixty were seriously hurt, including several policemen and soldiers, and a number of women suffering from broken limbs. The St. John's Ambulance Association attended 1,305 persons injured during the funeral crushes in London. The association had 701 doctors and nurses busy at twenty-six stations.

State Sanatorium for Consumptives in Illinois.—The State board of health of Illinois in its forthcoming biennial report will recommend the building of a State sanatorium for consumptives.

A Tragic Death.—It has transpired that a mechanic was locked in one of the ballast compartments of the steamship *St. Paul* when she was launched five years ago. The skeleton has just been found in the hull of the vessel, which is undergoing repairs.

A Physician Fined for Being Late.—Judge Wiltbank on January 31st imposed a fine of $10 on Dr. William Moore, who was half an hour behind the time named on the subpœna summoning him to appear in court to testify in a case. At first the judge was unwilling to admit the plea of the doctor that he was unavoidably detained by a patient who was seriously ill. Finally, however, the reasonable nature of the excuse was recognized, and the fine was remitted.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending February 2, 1901. Medical Inspector W. A. McClurg commissioned a medical inspector, November 19, 1900. Assistant Surgeon H. O. Shiffert ordered to the *Franklin*. Assistant Surgeon E. J. Grow detached from the *Culgoa* and ordered to the *Glacier*, and also to duty at Olongapo, P. I. Pharmacist J. Cowan detached from the *Culgoa* and ordered to the *Glacier* and also to duty at the Naval Hospital, Cavite, P. I. Passed Assistant Surgeon M. R. Pigott died at Annapolis, Md., January 31, 1901.

To Restrict Sweatshop Work.—An important bill introduced in both branches of the New York legislature on January 30th by Senator Willard and Assemblyman Costello provides that the correct name and address in English of the owner of articles manufactured in tenements shall be attached thereto for the purpose of identification. The name and address must not be taken off until such article is removed. No person not a *bona-fide* member of a family licensed to do work in tenements shall be permitted to labor on such work.

To Prohibit Christian Scientists and Osteopaths from Practising in New York State.—The bill of Assemblyman Hal Bell prohibiting Christian Scientists and osteopaths from practising in this State without the license of a medical practitioner had a hearing on January 30th before the Assembly Committee on Public Health in the Assembly Chamber, which was crowded with more than three hundred Christian Scientists who were there, as one of them expressed it, "to fight the forces of the flesh and the devil." The handful of physicians there to support the measure found themselves outnumbered by 25 to 1.

Honors for Sir William MacCormac. — Sir William MacCormac has received from the President of France the cross of commander of the Legion of Honor.

The British Journal of Tropical Medicine announces that, owing to its increasing circulation and need of more space, two editions will be issued monthly, instead of one as heretofore.

Another Serum.—The *Berliner klinische Wochenschrift*, it is said, ascribes to a physician named Jalz the discovery of an anti-typhoid serum which has been applied successfully in fifty cases. The report adds that the serum is swallowed and not injected.

Illness of the Duke of York.—The Duke of York, who is suffering from an attack of German measles, was unable to attend the Queen's funeral. Sir James Reid and Dr. Laking, who are in attendance, say that the condition of the duke so far is satisfactory.

Dr. Rodermund Captured.—Dr. Mathew J. Rodermund, of Appleton, Wis., the doctor who infected himself with smallpox and then went about exposing others to prove that smallpox is not contagious, was caught by the Milwaukee police as he stepped off the train from Chicago last week. He is now in the Detention Hospital.

The Health of Havana.—The report for the year 1900 of Major W. C. Gorgas, United States army, chief sanitary officer of Havana, was issued recently. Yellow fever claimed 310 victims during the year, while there were 851 deaths from tuberculosis, 506 from diarrhœa and enteritis, 443 from organic heart troubles, 393 from meningitis, 357 from diseases of the arterial system, 344 from malaria, and 319 from pneumonia. There were few deaths from typhoid fever, diphtheria, and smallpox. Of the 1,244 cases of yellow fever which occurred during the year, 920 were in Spaniards and 235 in Americans; about twenty-five per cent. of the Spaniards died and 14.89 per cent. of the Americans.

The Influence of Grippe on the Death Rate is exhibited in the fact that the total number of deaths reported to the Philadelphia bureau of health for the week ending February 2d was 556, being 20 more than for the preceding week and 49 more than for the corresponding week of the preceding year. The most important causes and the number of deaths attributable to them were as follows: Pneumonia, 96; pulmonary tuberculosis, 64; nephritis, 45; disease of the heart, 44; gastro-enteritis, 26; old age, 19. Influenza was itself directly responsible for 20 deaths.

A Home for Trained Nurses.—It should be of especial interest to the medical profession to learn of an entertainment to be given at the Waldorf Astoria Hotel, on the evening of February 16th, by the guild of St. Barnabas for trained nurses. The proceeds will be devoted to securing a house where its members, when not on duty, can find a comfortable home, with a view to their mental, moral, and physical betterment. A number of the leading society women have taken a lively interest in this entertainment. The leading New York hospitals are strongly associated with the guild. Besides the worthiness of its object, this event of the 16th inst. will be most representative from a social and an artistic standpoint. Tickets may be had of Mrs. A. E. Gallant, 60 West Fifty-sixth Street.

Vegetarian Principles Strong in Death.—A rich professor, who died recently in Berlin, left the greater part of his fortune, estimated at 420,000 marks, for the establishment of an orphan asylum where the children should be brought up on strict vegetarian principles.

Anti-Vivisection Bill not to be Taken up this Session.—At a recent meeting of the New England Vivisection Society Joseph L. Greene quoted from Senator Gallinger of New Hampshire to the effect that the bill against cruelty to animals in the District of Columbia would probably not be taken up at the present session because of the pressure of business.

Dr. Emil Muller to Remain at Harlem Hospital.—Dr. Emil Muller, who was the house surgeon at the Harlem Hospital until January 1st last, when he was removed by Commissioner of Charities Keller, has been notified that he has been reappointed. Dr. John F. Blackmar, who had been acting house surgeon since Dr. Muller's removal, will return to his old position of assistant house surgeon.

A Physician's Failure for a Large Amount.—Dr. Francis Auersperg, of 326 West Seventy-eighth street, has, says *The Sun*, filed a petition in bankruptcy with liabilities of $290,729, and no available assets. Nearly all the debts were contracted in Vienna, some in Berlin and Paris, and $1,100 in New York. Dr. Auersperg formerly lived in Vienna and all his property was turned over by the Austrian Bankruptcy Court to Dr. Ignatz Klopetz, of Vienna, on February 29, 1898, and was divided among the creditors.

The State Consumption Hospital Site.—*The Sanitarian* says: "The State forest preserve board and the State board of health have approved the site recommended by the trustees of the State hospital for the treatment of incipient pulmonary tuberculosis. The site, which is located at Raybrook, three miles southeast of Saranac village, contains five hundred and twenty-one acres and will cost the State $7,500. The site selected is on the side of a hill, sloping to the southeast, well sheltered from the prevailing winter winds and facing the picturesque Raybrook Mountain, a mile away. A little to the right of the proposed site is the group of the highest Adirondack Mountains. The top of the hill which commands a beautiful view to the north and west is a plateau which would be admirably adapted, during the summer, for tents in which the male inmates of the hospital could live."

The University of Edinburgh and Advertsiing Testimonials.—The University of Edinburgh has expressed disapproval of the granting of laudatory testimonials of drugs and proprietary remedies by their graduates. It would be well if other institutions of

like standing were to follow a similar course. The custom of well-known physicians allowing their names to be used for advertising purposes is much too prevalent.

Lengthening of the Time for Medical Study in Germany.—A bill has been brought before the federal council of Germany, providing that the time of study for medical students shall be five years instead of the present term of four years and a half.

Typhoid Infection Conveyed by Linen.—Typhoid is spread in various ways. Some few months ago the source of an epidemic on a small scale was traced to infection by means of celery. An unusual mode of conveying the bacilli of the disease has recently been reported from Lambeth (London), England. This locality is inhabited for the most part by the working class, the womenkind of which are in the habit after washing their clothes of sending them to be mangled to the house of a neighbor who possesses a mangling machine. Infected linen thus treated contaminated the mangle, which in turn conveyed the infection to other non-infected clothes.

Crusade against Cigarette Smoking in Michigan.—Five distinct measures have been presented to the legislature of Michigan against the use of cigarettes. Governor Bliss in his inaugural message has championed the anti-cigarette crusade. The bill proposed by Representative Gordon is of a decidedly remarkable nature. It provides for an annual tax of $200 a year upon retailers, and stipulates that they shall purchase cigarettes only in original packages. The bill specifies the dimensions of the packages, which are to be of such an immense size that they will be calculated to restrict the sale of cigarettes to the most prominent dealers.

The American Army in China.—General Chaffee has decided to quarter the troops of the United States in Sibley tents for the Chinese winter. This course was at first sharply criticised by the commandants of the soldiery of the other nations, and the example of the British, Germans, and Japanese, who were housed in deserted Chinese buildings, was pointed to as good examples. But there never were fewer sick men in the American commands, while the German and British hospitals are said to be filled with soldiers. The report goes that the foreign officers have recognized the wisdom of General Chaffee's decision and are borrowing tents from the Americans.

Sing Sing Condemned.—A special committee of the Prison Association, accompanied by Mr. Wingate, an expert sanitary engineer, has been inspecting Sing Sing, and has reported that its insanitary condition is such that it should be demolished. The following are extracts from Mr. Wingate's statement: "The prison was established at Sing Sing in 1834. The buildings are old, obsolete in plan, and have suffered from years of hard usage. Erected at a time when security was the sole object, but little regard was given to the health and comfort of the inmates. The whole aspect of the cell structure is dark, grim, and forbidding, with massive stone walls that drip with moisture in foggy weather and are very chilly in winter, and windows so deep and low that the direct rays of the sun seldom enter. The site of the prison is most unfortunate from a sanitary point of view. The sewage of the village discharges into the Hudson, only a short distance above the prison, and tends to pollute the stream. Where vermin breed so abundantly as to defy whitewash, sulphur fumes, and other destructive agencies, disease germs will also flourish, and no better laboratory for their propagation and diffusion could be devised."

The Astley Cooper Prize.—It is announced that the next triennial prize of £300 ($1,500), under the will of the late Sir Astley F. Cooper, will be awarded to the author of the best treatise on "The Pathology of Carcinoma and the Distribution and Frequency of the Secondary Deposits Corresponding to the Various Primary Growths." The competition is open to the world, with the exception of the staffs of Guy's and St. Thomas' Hospitals and their relations, but the essay must not be the production of two or more authors; and essays, written in English, must be sent to Guy's Hospital, addressed to the physicians and surgeons, on or before January 1, 1904.

Reconstruction of Glasgow Infirmary.—For long serious complaints have been made against the buildings of the Royal Infirmary, Glasgow, and the fact has been recognized that they are not worthy of a city so noted for the riches and public spirit of its citizens. A plan for the reconstruction of the infirmary has now been adopted by the committee appointed to adjudge on the matter. The building is to be constructed in the form of a quadrangle, with a central tower in the front. At the angles will be circular turrets. The building will be divided into three parts—for medical, surgical, and special diseases. The front, or Jubilee Block, is to be six stories in height, and will contain ten large wards and twenty single ones, accommodating two hundred and twenty-five patients. The surgical block will be of the same height, containing eighteen large and twenty-four small wards, with accommodation for two hundred and ninety-six patients. Every block will provide dwelling-accommodation for a resident surgeon. A fine operating-theatre is to be supplied. The roof of the central block will be flat and utilized as a garden. The hospital, when completed, will have room for seven hundred patients.

Year's Records at Bellevue.—The investigation at Bellevue Hospital shows that during the year 1900 24,307 patients were treated in that institution. Of these patients 1,720 died, or 7.076 per cent. of the entire number treated. This percentage really indicates a larger death rate than ordinarily could be charged against the hospital, since it receives from other hospitals a large number of patients who are in a moribund condition upon their arrival. The daily census of Bellevue for the year 1899 shows that the average number of patients under treatment was 690 per day. In the year 1900 the average number of patients treated was 733. In the year 1899 4,081 patients

were treated in the alcoholic ward; in 1900 3,753 patients were treated in this ward. In the male alcoholic ward in 1899 there were 146 deaths; in 1900, 160 deaths. The total number of deaths in the female alcoholic ward for these two years was 81, 46 in 1899, and 35 in 1900. The deaths in the male alcoholic ward in 1899 amounted to 3.577 per cent. Of the number of patients treated in 1900 it was 4.26 per cent. The number of deaths in the female alcoholic ward for 1899 was 2.752 per cent.; for 1900 it was 2.41 per cent. In 1899 1,218 patients were admitted to the pavilion for the male insane; of these patients 29 died. To this same ward in 1900 there were admitted 1,265 patients, while the number of deaths was 40. The number admitted to the pavilion for the female insane in 1899 was 1,049, of which number 17 died, making the death rate 1.62 per cent. In 1900 1,160 patients were treated in this ward and 32 died, making the death rate 2.76 per cent. It is claimed that the medical and surgical wards have been conducted well, and in a manner creditable to the institution, and that the records of these wards compare favorably with those of any hospital in the city.

The Samuel D. Gross Prize.—The trustees of the Samuel D. Gross prize for $1,000, to be given for the best original essay not exceeding one hundred and fifty printed pages, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, candidacy being restricted to American citizens, announce that no essay worthy of the prize was received up to January 1, 1901. The essays must be written by a single author, in the English language, and should be sent to the trustees of the Samuel D. Gross prize of the Philadelphia Academy of Surgery, care of College of Physicians, 219 South Thirteenth Street, Philadelphia, on or before October 1, 1901.

Lectures at Columbia College.—The dates and subjects for Dr. Cary N. Cawkins' lectures on "The Protozoa," to be given at Columbia University at 5 P.M., are as follows: February 15th, "The Simplest of Living Animals—General Sketch"; February 19th, "The Sarcode Animals—Naked Bits of Protoplasm"; February 26th, "The Flagellated Organisms the Most Important Group Theoretically of the Protozoa"; March 5th, "Infusoria the Highest Type of the Protozoa"; March 8th, "The Loss of Vitality in Protozoa and its Renewal through Conjugation"; March 12th, "The Protozoon a Physiological Machine."

The Growth of Germany.—The increase of population in Germany is something remarkable. The census is now taken every five years, and reveals the fact that the influx of people from the country to the towns proceeds at a greater rate than ever. The condition of Germany has altered altogether. Fifty or sixty years ago it was mainly an agricultural country; now it may be regarded as essentially an industrial one. Berlin has actually increased in population the most, although relatively several manufacturing centres surpass it. Berlin has 207,000 more inhabitants than at the time of the last census, its population now being 1,884,345; together with the suburbs it contains two and a half millions of people. Nuremberg, in Bavaria, has added to its population within the past five years no fewer than 98,357 souls, the number of persons at present dwelling in the quaint old town reaching the respectable total of 260,743. Posen, in Prussia, exhibits an increase of 58.6 per cent.; its population is now 116,151, 42,912 more than in 1895. Stettin, also in Prussia, has 209,988 inhabitants, an increase of 69,264, and 49.2 per cent. Mannheim on the Rhine has leaped from 97,730 to 160,334, a percentage increase of 43.6. The other large cities taken in order have grown as follows: Hamburg 704,069, increase 79,117; Munich 498,503, increase 87,502; Leipsic 455,120, increase 55,126; Breslau 422,415, increase 49,246; Dresden 395,349, increase 58,909; Cologne 370,685, increase 49,121; Frankfort 287,813, increase 58,531; Chemnitz 206,584, increase 45,567; and Halle, 158,503, increase 40,327.

Philadelphia Neurological Society.—At a stated meeting held January 28th, Dr. Wharton Sinkler read a paper entitled "Paresis, with Symptoms Simulating Brain Tumor." Dr. F. X. Dercum reported "A Case of Brain Tumor, with Hemiplegia, Homonymous Hemianopsia, and Wernicke's Symptom," and exhibited the specimen. Dr. John K. Mitchell reported "A Case of Extensive Endothelioma of the Brain," in which symptoms had existed for many years, and operation was undertaken, but in consequence of the conditions present proved futile. Dr. Charles K. Mills made "Some Remarks on the Localization of Brain Tumors, especially with Reference to the Parietal and Prefrontal Regions, based upon Five Cases in which the Sites of Tumors were Located for the Purpose of Operation." He laid especial stress upon the presence of astereognosis with the preservation of the ordinary forms of sensibility, with or without marked motor phenomena, in the diagnosis of lesions of the superior parietal lobe, and of disturbances in the higher psychic sphere in the diagnosis of lesions of the premotor region. Operation was performed in all of the cases referred to, confirming the diagnosis, and with successful results in three. Dr. D. Riesman exhibited "A Case of Unilateral Oculo-motor Palsy, Probably Due to a Gumma." Dr. Charles K. Mills exhibited a specimen of "Subcortical Brain Tumor," and Dr. W. G. Spiller one of "Diffuse Endothelioma of the Brain." The discussion was participated in by Drs. W. W. Keen, W. J. Taylor, G. E. de Schweinitz, and others. The following officers were elected for the ensuing year: *President*, Dr. James Tyson; *Vice-Presidents*, Drs. C. S. Potts and F. X. Dercum; *Secretary*, Dr. A. A. Eshner; *Treasurer*, Dr. G. Hinsdale; *Councillors*, Drs. D. J. McCarthy, J. Sailer, and W. G. Spiller.

Cheap Gas.—One of the Liverpool papers devoted to the supervision of the gas world in its various bearings, mentions that Dr. Ludwig Mond has invented a process for the production of fuel gas from a cheap form of bituminous coal or slack, and that a bill will be introduced into the next session of the British

parliament for supplying a large district of the midlands with the new agent. The price will not exceed and may even be less than 3*d.* (6 cents) and 4*d.* (8 cents) per thousand feet, according to the quantity taken per quarter, but in any circumstances 4*d.* (8 cents) is to be the maximum price. What a boon it would be to the tenement dwellers of New York if the Consolidated Gas Company of this city were able to avail itself of Dr. Mond's discovery.

The Late Dr. Frank C. Merriam.—The Society of the Alumni of the City Hospital at their last meeting adopted the following preamble and resolutions on the death of their fellow-member, Dr. Frank C. Merriam:

"In the death of Dr. Merriam we lose an esteemed and valued friend, associated with us in the membership of our society for nearly its entire existence. And we desire to acknowledge the mutual friendship and helpfulness we have enjoyed from these years of association. It is, therefore,

"*Resolved*, That we express our sincere and heartfelt sorrow at his death; and that our deepest sympathy be tendered to the doctor's bereaved family. Further, be it

"*Resolved*, That a copy of these resolutions be sent to the family, to the medical journals, and be entered upon the minutes of our society. ADOLPH RUPP, M.D., A. T. MUZZY, M.D., WILLIAM L. STOWELL, M.D., *Committee.*"

Obituary Notes.—DR. CHARLES BURDEN died suddenly on January 26th, at his residence, 210 East Fifty-second Street.

DR. STEPHEN C. GRIGGS, who had practised medicine for forty-one years in Brooklyn, fell into an open fire-grate on Friday, February 1st, and received fatal injuries. Dr. Griggs, who had been paralyzed for some time, was born in Pomfret, Conn., eighty-two years ago, graduated from Brown University, and studied medicine in New York University. He was prominent in medical charities in Brooklyn.

DR. HENRY F. BARKER died at Philadelphia on February 1st, at the age of fifty-seven years. He was a graduate of the medical department of the University of Pennsylvania.

DR. NATHAN RAYNOR died at Philadelphia on January 25th, of nephritis, at the age of forty-five years. He was graduated from the medical department of the University of Pennsylvania in 1879, and was for two years surgeon on the steamship *Pennsylvania*, plying between Philadelphia and Liverpool.

DR. HOMER O. JEWETT, the oldest physician in Cortland County, and well known throughout central New York, died at his home in Cortland on January 30th, aged nearly eighty-two years. Pneumonia was the immediate cause of death. Dr. Jewett was born at Lebanon, Madison County, in 1819. During the winters of 1842 and 1843 he attended the first two courses of lectures delivered in the medical department of the University of New York, and was graduated from that institution in 1843. He had practised in Cortland since 1849. He was a member of the Cortland County Medical Society and one of the founders of the New York State Medical Society. He was also a member of the National Medical Association and the New York Medico-Legal Society. For several years he was vice-president and one of the council of the State Medical Association and president of the third branch of this association.

Progress of Medical Science.

New York Medical Journal, February 2, 1901.

On the Sterilization of Milk; its Advantages and Limitations.—By A. D. Blackader. The paper is a review of some of the salient features of the milk question. The author concludes that milk sterilized by heat is altered to an extent varying according to the elevation of the temperature used in the sterilization and the duration of its exposure, in the following respects: (1) Its proteids are modified and rendered apparently less digestible, but our knowledge on this subject is still indefinite and dependent chiefly on clinical experience; nothing has yet been proved by laboratory experiment. (2) The combination of its saline ingredients with the proteids, a combination which we must admit is not absolutely proved, but which appears to be extremely probable, is more or less broken and the salts assume a condition in which they are less readily absorbed. (3) Natural ferments, whose presence in milk may with much probability be inferred, and which may materially assist its digestion in the infant's stomach, are destroyed. (4) An alteration takes place in the emulsion, normal to milk, which may also have a distinct effect in lessening the digestibility of cow's milk by the infant. Again, it is extremely important that milk after sterilization should be kept at a continuously low temperature, and it is to be remembered that the employment of sterilized milk which has been kept for many days is not free from danger.

Appendicitis in the Female.—By E. W. McRae. The author records the histories of fifteen cases. He believes that the disease is far more common in the female than is generally believed, and that many so-called pelvic inflammations are really appendicitis. This disease usually appears at or about the menstrual epoch, but the pain of appendicitis is more sudden in its onset, and very much more acute than that of pelvic disease. It is frequently accompanied with nausea and sometimes with vomiting; muscular spasm is usually marked in appendicitis, practically absent in beginning pelvic disease. The general disturbance is very much greater, and the progress more rapid in appendicitis than in pelvic disease. An intact hymen argues very strongly for appendicitis. When in doubt, and the symptoms are aggressive, it is much safer to make a diagnosis of appendicitis and operate, than to delay until the case is hopeless.

A Case of Arsenical Dermatitis.—By A. H. Ohmann-Dumesnil. The patient, a Polish woman aged twenty-six years, took "rough on rats" (heaping teaspoonful) with suicidal intent. Prompt treatment saved her life. Two days later she presented on the face a series of vesicles with some pustules. The lips and nose were swollen. A vesicular eruption was present on the buttocks and genitals, but there were no pustules. Subjective symptoms were burning sensation and some itching. The patient was intensely nervous, almost hysterical. Her recovery was uneventful. No new crops of eruption appeared.

A Preliminary Communication, with Projection-Drawings, Illustrating the Topography of the Paracœles (Lateral Ventricles) in their Relations to the Surface of the Cerebrum and the Cranium.—By E. A. Spitzka. This is a study of the brain with special reference to the surgical procedure of tapping or draining the paracœles or lateral ventricles.

Gall Stones and Empyematous Gall Bladders.—By E. Ricketts. This is a discussion of some of the modern surgical measures employed in affections of the gall bladder.

Pharyngeal Adenoids: their Frequency and Sequelæ.—By P. D. Kerrison.

Boston Med. and Surg. Journal, Jan. 24 and 31, 1901.

The Treatment of the Later Phases of Heart Diseases.—John L. Heffron says that by the later phases he means that period of time, short or long, after compensation has once failed. The first indication is to relieve the heart of all extra work, which is best accomplished by rest in the recumbent position, which should be complete. Visitors

who excite emotion should be excluded. Secondly, the volume of blood to be propelled by the heart should be diminished as much as possible. For this purpose the author has found elaterium, calomel, and the salines useful. At the same time the diminution of ingested fluids must be insisted on. Thirdly, the distressing nervousness of the patient, which increases the irritability of a heart already overburdened, must be controlled. Codeine should first be tried in doses of one-half grain hypodermically; if it do not induce sufficient quiet and compel sleep, morphine should be used. When the nervousness is less extreme, gratifying results are obtained from the use of the abstract of cannabis indica, made by Dr. W. M. Smith. The author gives full directions as to diet, and the treatment of various symptoms as they arise.

Retropharyngeal Abscess in the Adult.—J. L. Goodale reports a case, and enumerates the following salient points: (1) It is quite an exceptional disease after the age of four. (2) In regard to classification Bokay distinguishes (*a*) idiopathic abscesses, (*b*) secondary abscesses from diseases of the cervical vertebræ or from the irrigation of pus from a superficial cervical adenitis, (*c*) septic abscesses, (*d*) abscesses from trauma. Bokay suggests giving up the old term "idiopathic," and calling the abscesses coming under this head "retropharyngeal abscesses from retropharyngeal lymphadenitis;" thus separating them from the secondary abscesses, metastatic and traumatic, and permitting at the same time definite etiological knowledge. Bacterial invasion of the lymph glands behind the posterior pharyngeal wall will produce pathological changes in these structures similar to those occurring in other lymphoid tissues, giving rise, however, in view of their localization, to characteristic clinical symptoms.

Peritonsillar Abscess.—F. C. Cobb holds that to abort an attack after peritonsillar swelling has appeared is impossible, and that only the knife can give any relief, the salicylates which are sometimes recommended only contributing to the exhaustion which follows this very debilitating disease. When we find the swelling increasing, our efforts should be directed to bringing the abscess to a head as speedily as possible, by hot-water gargles repeated every half-hour. When the swelling is well under way, the surgeon must incise, using great care. If he fail to find pus in either anterior or posterior pillar, he should enter the supratonsillar fossa, taking care not to penetrate farther backward than the posterior pillar. Should pus be obtained, a wider opening through the tonsil may be secured. Cocaine should be used, either submucously or by application to the mucous membrane, in order to make the procedure as painless as possible.

The Great Toe (Babinski) Phenomenon: a Contribution to the Study of the Normal Plantar Reflex Based on the Observation of One Hundred and Fifty-Six Healthy Individuals.—Morton Prince says that stroking the sole of the foot normally causes a flexion movement, if any, of the toes, particularly the four outer ones. Babinski pointed out that when the motor paths in the cord are diseased, the opposite movement, extension of the toes, especially of the great toe, is caused. From his own experience the author believes that the frequency of the plantar (spinal) reflex, so far as it concerns the toes, has been exaggerated, owing to several sources of fallacy being overlooked, namely: (1) Mistaking the cerebral for the spinal reflex; (2) in stroking the sole it is not difficult by moderate pressure over the first phalanges to cause a purely mechanical flexion of the toe; (3) if the stroke is made from the toe toward the heel, pulling on the skin, when inelastic, will do the same.

A Case of Obliteration of the Right Ureter by a Calcified Fibroid; Removal of Fibroid and Implantation of the Ureter into the Bladder; Recovery.—Maurice H. Richardson describes a case, which he says illustrates some of the dangers of leaving an old fibroid to itself. For several years the patient had suffered from pain in the lower abdomen. A large fluctuating tumor was found, and, under the supposition that it was ovarian, operation was advised. It was found to be a fibroid of the uterus, upon a part of which was a large cyst. It was deeply and broadly attached, the deeper portions on the right side being calcified to a bony hardness. The operation was extremely difficult, the ureter and the bowel being involved. The author followed his plan of making the dissection of the deep pelvis in the full light of day, when every structure can be recognized as the dissection proceeds. The operation was successful, and a good recovery followed.

A Case of Vesical Implantation of the Ureter by Dudley's Forceps Method, after the Failure of Several Plastics.—Edward Reynolds describes in detail an interesting case. The author at one time considered that with the use of Dudley's forceps the grasp of the forceps must necessarily cause sloughing, and thus leave at the point where the ureter enters the bladder a wide gaping slit instead of the normally small orifice. His cystoscopic examination of his own case, however, has convinced him that although the blades of his forceps were apparently tightly closed, there must have been enough nutrition in the portion of the bladder wall between the jaws to enable it to live, thus avoiding a slough, but securing an absolutely firm union of the ureter with the bladder.

A Short Abstract of the Early History of Medicine in Massachusetts to the Year 1800.—By Elbridge G. Cutler.

Pregnancy following Removal of Both Ovaries and Tubes.—By M. A. Morris.

Philadelphia Medical Journal, Jan. 26 and Feb. 2, 1901.

Method for Rapid Elimination of the Gonococcus.—Follen Cabot refers in this paper entirely to the treatment of gonorrhœa in its incipient stage. His method is a compromise between the endoscope and silver nitrate abortive treatment and plain irrigation. He first takes a specimen of the discharge for microscopical examination, then the patient passes urine, after which the urethra is washed out with hot water; then twice a day there is introduced a ten-per-cent. solution of argonin freshly made. An Ultzmann's deep injection syringe or, better still, a rubber bulb holding six drachms is used. The solution is introduced hot, and is kept in the front urethra by pressing the lips of the meatus together as the point of the bulb is withdrawn. By an applicator, a ten-per-cent. solution of argonin is put into the urethra while the solution previously introduced is allowed to flow out. Everything must be done gently and slowly. The solution must be kept in five or ten minutes. If all is going well, the disease remains stationary for two or three days and then subsides. Internally citrate of potash may be given to render the urine bland. The patient should soak the penis in hot water three times daily and should be kept as quiet as possible. If the progress is favorable the strength of the solution may be gradually increased to thirty per cent. An astringent is generally used later. This method the writer believes devoid of danger. All his cases have been satisfactory and, as far as traced, have shown permanent results. The solutions must be freshly prepared each time, and must be hot, 110° to 120° F. The patient must follow the physician's advice implicitly.

Intracranial Hemorrhage in the New-Born.—W. Reynolds Wilson states that intracranial hemorrhage in the newborn is usually the result of rhexis affecting the vessels of the meninges. It is the natural consequence of the traumatism of birth. Meningeal apoplexy, according to Cruveilhier, may be considered the cause of death in one-third of the infants who succumb sub partu or shortly after birth. In the experience of the writer fifteen instances of intracranial hemorrhage were noted in twenty autopsies performed upon the bodies of infants dead within three weeks of birth. The symptom complex is usually as follows: Somnolence, anorexia, digestive disturbances with vomiting (the vomited material sometimes consisting of bloody mucus), piercing, hoarse and fretful cry, contraction or dilatation of the pupils, convulsions. The outcome of the case is usually fatal, death being preceded by a condition of coma. The temperature is variable and irregular. Hyperæsthesia is a marked symptom. The primary object in treatment (Jewett), in hemorrhagic lesions occurring during birth and associated with asphyxia, is to overcome the atelectasis by forced respiration.

Whey-Cream Modifications in Infant Feeding.—Franklin W. White concludes: (1) By the use of whey as a diluent of creams of various strengths, we are able to modify cow's milk so that its proportions of caseinogen and whey proteids will closely correspond to the proportions present in human milk. It is, therefore, rendered far more digestible and suitable for infant feeding. (2) The best temperature for destroying the rennet enzyme in whey is 65.5° C. Whey or whey mixtures should not be heated above 69.3° C., in order to avoid the coagulation of the whey proteids. The percentage of whey proteids in the whey obtained by him was one per cent., while in the analysis of the whole milk, approximately three-quarters of the total proteid was caseinogen and one-quarter was whey proteids. (3) Whey cream mixtures yield a much finer, less bulky, and more digestible coagulum than plain modified mixture with the same total proteids. The coagulum is equalled in fineness only by that of barley-water mixtures. The coagulum yielded by gravity cream mixtures and centrifugal cream mixtures is the same in character.

Scurvy, not Rheumatism.—J. P. Crozer Griffith reports sixteen cases of infantile scurvy. He states that hæmaturia is sometimes the only symptom of scurvy. As to the cause of scurvy, although it seems to be dietetic, yet there is no one dietetic fault which can be held responsible. Oftenest it is found that scorbutic children have been fed upon commercial foods, and there seems reason to believe that these constitute a powerful etiological factor. In some cases the sterilization of milk has seemed to be the cause.

As to symptoms, the affection of the gums is not the earliest symptom generally, and the disease may exist without it. It is usually absent if no teeth have appeared. Pain somewhere, generally in the legs, is oftenest first felt. Treatment is most simple. A proper alteration of the diet, and, even without this, the administration of fresh fruit juices without any change of diet, is sufficient to work a cure which seems almost miraculous.

Retardation of Growth as a Cause of Shortening after Coxitis.—Henry Ling Taylor states that quite unexpectedly to him, and to some extent contrary to his preconceptions, this study appears to justify the following conclusions: (1) Considerable retardation of growth, both in length and thickness of the limb and its component bones, is the rule after coxitis and other affections causing long periods of lameness or disability in childhood. (2) The amount of retardation appears to bear a distinct relation to the amount and duration of the restraint or disability. (3) This inhibitory effect of restraint should be considered in selecting treatment for disabling affections of the lower limbs. Other things being equal, locomotion is desirable, and restraint for long periods harmful, though complete or partial interference with function must often be enforced as the least of evils.

Proper Methods of Handling Milk for Infant Feeding.—George Thomas Palmer describes the Trinity Diet Kitchen for Infants, a milk charity in the poor districts of Chicago. He believes the success to be due: First, to the unvarying purity of the milk; second, to the care given to the milk in the kitchen. The rigid instructions given the parents in regard to the handling of the milk, regularity of feeding, and absolute cleanliness have also been factors. The process of separation there carried on permits a uniform quality of milk and removes from it the mucus and slime and occasional blood clots found in all milk. The number of bacteria is considerably decreased. The writer from his experience with pure raw milk is ready to banish forever sterilization or pasteurization of milk.

The Importance of Instruction in Medical Schools on the Modification of Milk for Prescription Feeding.—Andrew H. Whitridge suggests that, at least during the summer months, such of our schools as maintain a high standard of education should appoint qualified men to instruct, by weekly lectures, students and post-graduate physicians in the practical knowledge needed to understand this branch of work. He believes the milk laboratory to be invaluable to all physicians who have infants to feed artificially.

A Critical Review of the Literature of Mastoid Disease and its Complications.—By Seymour Oppenheimer.

The Diagnosis and Treatment of Some Functional Forms of Defective Speech.—By G. Hudson Makuen.

The Causes and Treatment of Urgent and Serious Conditions in the New-Born.—By Samuel Wolfe.

The Summer Cold: Swimming Pools as an Etiological Factor.—By Lawrence F. Flick.

A Case of Ligature of the Innominate Artery for Aneurism.—By S. P. Delaup.

Diseases of the Ear in Relation to General Medicine.—By Nathan G. Ward.

Two Cases of Epiplopexy in Cirrhosis of the Liver.—By John B. Roberts.

Otitis Media in Children and its Treatment.—By H. V. Würdemann.

The Surgery of the Stomach.—By Albert I. Bouffleur.

A Report of a Case of Rabies.—By Frederick Krauss.

Infantile Colic and Colic in Infants.—By H. Illoway.

Branchial Cysts and Fistulæ.—By W. M. Coplin.

Medical News, January 26 and Feb. 2, 1901.

Fatty Degeneration of the Heart.—Thomas E. Satterthwaite concludes: Fatty degeneration of the heart is a common affection, though it is not to be classed as a disease *sui generis*, but rather as a metamorphosis or process attending on loss of compensation in valvular diseases, but also nearly as often on non-valvular diseases. It is caused by fevers, toxæmia, dyscrasias, disorders of nutrition, and mechanical injuries, but it may also be a physiological process; as for example in senility or after parturition. For practical purposes it may be divided into three stages, the first or early, the second or intermediate, and the third or final, and each stage is capable of being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery, that is, if the patient does not yield to the primary disease, for in that case he will probably recover with a sound heart, provided the heart complication is properly treated. In the intermediate stage the prognosis is not good for the arrest of the fatty process *in toto*, but the functions of the heart may be so improved that the patient should be able to resume his former work and enjoy a fair degree of health for an indefinite period. In fact, we may expect a physiological if not a pathological cure. In the third or final stage, which is marked by such a profound implication of the internal viscera that their functions are in abeyance, the prognosis is always unfavorable. The end will rarely be delayed beyond a few months.

The Tonsils as Portals of Infection.—Julius Ullman concludes: (1) That the normal tonsil has a physiological function, probably protective to the organism. (2) That being in itself often diseased, the physiological function is often impaired and that instead of being protective it is the nidus for the growth of pathogenic organisms and the distribution of their poisonous products into the system. (3) That many grave and fatal general infections have their origin in the tonsils. (4) That, if the exanthemata, especially scarlatina, are of bacterial origin the tonsil acts in part as port of entry. (5) That acute articular rheumatism and the diseases often associated with it, endocarditis and chorea, in a great majority of cases are due to the action of attenuated bacteria, their toxins, or both entering the system through a diseased tonsil. (6) That in rare cases of typhoid fever in which no intestinal ulcerations can be demonstrated, the similarity of the tonsillar tissue and Peyer's patches suggests the portal of entry of the Eberth bacillus to be the tonsil. (7) That scrofulosis is often associated with diseased tonsillar tissue and that the tubercle bacillus often enters the system via the tonsils. (8) That the tonsil is too little examined at necropsy and that much light might be shed on fevers of uncertain origins by bacteriological and histological examination of it.

The Climatic Treatment of Chronic Bright's Disease.—James Tyson and T. Mellor Tyson state that in grouping together large areas we find that the mortality in this disease is highest in the middle Atlantic coast region, next in the north Atlantic, and next in northeastern hills and plateaus, the south Atlantic coast region, and lastly and least, in the southern central region. Reasoning from general principles, we conclude that by far the most important factor in the treatment of chronic Bright's disease is that there should be as little cold, moisture, and variation in temperature as possible. Renal disease is more prevalent in a temperate climate, with ground saturated with moisture, with sudden changes of temperature, and marked difference between the day and night temperatures; less in a cold, and rare in a warm. The conditions of overwork, worry, syphilis, gout, and excessive use of alcohol must also be taken into consideration. Another important agency is the effect of winds, which are very detrimental. Finally, it must not be forgotten that in most of these cases there is a failing heart or one that has already lost compensation. For such cases high altitudes are harmful.

The Climatology of Neurasthenia.—F. Savary Pearce summarizes his article as follows: It is almost axiomatic that an altitude of over two thousand feet is unsuitable for the neurasthenically disposed or convalescent patient. Any very "stimulating" climate should be avoided. Other conditions to be avoided are as follows: Districts menaced by high winds and frequent fogs; cloudy, saturated atmospheres with but slight movements of air currents; low country (sea level) with continuous, non-varying, although moderate heat, as where the effects of the gulf stream are strongly felt. Thus, the Bermuda Islands and Florida are enervating localities. Ideal conditions for the neurasthenic include sea air in a well-wooded country, far enough from the coast to avoid its fogs. A sea voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage is not stormy it acts both psychically and physically in soothing the nervous system. In order to obtain the full benefit of correct climatic conditions the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect on the patient.

Some Topographical and Climatic Features of the Florida Peninsula; with Special Reference to its Adaptiveness as a Winter Health Resort.—By James K. Crook.

A Case of Puerperal Sepsis from Retained Lochia (Lochiometra), with Remarks.—By George P. Shears.

Medical and Sociological Aspects of the Galveston Storm.—By H. A. West.

Lakewood as a Winter Resort.—By William Gray Schauffler.

Treatment of Syphilis at Hot Springs, Ark.—By James T. Jelks.

Infantilism.—By W. T. English.

Journal of the American Medical Ass'n, Feb. 2, 1901.

A Report of Seven Operations for Brain Tumors and Cysts.—Herm. H. Hoppe states that the following are the conclusions which most authorities have reached on this subject: (1) Tumors of the cortex or subcortical region of

any portion of the cerebral hemispheres which can be reached through the calvarium are operable. (2) If possible the operation should be performed early, when the tumor is small; but even large tumors, and those infiltrating in character, have been operated on with success. (3) Brain surgery is mostly limited to the psychomotor areas (von Bergmann). (4) The result of surgical interference rarely leads to complete recovery. (5) Cerebellar tumors are inoperable. (6) The experience of all writers is against the exploratory operation. (7) Authority is divided as to palliative operations. (8) The writer does not believe that gummata should not be operated upon. He believes that tubercles, if isolated and located so as to be operable, should be operated upon, other things being favorable. Metastatic carcinomata are inoperable.

Report of Two Cases of Afebrile Typhoid.—Charles J. Whalen reports two cases of afebrile typhoid. He adds that ambulatory and afebrile types of the disease must have been very rare or else were not diagnosed in the practice of the older writers.

Influenza Accompanied by Four Distinct Pneumonic Attacks; Otitis Media Purulenta and Cerebral Hyperæmia, Colitis, Inanition, Recovery.—By Julius Ullman.

Treatment of Typhoid Fever, with Bactericidal in Connection with Other Agents, and Some Consequent Deductions.—By J. M. Peck.

Prevention of Intracranial and Intravenous Complications in Suppurative Diseases of the Ear.—By J. H. Woodward.

The Cerebral Neurons in Relation to Memory and Electricity.—By James Grant.

Mental Symptoms of Cerebral Syphilis.—By James H. McBride.

Aural Manifestations of Syphilis.—By Francis R. Packard.

The Skull and its Contents.—By W. H. Earles.

The Lancet, January 26, 1901.

A Singular Case of Extensive Deposit of Phosphate of Lime in the Lungs.—By T. Fisher. The patient was a woman aged thirty-two, who died of pneumonia. Autopsy showed both lungs studded with granules like sand, which adhered to the finger when it was rubbed over the pulmonary tissue. These granules contained about seventy-five per cent. of lime phosphate. No cause for this peculiar condition could be assigned either from the woman's occupation or from the taking of medicines containing phosphates. Although the author could detect in these little nodules nothing like a nucleus, he is inclined to think that they were started by numerous localized areas of irritation. The condition probably originated in the invasion of the lungs by some microbe of low virulence.

A Suggested Method of Preventing Water-Borne Enteric Fever amongst Armies in the Field.—By L. C. Parkes. This method consists in the addition to drinking-water of an antiseptic, namely, sodium bisulphate, which is to be carried by soldiers in the shape of gr. v. tabloids, one of which will render potable about four ounces of drinking-water. It should be dissolved fifteen minutes before the water is used. The principle of this method is obvious. Its efficacy is predicated upon a carefully conducted series of bacteriological experiments. The acid tabloids are also of service in preventing thirst and render the water much more effectual in slaking thirst. They promote the flow of saliva and prevent parching of the mouth.

Removal of a Foreign Body from the Bronchus by Intrathoracic Tracheotomy.—By H. Milton. The patient was a man of forty, who had worn a silver tracheotomy tube inserted for laryngeal stenosis due to syphilis. The tubular portion of the outer silver tube had become detached from the shield and had fallen into the trachea. It was impossible to recover it by the usual devices, and finally the sternum was split from top to bottom, the halves were pried apart, and an incision was made in the trachea 2 cm. above the bifurcation. Through this opening the tube was removed. The patient died of heart failure twenty-four hours later.

Notes on a Case of Poisoning by Coal-Tar Naphtha.—A girl aged five years took an undetermined quantity of the naphtha and soon became comatose. Her face was dusky, the pupils were dilated, the conjunctivæ insensitive, and the pulse was small and rapid. A strong benzin odor was given off from the body. Emetics were given, hot foot-baths were used, and artificial respiration was practised for some time. After some ninety minutes of hard work the child regained consciousness and began to cry. Two days later a general bronchitis set in and the child died eight days after taking the poison.

Spleno-Medullary Leukæmia; Remarkable Toleration of Arsenic.—By C. Heaton. A patient was under treatment for two hundred and seventy-one days, during which time, including intervals amounting to fifty-eight days, he took hypodermatically the following amounts of arsenic: Arsenious acid 5½ grains, arseniate of sodium 105 grains, and sodium cacodylate 10⅔ grains. In addition, 10⅔ grains of sodium cacodylate were administered orally. The maximum dose administered at one time was 2⅔ grains of arseniate of sodium, equivalent to 4 drachms 26 minims of liquor sodii arseniatis.

Results of Thirty-five Prophylactic Injections of the Anti-Diphtheritic Serum.—By P. R. Blake.

Selective Influence of Poisons in Relation to Diseases of Nervous System.—By F. W. Mott.

Notes on Acquired Syphilis of the Nose and Pharynx.—By C. A. Parker.

A Case of Anthrax.—By Archibald Kidd.

The Plague.—Lecture by J. M. Atkinson.

British Medical Journal, January 26, 1901.

Preliminary Note on an Unclassified Type of West African Fever.—S. W. Thompstone, R. A. Bennett, and H. E. Annett sum up the following points, which serve to differentiate this type of fever from others occurring on the West African coast, and further negative its connection with true malarial fever: (1) These cases occur during the dry season, at a time when the number of typical cases of malarial fever is smallest. (2) The onset, symptoms, and course of the disease are quite atypical of malarial fever; for example, the absence of rigors, of shivering, of the hot and cold stages, of vomiting, of enlarged spleen, etc. (3) The continued tendency to hyperpyrexia, only checked by cold baths, the temperature being easily brought to normal, and then creeping up again directly the cold applications are stopped. (4) After the hyperpyrexial stage, the very long period during which the temperature is continually above the normal, varying during the day not more than one degree, and falling by very prolonged lysis. (5) No drugs, including quinine and phenacetin, appear to produce any effect on the course of the disease. (6) Absence of hæmamœbæ and of pigmented leucocytes. (7) The peculiar tendency of the blood to rapid coagulation and its comparative richness in red corpuscles and hæmoglobin.

Summary of Researches on the Propagation of Malaria in British Central Africa.—C. W. Daniels states that no method for the prevention of the propagation of malaria is or can be of general application to the exclusion of others. A combination of methods strictly in accordance with local conditions promises the best results. The greatest difficulty will probably result from the scepticism with which the subject will be met in the tropics. Sufficient regard to the species of Anopheles has not been paid in describing their habits and breeding-places. The very local distribution of some of the species indicates some important differences as yet unknown. The writer believes that it is requisite for each species of Anopheles that direct proof should be obtained whether the human malarial parasites develop in it or not. In only a few is the proof at present conclusive, and it is probably being too hastily assumed that the whole genus is implicated.

Remarks on the Apparent Immunity of Asiatics from Enteric Fever.—Francis W. Clark gives the following table to show the apparent immunity of Asiatics from enteric fever:

	1890.	1891.	1892	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Total.
Chinese	1	5	..	..	2	10	7	1	9	16	51
Non-Chinese	4	5	..	5	4	5	7	10	14	11	65

During the ten years, 1890–99, only fifty-one deaths of Chinese from enteric fever were registered, as against sixty-five deaths of non-Chinese, although the Chinese form ninety-four per cent. of the total population.

Veld Sores.—J. W. Pridmore has made the following observations: (1) In the cold weather and at high altitudes the horse tick is rarely found, and there is coincident with this a disappearance of veld sores. (2) Veld sores are more common in the cavalry and artillery ranks than in the infantry regiments, in which case they are mainly confined to batmen and grooms. (3) There is, so far as his experience goes, a complete immunity amongst officers, who naturally do not groom their own horses. (4) From the character of the sore it would appear to be of a specific bacterial origin and not a simple ulcer following on an ordinary abrasion and aggravated by the presence of the ordinary putrefactive germs. This is evidenced by its marked tendency to spread, and at times the slowness with which it heals under treatment.

Observations on Fifteen Cases of Hæmoglobinuric Fever in British Central Africa.—By Herbert Hearsey.

Malaria and Mosquitos in Zealand.—By A. van der Scheer and J. Berdenis van Berlekom.

Notes on the Life History of Anopheles Maculipennis (Meigen).—By Louis W. Sambon.

The Prophylactic and Curative Treatment of Plague.—By A. Lustig and G. Galeotti.

Note on the Lesions Produced by Oxyuris Vermicularis.—By Marc Armand Ruffer.

A Filaria Found in Sierra Leone: Filaria Volvulus (Leuckhart).—By W. T. Prout.

Note on the Staining of Flagella.—By J. Blackburn Smith.

Personal Protection against Mosquitos.—By J. A. Wegg.

Dysentery in South Africa.—By James John Day.

American Journal of the Medical Sciences, Feb., 1901.

Observations on the Character of the Cells in the Exudation in Acute Interstitial Nephritis, with Special Reference to the Presence of Cells with Eosinophilic Granulations.—W. T. Howard, Jr., states that the cells in acute interstitial nephritis have been described by various authors as "lymphoid cells," "small round-cell infiltration," "leucocytes," and have been thought to have their origin in (1) the blood-vessels (emigration), (2) proliferation of the vascular endothelium, (3) from the fixed connective-tissue cells of the part. These cells are derived from the blood-vessels, whence they emigrate into the interstitial tissue. The writer concludes that he has been able to confirm Councilman's observations of the occurrence (1) of plasma cells, lymphocytes, polymorphonuclear leucocytes in acute interstitial nephritis. (2) The presence of lymphocyte and plasma cells in the dilated vessels. (3) Mitosis and évident amœboid activity of plasma cells in both blood-vessels and tissues. The writer, in addition to the cells described by previous authors, finds large numbers of typical eosinophilic leucocytes in the interstitial exudation and in the blood-vessels in acute interstitial nephritis. In some places in one case these were the most numerous cells in the exudation. The eosinophilic leucocytes in the lesions of acute interstitial nephritis are for the most part brought to the part by the blood-vessels and reach the interstitial tissue by emigration, but there is evidence (in one case) that they may be formed locally from plasma cells. The large phagocytic cells were not found in the writer's cases.

A Clinical Study of Diphtheria.—Fred Grant Burrows calls attention to the difference in the clinical picture of a case of diphtheria properly treated with antitoxin and one as it was treated three or four years ago. From being the most fatal of the acute infectious diseases, with a death rate of from thirty to fifty per cent., its mortality has been lowered to such an extent that it is now but a little more important factor in the total death rate of Boston than typhoid fever. Of 1,962 uncomplicated cases 947 were in males and 1,015 were in females. There was no appreciable difference in the death rate of the sexes. A study of the distribution of the membrane shows that in a majority of the cases it was on both tonsils and often elsewhere in addition. About sixty-five per cent. of the cases had some form of cardiac disturbance at some time during the progress of the disease. Cases treated by the free use of antitoxin—early and with large doses—do not have albuminuria at any period of the disease. In the 1,962 cases there were 337 cases of laryngeal stenosis. Experience gained from treating this series of 1,962 cases, as well as others, leads to the conviction that primary tracheotomy no longer has a place in the treatment of simple diphtheritic laryngeal stenosis. Alcoholic stimulation in diphtheria is most valuable. Early diagnosis and prompt treatment are most essential. The toxin of the disease can be neutralized best by giving antitoxin early, in large doses, and at frequent intervals. Continued and prolonged rest in bed is necessary. The various complications demand an untiring vigilance.

Refractory Syphilis, with Report of a Case Utterly Resistant to Specific Treatment.—Jay F. Schamberg reports this case of a woman aged thirty-nine years. The patient has been most carefully treated with the specifics for this disease, but they have failed to exert any pronounced influence either upon the disease or upon the existing syphilitic lesions. Local treatment has been used almost constantly, an ointment of calomel and carbolic acid having been found to give the best results.

Physiological Dilatation and the Mitral Sphincter as Factors in Functional and Organic Disturbances of the Heart.—By Morton Prince.

Report of a Case of Blastomycetic Dermatitis.—By Henry W. Stelwagon.

Rare Cardiac Anomalies.—By Ludvig Hektoen.

Dublin Journal of Medical Science, January, 1901.

Intestinal Perforation Occurring in Enteric Fever and its Treatment, with Notes of Two Cases.—By W. Taylor. Case I. was that of a woman who had convalesced from an attack of typhoid. Symptoms of intestinal obstruction developed and the abdomen was opened. A suppurating right ovary was discovered, but the condition of the patient rendered it impossible to do anything else than dry out all the pus. The patient seemed to make a good recovery in a surgical way, though she seemed to have a relapse of the typhoid. Fifteen days later the abdominal symptoms again appeared, and it was thought that pus had reaccumulated in the pelvis. The lower portion of the original incision was reopened and a perforation about half an inch long was discovered extending along the floor of the ulcer from which several drachms of fecal matter had escaped. The abdomen was again cleansed and sutured, and a gauze drain left in the wound. The patient did well for a while, but died fifteen days after the second operation. Autopsy showed a perforation almost an inch from the one sutured, the latter having apparently healed. The remarkable point is that union followed suture of so diseased an intestine in a patient so exhausted by fever and suppuration, and that at so advanced a stage as the sixty-fourth day after her enteric fever first began. Case II. was that of a woman aged twenty-eight years, who perforated in the fifth week of her fever. Operation was performed, but she died in six hours. The article closes with general remarks and statistics.

Surgery as a Science and an Art.—By C. Y. Pearson.

Chloride of Calcium.—By Ninian Falkiner.

French Journals.

Albumosuria of Bence-Jones and Albumose Urines.—Hugounenq defines albumoses as intermediary products between the albumins and the peptones. They appear in the urine in a great number of cases, which may fall into two distinct classes: (1) The albumosuria of Bence-Jones is characterized by the fact that when the urine is heated, without the addition of anything, it coagulates at about 60° and becomes clear by boiling, on account of the partial or total solution of the precipitate. This albumosuria, elsewhere very rare (there are scarcely more than a dozen reports), is connected most often, if not always, with lesions of the bones (osteomalacia, for example). (2) The ordinary albumosuria, otherwise like that just described, does not present the characteristic sign of the former. It is often found in connection with the existence of nephritis, but can also be independent of it.—*Lyon Médical*, January 20, 1901.

Alimentary Stasis and Right Lateral Decubitus.—Alfred Martinet states that the causes of alimentary stasis are numerous and its occurrence is most frequent. Various symptoms of "indigestion" are present. In all cases of this trouble, when the cause is not a permanent mechanical obstacle or an organic lesion, *e.g.*, a cancer of the pylorus, the following measures will often give most satisfactory results. About a quarter to a half hour after eating let the patient, as soon as feelings of discomfort supervene, stretch himself on a bed or couch, lie on the right side with the head slightly raised, and in this position drink a cup of hot camomile tea. The pylorus is thus placed in the most favorable position, the fluid warms the parts, overcomes the pyloric spasm, corrects the acidity of the stomach, and generally the results of this proceeding are most happy.—*La Presse Médicale*, January 2, 1901.

Normal Temperature of the Human Body.—Borde has performed much experimental work on this subject, from which he believes the rectal temperature of the adult in good health to be 36.7°. When the temperature exceeded this point, it generally seemed attributable to muscular exercise or to intellectual work. As to whether the child has the same rectal temperature as the adult, the writer from his careful researches has reached an affirmative conclusion, *i.e.*, the child has a temperature of about 36.7° if it is in repose and normally clothed.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, January 20, 1901.

Fibroma and Pregnancy.—C. Jacobs, after reporting three cases of this nature, states that the problem presented to the physician by this condition is always very grave. The writer believes that after very careful examination of the patient, if the physician is convinced that the tumor or tumors so obstruct the pelvis as to render natural expulsion of the child impossible, he should counsel intervention. When, however, pregnancy has arrived at term, or when labor has begun, the problem becomes still more serious and demands an immediate decision.—*Le Progrès Médical*, January 15, 1901.

Total Abdominal Hysterectomy in Cases of Dystocia from Uterine Fibromata.—G. Eustache states that total abdomi-

nal hysterectomy performed most carefully is not difficult of execution and has given happy results. It is the operation of choice in cases of dystocia from uterine fibromata, pregnancy being at term. Under this title it ought hereafter to be inscribed in the list of obstetrical operations.—*Journal des Sciences Médicales de Lille*, January, 1901.

Berliner klinische Wochenschrift, No. 2, Jan. 14, 1901.

Succussion of the Kidneys.—By S. Goldflam. This is a procedure to determine whether the kidneys are sensitive or not. The patient stands or sits with the back toward the examiner, while the upper part of the body is bared and slightly bent forward. With the ulnar side of the closed fist the examiner gives slight blows either vertically to the mass of the lumbo-sacral muscles or obliquely: there ensues a trembling of the region which in healthy persons is entirely free from pain, but which in many kidney lesions causes sensations similar to those resulting from palpation and ballottement. This method is not applicable to all kidney lesions, and is to be looked upon merely as a supplemental means of diagnosis.

Diphtheria.—By Th. Escherich.

Gall Stones.—By Professor Riedel.

Roentgen Ray in Practical Medicine.—By H. Kümmell.

Modern Colonization and the Adaptability of Europeans for Life in the Tropics.—By F. Hueppe.

Deutsche medicinische Wochenschrift, Jan. 17, 1901.

Vaginal and Abdominal Incision in Tuberculous Peritonitis.—A. Baumgart, basing his conclusions on the statistics of thirty-six operative cases, considers that entry of the abdomen by the vaginal route is to be favorably compared with the older method of operation. The true *rationale* of the undoubtedly beneficial effects following laparotomy in this disease is still unexplained and *a priori* there is no reason for assuming that incision through the vaginal vault is less efficacious than elsewhere. The advantages are that shock is less and convalescence more speedy, while the danger of infection also is not so great as that accompanying laparotomy. Colpocœliotomy offers equal opportunities for the removal of diseased appendages. If laparotomy is performed, a small incision in the linea alba is preferable to a long one. Rectal examination affords a valuable means of confirming the diagnosis, and is also of service in observing the course of the disease after operation. Both tuberculous ascites and the dry form of the malady are susceptible of operative cure.

A New Delicate Sugar Reaction.—E. Riegler describes a new phenyl hydrazin reaction said to be of great delicacy. Twenty drops of urine are placed in a watch glass and a knife point of white pure phenyl hydrazin hydrochlorate, a somewhat larger amount of sodium acetate, and forty drops of water are added. The mixture is brought to a boil over an alcohol lamp and then shaken with two and a half drachms of ten-per-cent. caustic soda solution. If sugar is present in amounts over 0.1 per cent., a reddish-violet color will appear in a few seconds. It is to be noted that the color is to be observed by transmitted light, that the whole fluid and not a possible precipitate of phosphates alone must be colored, and that the coloration should appear within five minutes, as even normal urine may give it after this length of time has elapsed.

Observations on Tuberculosis of the Female Genitalia and of the Peritoneum.—By A. Sippel.

Contributions to the Study of Kidney Function.—By L. Lipman-Wulf.

A Case of Cured Hydrocephalus.—By H. Neumann.

Münchener med. Wochenschrift, Jan. 8 and 15, 1901.

Subcutaneous Laceration of the Spleen and its Operative Treatment.—Jordan reports a case in which this formidable casualty was successfully treated by extirpation of the injured organ. The patient was a cavalry officer who was thrown from his horse in such a way that the hilt of his sword was forced into his left side below the free costal border. After a short time he was able to get up and walk, but soon collapsed and in the next few hours the classical picture of concealed hemorrhage was presented. Laparotomy in the left semilunar line eight hours after reception of the injury corroborated the diagnosis made of rupture of the spleen and revealed the abdomen filled with fresh and coagulated blood. This was removed, the vertical incision extended by a transverse cut, and the spleen removed after ligature of its pedicle. The abdominal cavity was then cleansed of blood clots and the wound completely closed. The patient was almost pulseless when brought on the table, but under repeated infusion, carried out while the operation was in progress, rallied somewhat, and left the operating-room in better condition than he entered it. Convalescence was protracted by various complications, but finally the patient recovered completely, and now, seven months after the accident, seems well in every way and apparently has not suffered through the removal of the organ. Two months after operation the hæmoglobin was fifty per cent. and the red blood cells numbered 2,800,000; leucocytes, 2,800. Now the corresponding figures are seventy-five to eighty per cent. and 4,400,000, while the white cells are only slightly increased.

Steam Disinfection in Surgery.—E. Braats suggests that in spite of the common belief that all further advance in surgical sterilization is to be sought in more efficient methods of hand disinfection, even the apparent simple technique of sterilizing dressings is open to improvement. After even three-quarters of an hour's sojourn in a well-constructed sterilizer it was found by a specially devised electric annunciator that the temperature in the centre of a package of gauze enclosed in the usual container had not risen above 96° C., so that the asepsis of the dressing could not by any means be assumed. It was furthermore determined that a preliminary heating by dry air, which is a part of the process in many apparatuses which have costly appliances for making this possible, far from being an advantage as supposed, is actually a drawback. Steam at 100° entering a roll of material which had previously been heated to 89° developed a temperature of 122°. Rubner has shown by actual experiment that spores of bacteria which perished in six minutes in steam at a temperature of 99.8° survived thirty minutes in superheated steam at 124° to 126°. The conclusion drawn, therefore, is that such preliminary heating is not only a troublesome procedure, increasing the cost of the apparatus, but even directly defeats the object it is intended to serve.

The Effect of Subcutaneous Gelatin Injection on Renal Hemorrhage.—Gossner reports a case in which seemingly uncontrollable internal hemorrhage was permanently checked by the hypodermic use of gelatin solution. The patient had for several months been voiding urine containing large amounts of blood, which on cystoscopic examination was found to come from one ureter. The diagnosis of a hemorrhagic pyelitis was made and the usual course of hæmostatic treatment with ergotin, chloride of iron, lead acetate, and tannin resorted to without avail. Finally, 200 c.c. of 2.5-per-cent. sterile gelatin solution were injected into the subcutaneous tissue of the chest. Contrary to the observations of most writers, severe pain and general disturbances, headache, vertigo, etc., were experienced, but the result was proportional to the discomfort; for the very next morning the urine was free from blood and has continued so for three months.

Progressive Diphtheria with Early Serum Therapy.—Trumpp reports a case of laryngeal diphtheria which terminated fatally in spite of intubation, tracheotomy, and the injection of six thousand antitoxin units. Inasmuch as the case ran much the same course as was commonly observed in the ante-serum days and the remedy appeared to have been wholly without effect on the severity of the disease, the author has endeavored to find some cause for the somewhat unusual lack of response to treatment. After careful analysis and the exclusion of other possible factors he ascribes the lack of efficacy of the serum to its not being so fresh as is usually considered advisable to use. Inasmuch as nothing definite has as yet been established concerning the keeping qualities of the serum, this is an interesting question and deserves further investigation.

Free Ducts in Gall-Stone Operations.—F. Kuhn emphasizes the necessity for a thorough and careful search for hidden stones and obstructions in the ducts before terminating a gall-bladder operation. Many of the so-called relapses after operation are doubtless due to oversight in this respect, and the author cites a case in which a second operation performed for what apparently was a recurrence revealed a single large facetted stone which evidently had been overlooked. In another instance a fibrous stenosis of the common duct near the duodenum produced typical obstructive symptoms which were completely relieved by a cholecystenterostomy.

Contributions to the Subject of the Butyric Acid Fermentation Producers and their Relations to the Quarter Evil.—By A. Schattenfroh and R. Grassberger.

A Case of Cerebro-Spinal Meningitis with the Diplococcus Intracellularis.—By H. Bonhoff.

"Impression" of the Advancing Head in the Walcher Position.—By H. Cramer.

The Use of Sand for the Rapid Filtration of Nutrient Agar.—By T. Paul.

A Noteworthy Case of Visibility of the Ciliary Processes.—By O. Eversbusch.

The Demonstration of Indican in Urine Containing Iodine.—By A. Kühn.

A Contribution to Diphtheria of the Conjunctiva.—By E. Schlesinger.

The Roentgen Ray Appliances of Dessauer.—By Wiesner.

A Case of Reamputation of Both Legs.—By Gossner.

A Case of Pressure Congestion.—By Morian.

The Corset Treatment of Tabes.—By P. Bade.

Archives Générales de Médecine, January, 1901.

Early Exploratory Laparotomy for Intestinal Perforation during the Course of Typhoid Fever.—Harvey Cushing performs this operation under cocaine (general anæsthesia being contraindicated in typhoid), using Schleich's infiltration process. The incision made is the same as in appendectomy. Surgical treatment of intestinal lesions will present no difficulty to the experienced laparotomist. The question of drainage is of importance, and its use will depend upon the condition of the intestine in the vicinity of the perforation. Should the Peyer's patches seem on the verge of perforation it would be wise to place a drainage tube near them. The author describes the symptoms of the preperforative stage. Out of eleven cases operated on in the Johns Hopkins Hospital the lives of five were saved by means of the operation.

Werlhof's Infection, and its Cure by Means of Intravenous Injections of Mercury Bichloride.—Arnaldo Lusignoli concludes his article as follows: Hemorrhagic diseases (scorbutus, Werlhof's infection, purpura) are due to a specific micro-organism, whose products penetrate into the circulatory blood. These diseases are of the same nature, differing only in the intensity of their manifestation. Mercury bichloride given intravenously cures the patients. The author uses from 0.001 gm. to 0.003 gm. a day.

Impaired Thermic Sensibility in Hemiplegia.—P. Chatin says that in certain cases of hemiplegia of cerebral origin, there may be a delayed perception of certain sensations, especially that of heat. Not only may the sensation of heat be perceived tardily, but it may even be mistaken for a sensation of cold. The author concludes that the impairment is central, cerebral, consisting of lesions in the internal capsule, the optic thalamus, and even of the cortex.

Four Cases of Mental Torticollis.—E. Feindel and Henry Meige report four cases of this singular affection, which is characterized by a malposition of the head and neck, which may be permanent or intermittent and which the patient can correct by some special manœuvre, as the pressure of a finger on the chin, holding the head with both hands, etc.

The Treatment of Fractures of the Patella by "Cerclage."—By P. A. Cassedebat.

Alexis Boyer (1757–1833).—By P. Tillaux.

Reviews and Notices.

MODERN SURGERY, GENERAL AND OPERATIVE. By JOHN CHALMERS DA COSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. With four hundred and ninety-three Illustrations. Third Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Co. 1900, pp. 1117.

THE third edition of this work follows the general lines of its predecessors, but differs mainly in the addition of much new information and alterations in the old text. Throughout the author has aimed to instruct the reader in a practical manner, omitting what modern surgery has discarded and retaining what at present are the accepted methods in the great surgical centres. Special attention has been accorded to fractures and dislocations and to the main surgical operations. The arrangement is excellent and the illustrations are selected for their usefulness.

A TEXT-BOOK OF PATHOLOGY. By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital; Physician to the Children's Hospital, Philadelphia, etc. With three hundred and seventy-two illustrations. Third Edition, Revised. Philadelphia and London: W. B. Saunders & Co. 1900, pp. 873. Cloth, $5; half morocco $6.

IN this new and revised edition the author has improved a work already excellent, having incorporated all that is new and important which pertains to the subject in hand. Special praise should be bestowed upon the excellent illustrations, many of them in colors, and to the clearness of the text. The author has trusted Dr. Joseph Sailer with the revision of the sections on the pathology of the nervous system, which maintains the high standard which exists throughout the book.

MALARIA, ACCORDING TO THE NEW RESEARCHES. By PROF. ANGELO CELLI, Director of the Institute of Hygiene, University of Rome. Translated from the Second Italian Edition by JOHN JOSEPH EYRE, M.R.C.P., L.R.C.S. Ire., D.P.H., Cambridge. With an Introduction by Dr. PATRICK MANSON, Medical Adviser to the Colonial Office. With maps and illustrations. London, New York, and Bombay: Longmans, Green & Co. 1900.

THIS is a very interesting presentation of the subject of malaria as we know it to-day, at least as it occurs in the Roman Campagna. Naturally the agency of mosquitos in the spread of the disease and the practical deductions from this fact receive special attention. The discussion on the prophylaxis of malaria is most interesting, but, unfortunately, the whole question is still in such a chaotic state that no definite rules can be laid down beyond that of keeping off the night mosquitos by window and door screens and by mosquito netting around the bed. Much of the book is taken up with a discussion of the special conditions prevailing in the Campagna and of the means best adapted for their improvement. There is a very complete bibliography of Roman malaria.

EXPERIMENTAL RESEARCH INTO THE SURGERY OF THE RESPIRATORY SYSTEM. By GEORGE W. CRILE, A.M., M.D., Ph.D., etc. Second Edition. Philadelphia: J. B. Lippincott Company. 1900.

THIS volume contains the results of many painstaking and extensive experiments on animals with reference to surgical work upon the respiratory apparatus. The work is almost entirely devoted to the immediate results of the experiments, and not much space is given to the bearing of this sort of experimentation upon surgery in the case of the human being. The book contains more of interest to the physiologist than to the surgeon.

THE CARE OF THE CONSUMPTIVE. By CHARLES FOX GARDINER, M.D., Non-Resident Fellow of the New York Academy of Medicine. New York and London: G. P. Putnam's Sons. 1900.

IN this book of some one hundred and seventy pages the writer has set forth in a very clear and practical way certain general rules that should govern the consumptives in the use of the natural therapeutic agencies—fresh air, sunlight, food, rest, and exercise—so that they may be employed to the best advantage. He has compiled in a very short space and in an interesting narrative style many valuable facts that have been verified by his own practical experience. Technical terms are conspicuous by their absence. This will make the book all the more useful to that great majority of consumptives who are unable to avail themselves of the advantages offered by the leading sanatoria of our country. The chapters on out-door life, food, and exercise are particularly instructive. In all of these the writer emphasizes the importance of making the individual condition of each case the index to the kind of remedy and the amount to be applied. The chapters on Colorado Springs will be specially valuable to physicians as well as patients who have not visited Colorado. The book is well written and well edited.

STRINGTOWN ON THE PIKE: A Tale of Northernmost Kentucky. By JOHN URI LLOYD, Author of "Etidorhpa," etc. With illustrations. New York: Dodd, Mead & Company. 1901.

THIS volume represents a different kind of fiction from what we are accustomed to review occasionally. It is a somewhat melodramatic tale involving a Kentucky feud with very radical results, a mixture of West African voodooism and superstition, a heroine deprived of her name by an insensate father, and a chemist who is compelled by the exigencies of the plot to neglect precautions, in looking for strychnine in the stomach of an alleged victim of poison, which could not possibly be overlooked by a student, much less by the defence in a murder trial, in order that he may afterward be confuted by the heroine, who then feels it necessary to renounce him and retire into a convent. The book is, however, interesting and dramatic, though the narrative is somewhat disjointed, and several of the characters have the hall-marks of genuineness. The old negro speaks a good dialect, but we think that he would have come to grief very soon in his interference in the affairs of white people in real life, and would not have been allowed to see the fulfilment of the prophecies of his polished stone.

A CLINICAL TREATISE ON FRACTURES. By WILLIAM BARTON HOPKINS, M.D., Surgeon to the Pennsylvania Hospital, etc. Philadelphia: J. B. Lippincott Company. 1900.

THIS volume is a very handsome addition to the literature of its subject. The author has set out to write a clinical treatise, which must naturally rest largely on personal experience, and he has used his own clinical lectures at the

Pennsylvania Hospital as a ground work. Old and discarded methods of treatment, and pathological ideas which have been abandoned, have been omitted, and most attention has been devoted to those methods of treatment which have proved most satisfactory to the author. The illustrations throughout the book are new and excellent, and many of them are very satisfactory skiagrams. A series of experiments to ascertain the breaking strain in bones under varying circumstances is described in the introduction, and then the chapters are devoted to a systematic account of fractures, first as occurring in the extremities, and then those of the trunk and head. There are very few illustrations showing methods of treatment, for the exposition of which the author depends upon descriptions. The pages devoted to fractures of the skull and their complications afford an interesting and concise discussion of the subject, chiefly upon the operative aspect of the question. The last pages are devoted to the subject of compound fractures and ununited or incompletely united fractures, all of which are discussed in a thoroughly sound way. The author's remarks upon bone-joining are very interesting, and his descriptions of the formation of the joining and the preparation and use of the ivory screw should be read by all interested in the subject.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Vol. IV., January, 1900. Edited by ANDREW J. MCCOSH, M.D., and W. GILMAN THOMPSON, M.D. New-York: Trow Directory Printing and Bookbinding Company.

THIS report contains the usual number of papers, some of which are illustrated. It is bound in conformity with previous issues.

FLIEGENLARVEN ALS GELEGENTLICHE PARASITEN DES MENSCHEN. Von DR. ERICH PEIPER. Mit Abbildungen. Berlin: Verlag von Louis Marcus. 1900.

THIS is a small but entertaining and instructive dissertation on the fly, with forty-one illustrations and literary references.

ARZNEIVERORDNUNGEN IN DER KINDERPRAXIS FÜR STUDIRENDE UND AERZTE. Bearbeitet von Dr. med. H. GUTTMANN. Dritte gemäss dem Arzneibuche für das Deutsche Reich von 1901 vollständig umgearbeitete Auflage. Berlin: S. Karger. 1901.

THIS is a most admirable little book in that it gives in alphabetical order the more common and newer drugs used in pædiatric practice, with their doses, methods of applications, contraindications, dangers, etc. Many useful formulæ are scattered through the work, and its pages are interleaved for additional notes. One wonders but little that this volume has reached its third edition. Its portability enhances its value.

A BOOK OF DETACHABLE DIET LISTS for Albuminuria, Anæmia and Debility, Constipation, Diabetes, Diarrhœa, Dyspepsia, Fevers, Gout or Uric-Acid Diathesis, Obesity, Tuberculosis, and a Sick-Room Dietary. Compiled by JEROME B. THOMAS, JR., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital; Assistant Bacteriologist to Hoagland Laboratory. Second edition, revised. Philadelphia: W. B. Saunders. 1900.

THE second edition of this very attractive collection of diet lists should meet with considerable success, since the author has chosen carefully yet liberally from a large variety of food stuffs and has left space for special additions to particular cases. A stub remains in the volume, thus affording a record of the date and the diet chosen for each patient. The sick-room dietary gives some very valuable recipes specially adapted to invalids and convalescents, and the appendix describes the method of rectal alimentation, together with the manner of preparing food for such cases.

STUDIES IN THE PSYCHOLOGY OF SEX, the Evolution of Modesty, the Phenomena of Sexual Periodicity; Auto-Erotism. By HAVELOCK ELLIS. Philadelphia, New York, Chicago: The F. A. Davis Co. 1900.

THE title indicates in a general way the ground covered by this interesting volume, but the preface must be read to get an idea of the author's aims and intentions. The book is offered as a preliminary contribution, to be followed by essays upon cognate subjects. There are three essays in this volume, in the first two of which there is much collated material of interest to the psychologist and anthropologist. The chapter on auto-erotism touches upon a subject which has not so far perhaps been discussed, as here, from the point of view of the psychologist and not the clinician. The views of the latter have, of course, their own importance, but to get a true conception of the workings of the human organism under certain conditions and to be able to come to satisfactory conclusions we must turn to the former and divest ourselves of most of the ideas engendered by the study of what most of us look upon as purely pathological manifestations. This author emphasizes the importance of clearing our minds of such conceptions if we are to study intelligently the phenomena of which he treats, and he promises further contributions from his own pen, which cannot fail to be of interest. The field is perhaps narrow, but it is important and in some of its aspects it touches the foundations of modern society, perhaps with a somewhat rude and insistent shock. There have been several recent publications upon similar subjects, but we think none which has handled them with so little offensive and unnecessary detail, for in this volume there is practically nothing objectionable.

ELECTRO-THERAPEUTICS AND X-RAYS. By DR. CHARLES SINCLAIRE ELLIOTT, Author of "Lectures on Nervous and Mental Diseases," etc. Philadelphia: Boericke & Tafel. 1900.

WE have in this work a handbook for the use of those who wish to employ electricity in its various forms both in surgical and neurological conditions. The conclusions drawn are almost entirely personal and consequently have not the force which appertains to the epitomized ideas of a number of observers, but the descriptions are usually clear and detailed. There is a section on the subject of *x*-rays which covers the subject in a fairly satisfactory manner.

APPENDICITIS AND ITS SURGICAL TREATMENT, with a Report of One Hundred and Eighty-five Cases. By HERMAN MYNTER, M.D., Professor of Clinical Surgery in the University of Buffalo. Third revised edition. Philadelphia and London: J. B. Lippincott Co. 1900.

THIS monograph on appendicitis is a revision of one printed about three years ago. It is somewhat enlarged, but does not differ in important detail. There is an interesting *résumé* of the views upon the subject in foreign countries which shows clearly that Americans have nothing to learn from Europe in this regard. The views expressed do not differ from those which are now recognized as best in this country, which is to say that they are sound.

ANLEITUNG ZUR DIAGNOSE UND THERAPIE DER KEHLKOPF-NASEN- UND OHRENKRANKHEITEN. Vorlesungen gehalten in Fortbildungscursen für practische Aerzte von DR. RICHARD KAYSER in Breslau. Mit 121 Abbildungen. Berlin: S. Karger. 1901.

THIS most practical book fulfils the object for which it was written, namely, to present in most condensed form the more common and typical conditions of the nose, ear, and throat as seen in every-day practice, leaving the more special therapeutic and operative procedures to the larger works. The author's experience as a teacher of practitioners has stood him in good stead, for the method of presentation is clear and concise, and the illustrations are of a most comprehensive nature. It is the first German work of its kind in that it embraces the three branches in one.

KURZGEFASSTES LEHRBUCH DER KINDERHEILKUNDE für Aerzte und Studirende. Von DR. CARL SEITZ. Berlin: S. Karger. 1901.

IN the preface the author expresses as his object the presentation of a comprehensive and at the same time a short and concise work on diseases of children. As one peruses the pages he soon finds that the volume is larger than he looked forward to, very comprehensive but by no means short. The divisions and subdivisions follow the regulation text-book order, a general and special part, examination and feeding of healthy and sick infants and children, diseases of the new-born, affections of the nose, eye, ear, throat, and skin, etc. The print is subdivided into large and small, the former being devoted to the more general conditions and therapeutic remedies, the latter to special and rare matters. All in all, the work can be recommended as a good text-book on the subject and as a reference for some of the anomalies and rarities of infancy and childhood.

EDINBURGH HOSPITAL REPORTS. Published under the supervision of the editorial committee of Royal Infirmary, Royal Hospital for Sick Children, and Royal Maternity and Simpson Memorial Hospital. Edited by G. A. GIBSON, M.D., D.Sc., C. W. CATHCART, M.A., M.B., JOHN THOMSON, M.D., D. BERRY HART, M.D. Illustrated with colored plates and engravings. Volumes I., II., III., IV., V., VI. Edinburgh and London: Young J. Pentland. 1900.

BEGUN in 1893, this annual report has provided an interesting means of reviewing the yearly work done in the various departments of the hospital. The first volume contains brief sketches of the rise and progress of the institution concerned. The subjects are so arranged that they fall

into natural groups and contributions appear from past as well as from present staff members. These volumes, containing each from over four hundred to over seven hundred pages, and being handsomely printed and bound, are not "reports," in the usual acceptation of the term, but contain carefully prepared essays and dissertations upon new, rare, and important subjects, besides the statistical matter and tables usually presented. A very valuable collection of facts has been made possible by the generosity and unselfish energy and enterprise of the gentlemen connected with hospitals of Edinburgh and Leith, and their contributions will have an ever-increasing value. In the last report is included a portion of the manuscript left by the late Mr. John Duncan, dealing with "Electrolysis in Aneurism" and "Angioma," which adds not a little to the interest attached to the work. The collection as a whole makes a pleasing bond of union between old and new members of the Edinburgh school, and reflects great credit upon the latter, the editing committee, and the various contributors.

Transactions of the Vermont State Medical Society, 1899. Published by the Society. D. C. Hawley, M.D., secretary. Annual meeting in 1900, at Rutland, October 11th and 12th. Burlington: Free Press Association. 1900.

Two hundred and twenty-seven pages, including list of members, various reports of officers, and papers read make a very creditable bound volume. Prof. John B. Wheeler contributes an article on surgery in its relation to the female pelvic organs, and Richardson, of Boston, on perforating gastric ulcer.

Air, Water, and Food from a Sanitary Standpoint. By Ellen H. Richards and Alpheus G. Woodman, Instructors in Sanitary Chemistry, Massachusetts Institute of Technology. First edition. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1900.

This 8vo of two hundred and twenty-six pages deals with the three essentials of human existence from various standpoints and points out many a true lesson in the avoidance of disease by renouncing doubtful articles of diet, including those contaminated by adulteration. The ethical and hygienic sides of the question of food adulteration are both discussed. A very important chapter is that discussing analytical methods. Much thought and research have evidently been expended in the preparation of the work.

Transactions of the American Otological Society. Thirty-third Annual Meeting, held at Washington, D. C., May, 1900. Vol. VII., Part III., of the Society's Transactions. Published by the Society. New Bedford, Mass.: Mercury Publishing Company, Printers. 1900.

This well-printed pamphlet contains seven papers with discussions thereon. A valuable feature is an alphabetical index of otological bibliography for the year, from June 1, 1899, to June 1, 1900, compiled by Dr. Henry A. Alderton, of Brooklyn. The general characteristics of the work are fully up to the high standard of this well-known society.

Short Papers on Nursing Subjects. By L. L. Dock. New York: M. Louise Longeway, publisher. 1900.

Nursing organizations in Germany and England are compared, and the Nurses' Settlement in New York is described. Other matter is of interest to nurses and those who watch their work.

Clinical Studies in Epilepsy: from the Craig Colony for Epileptics at Sonyea, N. Y. By L. Pierce Clark. I. Exhaustion-Paralysis in Epilepsy. II. Paramyoclonus Multiplex Associated with Epilepsy. III. Hypertrophic Infantile Cerebral Palsy and Phocomelus Associated with Epilepsy. Utica, N. Y.: State Hospitals Press. 1900.

These essays are illustrated and very neatly published. They have the advantage over isolated journal reports of being surveyed by comparison, being "co-ordinately and coherently" published, as the author well puts it. They surely make valuable additions to neurological literature.

Bulletin of the Harvard Medical Alumni Association-Number 14 Catalogue. Boston: Published by the Asso, ciation. 1900.

A valuable feature is the list of members by States and Territories. Of course, Massachusetts has the most, but New York is well represented. Alabama heads the list with one member.

Die Krankheiten der Frauen. Von Dr. Med. Heinrich Fritsch. Neunte Auflage. 1900.

This is the ninth edition of the well-known text-book on gynæcology much used in Germany. It is a clear and thorough exposition, well adapted and suitably illustrated, and has a fine external appearance. The things which are required of a text-book of this kind characterize the work before us. Conforming to the rapid progress of medical science in the gynæcological field, the present edition of the book has been changed in many respects, and many new things have been added. Special mention must be made of the first chapter, in which the author discusses asepsis and antisepsis in gynæcology, describing all the necessary measures and steps before the operation; the preparation of patient, instruments, and the surgeon himself. Attention is also directed to the last chapter, which is entirely new—the treatment of the patient after a laparotomy and complications following it. The book is well known from its previous editions and is worthy of full recommendation.

The Transactions of the Medical Society of the State of California, thirteenth annual session, San Francisco, April, 1900. Vol. 30. Published by the Society.

The address of the president, George Chismore, is accompanied by his portrait as frontispece. There are many excellent papers on very practical subjects, and the volume is put out in such a way as to reflect decided credit on all concerned.

Thomas Sydenham. By Joseph Frank Payne, M.D., Oxon., Fellow and Harveian Librarian of the Royal College of Physicians, Late Fellow of Magdalen College, Oxford. New York: Longmans, Green & Co. 1900.

This is the eighth volume of the series of "Masters of Medicine," and sustains the high level which its predecessors attained. The author has availed himself of much material which has been hitherto unpublished and gives a most interesting account not only of Sydenham but of his friends and environment as well.

A Guide to the Instruments and Appliances Required in Operations. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon to the Leeds General Infirmary, Hon. Consulting Surgeon to the Keighley and Batley Hospitals, Emeritus Professor of Surgery in the Yorkshire College of the Victoria University, Member of Council and Hunterian Professor R.C.S. of Eng. Second edition. Sixty-two pages. Two shillings and sixpence. London, Paris, New York, and Melbourne: Cassell & Company, Limited. 1900.

The author has issued in book form the lists which he uses in his private practice to be followed by his assistants. Realizing that operators require different instruments for their different methods, he has left space at the end of each list which can be filled by those using it. The volume is issued in very compact form and can be readily carried about.

The Physician's Visiting List for 1901. Fiftieth Year of its Publication. Philadelphia: P. Blakiston's Son & Company.

The publishers point with pardonable pride to the fact that this little book has appeared regularly for the past fifty years, and that its survival for so long a period indicates that it has served and will continue to serve a useful purpose. It is compact and is published with or without dates, for twenty-five to one hundred patients a week. There are spaces reserved for visiting list, memoranda, addresses, accounts, obstetric engagements, vaccinations, and deaths, besides the usual printed tables and other useful data.

Food for the Sick and How to Prepare it. With a Chapter on Food for the Baby. By Edwin Charles French, M.D. One hundred and seventy pages. Louisville: John P. Morton & Co. 1900.

This book makes a very helpful work to the busy practitioner. Quite a number of diseases are treated from a dietetic standpoint, and a full list of foods appropriate for each is given. A number of valuable recipes for the preparation of invalids' food, not ordinarily found in cook books, takes up the larger part of the book. The article on rectal alimentation, although short, will prove of value to the reader.

Ueber die Behandlung der Kinderkrankheiten. Briefe an einen jungen Arzt. Von Dr. Hugo Neumann, Privat-Docent an der Universität in Berlin. Zweite, durchgesehene und erweiterte Auflage. Berlin: Oscar Coblentz. 1900.

The second edition of this instructive book, comprising about three hundred and seventy-three pages, is a unique work in that it appears in a series of letters giving careful attention to the therapeutic and dietetic management of the most important infantile disorders. The author gives particular attention to infectious diseases, and his clearness of description deserves especial mention. To the physi-

cian desiring detailed information in the treatment of diseases of children this book can be recommended. A medical formulary, giving a series of recipes with the dosage of drugs, is appended. Dr. Neumann being the director of the Poliklinik in Berlin, his views embody a large personal experience, which greatly enhances the value of his work.

DISINFECTION AND DISINFECTANTS. A Treatise upon the Best-known Disinfectants, their Use in the Destruction of Disease Germs, with Special Instruction for their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. BRACKEN, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota; Secretary and Executive Officer, Minnesota State Board of Health. Eighty-five pages. Chicago, Ill.: Published by The Trade Periodical Company. 1900.

THIS little book affords the reader a concise and practical description of the different methods of disinfection now in vogue. The relative efficiency of the different chemicals, heat, sunlight, etc., are discussed and the methods of using the formaldehyde apparatuses are clearly and succinctly described. How the disinfector should dress and act, and what precautions should be taken for the special diseases, both in regard to the patient and the attendant, are all treated in a satisfactory and practical manner.

PRACTICAL HOMŒOPATHIC THERAPEUTICS. Arranged and Compiled by W. A. DEWEY, M.D., Professor of Materia Medica in the University of Michigan Homœopathic Medical College; Member of American Institute of Homœopathy; Corresponding Member of the British Homœopathic Medical Society and of the Société Française d'Homœopathie; Author of "Essentials of Homœopathic Materia Medica," "Essentials of Homœopathic Therapeutics," etc. Philadelphia: Boericke & Tafel. 1901.

THIS volume serves to indicate how closely the two schools of medicine have agreed on the remedies which are useful in different diseases. Thus, under anæmia, we find iron, arsenic, and cinchona as leading remedies; under angina pectoris, amyl nitrite and glonoin; under arthritis, colchicum, etc. Of course, the drugs peculiar to homœopathy are also included under the different headings, which are arranged alphabetically, whether as symptoms or as definite diseases.

PSYCHOPATHIA SEXUALIS, with Especial Reference to Antipathic Sexual Instinct: A Medico-Forensic Study. By DR. R. V. KRAFFT-EBING. The only authorized English translation of the tenth German edition. Chicago: W. T. Keener & Co. 1900.

IN the publishers' preface we read that the sale of this work is rigidly restricted to the members of the medical and legal professions. The first edition appeared some time previous to 1892, when the first American translation was published by the F. A. Davis Company. In the preface to the tenth edition, which was written in 1899, the author says the commercial success of the work is the best proof that large numbers of unfortunate people find in its pages instruction and relief in the frequently enigmatical manifestations of sexual life. Undoubtedly the work has drawn a very large list of readers from every walk of life outside of the professions to which the sale is so rigidly restricted. The present book is somewhat larger than former editions, and contains over twenty more case histories with comments than did the ninth. The work is very full and the language scientific. It has undoubtedly done much to bring about a better understanding of the morbid states with which the pages are so pregnant, but in improper hands such works are capable of sowing harmful seed.

The Treatment of Fractures of the Patella.—A. Wiener describes a method of treating this fracture which produces good functional results without operative interference. The leg is shaved and sterilized as for operation and enveloped in non-absorbent cotton. It is then placed on a gutter splint of binders' board, and after plentiful padding the knee joint is surrounded by figure-of-eight turns of a broad rubber bandage, drawn moderately tight. An ambulatory apparatus is applied, and the patient allowed to walk home. The rubber bandage is allowed to remain in place four or five days, at the end of which time the exudate will be found to have become greatly diminished, so that the bone fragments can easily be placed and retained in apposition by a reapplication of the dressing.—*Centralblatt f. Chirurgie*, January 5, 1901.

Therapeutic Hints.

Treatment of Paralysis Agitans.—We seem to be unable to stay these subtle changes which are taking place in the nervous system. The rigidity and soreness, painful condition of the muscles, which even sometimes precede the development of tremor, progressively advance. The tremor, weakness, and final rigidity we are unable to prevent. Every day brings these patients that much nearer a horrible end—paralysis, rigidity, and complete hopelessness. — DR. CHARLES J. ALDRICH, *Bulletin of the Cleveland General Hospital.*

Uræmia and Uræmic Convulsions.—In uræmia and uræmic convulsions we have the right to use the more powerful drugs, which we should always fear to employ in the milder conditions. Croton oil, elaterium, muriate of pilocarpine, jaborandi, by enema or supositories, atropine, and strychnine in œdema of the lungs, chloral hydrate, chloroform, and even morphine in convulsions. Morphine should never be used except in the worst and most violent stages of the convulsions of acute nephritis.—DR. L. G. LE BEUF, *Medical and Surgical Journal*, December.

Acute Laryngeal Inflammation.—

℞ Menthol ..... gr. v
(or chloroform ..... gtt. i)
Tr. opii camphorat ..... ʒ ss.
Tr. benzoini comp. ..... q s ad ʒ ij
M. S. One teaspoonful in a pint of hot water, for inhalation.

—MUSSON.

Specific Urethritis.—To render the urine aseptic:

℞ Salol ..... ʒ i
Boric acid ..... ʒ i
M. Div. in capsulas No. xii. S. One four times a day

To render the urine alkaline, alkaline waters may be given freely, or

℞ Potass. bicarb ..... ʒ iij
Tinct. hyoscyam. ..... ʒ ij
Aquæ ..... ad ʒ iv
M. S. A teaspoonful in water after meals.

Or:

℞ Ext. pichi fl ..... ʒ iij.
Potass acetat. ..... ʒ i
Spts. æther. nitros ..... ʒ ij.
Syr. simplicis ..... ʒ ij.
Aquæ ..... ad ʒ viij.
M. S. A teaspoonful in water after meals.

Injections should not be used until the acute symptoms begin to subside. Hot boric-acid solution may be used first. These are useful:

℞ Zinc. sulph ..... gr. vi.
Ext. hydrastis fl.
Glycerin ..... āā ʒ iv
Aquæ ..... ad ʒ vi.
M.

Or:

℞ Protargol ..... gr xxv.
Aquæ ..... ʒ vi
M.

DR. W. A. HACKETT, *The Medical Age*, November 25th.

Treatment of Corns.—For the soft corn between the toes, ordinarily, gently greasing the toes well in the morning with some simple ointment and putting a film of cotton between will in a few days cause them to disappear. When there is much moisture a powder of salicylic acid, or resorcin, or thuja in five-per-cent. strength, mixed with compound stearate of zinc, may be used instead of ointment. Rhubarb powder, in twenty-per-cent. strength with arrowroot powder, does

well also. For the flat corn, not especially painful, the salicylic-acid plaster (ten per cent.) is useful.—DR. ISADORE DYER, *New Orleans Medical and Surgical Journal*, December.

Cancer of the Uterus.—

℞ Iodi..... 3 i.
Bromi..... 3 ij.
Acid. carbol..... 3 iv.
Alcoholis..... ℥ viij
M. S. Apply and then introduce a saturated solution of bicarbonate of sodium.

—PARVIN.

Epilepsy.—

℞ Tinct. belladonnæ..... ♏ ij.
Potass. bromidi..... gr. xv.
Chloral hydrat..... gr. v.
Aquæ..... q.s. ad 3 i.
M. S. For one dose.

—STARR.

Painful Erections.—

℞ Methyl salicylate..... 1 part.
Liquid vaseline..... 10 parts.
M. S. Anoint the penis with this liniment and cover with a thin layer of cotton and bandage.

—BAVATIER.

Pruritus Vulvæ.—

℞ Bichloride of mercury..... gr. ss.
Emulsion of bitter almonds..... ℥ i.
Apply twice a day.

Or:

℞ Tr opii,
Tr. iodi,
Tr aconiti..... āā 3 v.
Acid. carbolic..... ℥ i.
Apply twice a day.

—PENROSE.

Gastric Fever in Children.—For the head symptoms accompanied with high fever, I apply the ice bag to the head, and give internally:

℞ Tinct. aconiti rad..... ♏ xxx.
Tinct. gelsemii..... 3 i.
Syr. ipecac..... 3 iij.
Aq. cinnamomi..... q.s. ad ℥ i.
M. S. Fifteen drops every hour till the fever is reduced, then every two or three hours. For a child six years old.

Many children cry distressingly of the pain in the stomach; for this I have found the following mixture useful:

℞ Spts chloroformi..... 3 i.
Bismuthi subnit..... 3 iss.
Morph. sulph..... gr. i.
Elix. lactopeptin..... ℥ i.
Aq. menth. pip..... q s. ad ℥ ij.
M. S. Half a teaspoonful every half-hour till relieved, then every three hours.

After the high temperature is under control, and to remove the disagreeable taste in the mouth, along with the fetor of the breath, and also act as a systemic tonic, I administer:

℞ Tinct. ferri chlor..
Acid phos. dil..... āā 3 ij.
Syr. limonis..... q.s. ad ℥ ij.
M. S. Half a teaspoonful, given in a small wineglass of water, three times a day. To be continued for ten days.

—DR. G. T. MCCULLOUGH, *Denver Medical Times*, November, 1900.

The Treatment of Typhoid Fever.—I have found it impossible to bathe certain patients because the plunges have led to hysterical or nervous outbreaks that seemed to me more dangerous than the conditions that the cold baths might obviate; it has been impossible to bathe certain patients because of direct objections on the part of the friends; and I have sometimes discontinued the baths when the shivering and nervousness have been extreme, and it has seemed too much of a hardship to the patient to continue. These contraindications to bathing are not usually admitted by enthusiasts, but in practical medicine physicians will find that these objections to the bath will have weight with them. I do not specify these, nor should they be used as cloaks to hide a real objection to cold bathing which we are unwilling to confess, but, on the other hand, the ardent advocates of bathing recognize that their advocacy of invariable plunging sometimes carries them to the point of cruelty. As between the danger of death and certain grades of suffering, intelligent persons will often select the former This privilege must be allowed the typhoid patient.—DR. ALFRED STENGEL, *Pennsylvania Medical Journal*, November.

Aqueous Extract of Suprarenal Glands.—I have used it with excellent results in the treatment of oncoming and existing tonsillitis in all four tonsils, from the simplest congestion to the most severe quinsy, and even in diphtheria. The spraying of the suprarenal upon the congested and swollen tissues not only reduces the congestion for the time being, but causes the whole organ to seem to the patients less swollen. They speak immediately of increase of space in the throat, and are able, especially in the severe quinsy cases in conjunction with a little cocaine, to get down some sadly needed nourishment.—DR. HENRY L. SWAIN, *Yale Medical Journal*, November, 1900.

Surgical Suggestions.

Appendicitis.—As far as our present knowledge extends, the appendix vermiformis in the human being is rudimentary and functionless, and therefore of no possible use or benefit to man. At any rate he seems to get along as well or better without it than he does with it. An operation for appendicitis is performed in all cases for two reasons—first, to save the life of the patient, and secondly, to remove the cause of the disease. These requirements will not be accomplished unless the appendix is removed in every case. It is bad and imperfect surgery to leave after an operation the cause of the trouble.—JAMES B. MORGAN, M.D., *International Journal of Surgery*, October.

Hydrogen Dioxide in Appendicitis.—In a case of appendicitis with abscess, hydrogen peroxide is a sheet anchor. Armed with this resource, one may without hesitation open pus collections freely, separate peritoneal adhesions without regard to exposing the general peritoneal cavity to infection, and, in short, he can work in violently infected cases without fear of lighting up general peritonitis. As soon as pus appears proceed to blow it all out of the cavity by introducing hydrogen dioxide in sufficient quantity to accomplish that purpose. Separate adhesions and search for further pus collections and the infected appendix. If pus appears repeat the same procedure.—ROBERT T. MORRIS.

Wrist-Drop due to Traumatism to the Musculo-Spiral Nerve.—The result of secondary neurorrhaphy is frequently not very good. This is due to carelessness in after-treatment, little or no treatment is carried out, and unless persistent massage, douching, and electrical treatment are systematically performed for at least a year, we can scarcely expect any good result. Simple suture of the nerve, leaving the muscles wasted from prolonged disuse, will of itself do but little good. The methods I have resorted to are (1) simple suture after stretching, (2) stretching and bridging the still existing gap in the nerve with strands of catgut, and

(3) deliberate resection of the shaft of the humerus. The latter has given the best results.—W. W. KEEN.

Fractures in the Neighborhood of or into a Joint.—When a fracture is in the immediate neighborhood of or into the joint itself, there certainly will be a traumatic inflammation of that joint, which demands consideration as well as the fracture. My judgment and experience tell me that the best method to pursue is to appose the fragments as completely and thoroughly as possible, place the joint in that position which will best maintain that apposition with safety to the part and comfort to the patient, then immobilize the joint and fragments by a suitable dressing until firm union of the fragments occurs, followed then by very judiciously practised passive motion of the joint. The best treatment for an inflamed joint, pure and simple, is rest; why, then, would not this treatment be just as reasonable when the inflammation is associated with a fracture?—DR. ROBERT CAROTHERS, *Cincinnati Lancet-Clinic*, December 8th.

Diagnostic Differences in Three Forms of Intestinal Obstruction.—

STRANGULATION BY BANDS.	VOLVULUS.	INTUSSUSCEPTION.
	Age.	
Young males.	Males about forty.	Young children.
	Pain.	
At umbilicus; severe from beginning.	Hypogastrium or back; comes on at once, but not so severe; intermits.	Prominent; comes in waves.
	Vomiting.	
Early, frequent, copious, stercoraceous, fourth or fifth day.	Late or not at all; never very urgent; fifteen per cent. of all cases feculent.	Very variable symptoms.
	Constipation.	
Complete from first.	From first.	Blood from bowels with tenesmus.
	Abdominal Distention.	
Not at first marked; no tumor.	Rapid accumulation of gas, causing great distention; no tumor.	Usually absent; tumor felt through parietes or in rectum.
	Duration.	
Die about fifth day.	Average six days.	Twenty-four hours to several days or weeks.

—DR. J. W. MACDONALD.

Carcinoma.—The use of caustics in the radical treatment of carcinoma has a limited field of usefulness.—SENN.

Cutaneous cancers are usually treated more satisfactorily by escharotics than by any other method.—DANIEL LEWIS.

Caustic agents should be applied in such a manner as to produce the requisite effects by single application, otherwise the irritation gives not necessarily, but commonly, new activity to the disease.—WALSHE.

The caustic which has given me the best results is what is known as Bougard's caustic compound, and it is as follows:

℞ Wheat flour	60 gm.
Starch	60 "
Arsenic	1 "
Cinnabar	5 "
Sal ammoniac	5 "
Corrosive sublimate	0.50 cgm.
Solution of chloride of zinc at 52°	245 gm.

—DR. S. B. M'GAVRAN, *Columbus Medical Journal*, November.

Continuous Dilatation in Urethral Stricture.—Continuous dilatation is employed under the following conditions: (1) When we fail to make progress with "interrupted" dilatation. (2) When speedy relief is required owing to the occupation of the patient. (3) When, owing to cystitis existing as a complication, continuous drainage through a catheter is required. (4) When, through age or debility, and particularly when disease of the kidneys is known or suspected to exist, an operation is inadmissible. (5) In tight strictures, and such as involve difficulty in introducing instruments, it will almost invariably be necessary to commence treatment by continuous dilatation, and when sufficient progress has been made to permit of the easy introduction of bougies, to continue the treatment by "interrupted" dilatation. (6) Continuous dilatation has almost invariably to be employed as a preliminary to internal urethrotomy. In most cases as soon as we have dilated a stricture up to 16 or 17 F. (9 E.) by the "continuous" method, the treatment should be completed by the passage of large steel dilators by the "interrupted" method.—DR. P. J. FREYER, *The Clinical Journal*, December 5th.

Society Reports.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

(*By cable to the* MEDICAL RECORD.)

FIRST GENERAL SESSION.

THIS was held in Tacon Theatre on Monday evening, February 4th. The house was filled with representatives of Havana society and on the stage were officers of the congress, national delegates and vice-presidents, Mayor Rodriguez of Havana, and other officials.

Address of Welcome.—The congress was opened by GOVERNOR WOOD with a brief address. He said that upon him was placed the agreeable duty of opening the congress and welcoming its members to Cuba. The selection of Havana as the place of meeting was peculiarly opportune, as it was the capital of an island lying midway between the two continents and representing the bond of union between them. Moreover, it was easy of access from north and south, and visitors would have an opportunity to study and discuss the results of work done in the past six months—work tending to the solution of the yellow-fever problem. He was privileged to welcome his hearers as strangers in the hospitals of Havana, and especially as members of the great brotherhood of scientific men, as seekers after truth, knowing no difference of race, no national prejudice or antipathies.

Report of the Secretary-General.—DR. CORONADA then read his report, giving the history of the organization of the present congress. The disturbed state of Venezuela forbade the assembling of the congress in Caracas, and almost at the last minute Havana was asked to receive it. At a meeting of physicians it was unanimously decided to comply with the request, and invitations were sent to all American countries and accepted officially by most of them. The prevalence of yellow fever necessitated the postponement of the date. In consideration of all these facts the delegates should overlook any shortcomings. In the name of Cuba he bade the visitors welcome.

The President's Address.—DR. JUAN SANTOS FERNANDEZ welcomed the members of the congress in a brief address in which he reviewed the medical history of Cuba. Of all the countries which formed the vast colonial possessions of Spain none excelled Cuba in her love of medical sciences. Her first hospital was erected in 1545. In 1728 the Dominican Friars established a university in which was a faculty of medicine. From this school, despite many impediments, came men still remembered for their medical acumen. The most illustrious of Cuban physicians in the eighteenth century was Romay, who established the first Cuban medical periodical and published an interesting memoir on yellow fever, as well as several

works on hygiene. He introduced vaccination in Havana in 1804, disarming the popular prejudice by first vaccinating his own children. During the visitation of the cholera in 1833, the Cuban physician Calcagno called attention to the premonitory diarrhœa, during which proper treatment might arrest the disease. Gutierrez was the successor of Romay in knowledge of the sanitary requirements. He gave a new impulse to medical learning, established the Academy of Sciences of Havana, and was the editor of the first medical journal published in Cuba. The speaker then referred to the state of medical literature in the island, to the work of the Cuban medical congress in 1890, and to that of various local scientific associations. He contended that Pasteur's discoveries were accepted in Cuba before they were recognized by any other country. As evidence of this fact the Institute of Bacteriology and Antirabic Inoculation was established in Havana in 1887 and still existed. In closing Dr. Fernandez predicted a glorious medical future for Cuba, now recovering from losses of blood and treasure spent in her struggle for freedom.

The address which was to have been delivered by Colonel Reed, of Cincinnati, was omitted because of the absence of the author.

Progress of Obstetrics.—Dr. Hernandez, of Havana, delivered the address on the progress of obstetrics. The selection of the theme was unfortunate in view of the mixed character of the audience, as was evidenced by attempts of the spekaer to veil the meaning of terms by using that of mannikin instead of female, and by rather clumsily avoiding necessary references to strictly scientfiic facts. He discussed the position the fœtus assumed in consequence of fixed anatomical conditions, the phenomena of normal delivery, the use of the forceps, the indications for symphyseotomy and antisepsis, and spoke of many illustrious names (some Cuban) which were associated with the advances in the art and science of obstetrics, claiming that they should be known and reverenced by the laity as well as by the profession for the part they had taken in advancing this important department of science and the consequent saving of human life.

SECOND GENERAL SESSION.

Held in Marti Theatre, Tuesday Evening, Feb. 5th.

The Progress of Medicine in Cuba was the theme of the first address, which was delivered by Dr. Gustavo Lopez, the vice-president of the congress. The speaker sketched in a few words the history of medicine in Cuba. He was proud to say that his medical brethren were always alert to adopt new ideas when they were proved to be sound and to turn to practical use all strictly scientific discoveries. Bacteriology especially had been always zealously pursued in Cuba, Pasteur's teachings having been early adopted and put to practical tests. He referred to the successful meeting of Cuban physicians in 1890. The disturbed condition of the island alone prevented subsequent gatherings.

A Pan-American Yellow-Fever Congress.—Dr. Eduardo Wilde, Argentine Minister to the United States, followed with an address advocating the united action of all American governments looking to the extermination of yellow fever. He declared emphatically that this disease gained no foothold where hygiene was perfect, and experience had abundantly demonstrated that places hitherto infected could be freed from the scourge of fever by the amelioration of existing sanitary conditions. In conclusion the speaker offered a resolution for adoption calling upon all American governments to appoint delegates to meet in Pan-American congress to determine measures necessary for the extinction of yellow fever in its endemic foci. He maintained that each port should be subjected to sanitary survey and any needed improvements should be specified for each place. These works should be carried out under direction of a Pan-American commission, and each government should bind itself to execute the sanitary improvements declared necessary. Whatever the actual cost of such work might be, its execution would in the end be economical, in view of the immense losses to commerce and human life resulting from an outbreak of yellow fever. He stated that he had proposed to Surgeon-General Wyman to request the respective governments to convene a sanitary congress, as above outlined, but when the call for the present meeting was received it was deemed best to lay the project before the congress and let such a proposal come in a more direct way to the respective governments, backed as it would be by high scientific sanction.

Progress of Medical Science.—Dr. Luis Debayle, delegate from Nicaragua and Honduras, then spoke on this theme. He sketched briefly the condition of medicine up to the close of the eighteenth century and showed the radical changes which had been due to the work of Pinel, who first directed scientific inquiry in the path of exact science. He referred to the creation of general anatomy by Bichat and to progress in histology, embryology, and experimental physiology due to the cellular theory of Virchow; also to various other discoveries up to those of Broca, Waldeyer, and Ramon y Cajal. He spoke of the chemistry of cells and declared chemistry to be the science of the future. He referred to Gautier's theory of toxins and sketched the progress of clinical medicine associated with the discoveries of Laennec, Trousseau, Bright, Rokitansky, and others; and also alluded to the influences of thermometry, laryngoscopy, cystoscopy, and the Roentgen ray in surgery, and spoke also of anæsthesia, antisepsis, and forcipressure. The greatest triumphs of modern surgery were those of anæsthesia and asepsis. Equally brilliant discoveries were awaiting the developments of bacteriology. The demonstrations of Pasteur were merely the beginnings of what was to be. Orrhotherapy would yet assert itself as a leading system of treatment for infectious diseases and he doubted not that many of his hearers would live to see the most extravagant prophecies in such directions fully verified.

Defence against Tuberculosis.—This was title of an address by Eduardo Liceaga, of Mexico, which was read in his absence by another. He reviewed the modern doctrine concerning tuberculosis, that it was a contagious but preventable disease. The germ issued from the tuberculous individual in the sputum, fæces, urine, purulent discharges, and gained admission to the healthy organism through the respiratory and digestive tracts, and through wounds. Experience had demonstrated that in proportion as the sanitary condition of cities improved tuberculosis diminished. Not the least of advantages of sanatoria were that they were schools of hygiene for consumptives, and taught patients not only to care for themselves but to protect their neighbors from infection. He referred to the measures necessary to prevent the spread of the disease, especially isolation, disinfection, and early diagnosis. He contended that there should be notification of all cases to the health authorities, and urged a crusade against tuberculosis by the organization of vast associations similar to those of the Red Cross. Physicians should take the initiative in furthering the good cause by precept and example.

The attendance at the congress was about four hundred, of which one hundred members were from the United States, and seventy-five from other countries.

(*To be Continued.*)

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 28, 1901.

GEORGE B. FOWLER, M.D., PRESIDENT.

Modern Views of the Pathology of Diabetes.—DR. C. A. HERTER read this paper, treating particularly of certain aspects of the disease to which he had given special attention. He considered that the presence of sugar and that of organic acids in the urine were the two characteristics of this disease. Our knowledge of the causes of glycosuria had been considerably augmented of late by a variety of experiments. One view regarding the cause of sugar in the urine was, that it was owing to injury to the kidney, thus permitting the sugar to escape into the urine in very much the same way that albumin escaped into the urine, when the kidney had been injured by a nephritic process. The chief argument in support of this view was that derived from a study of phloridzin diabetes. Phloridzin was a glucoside obtained from the cherry, apple, and some other vegetable sources. If half a gram or more of phloridzin be introduced in alkaline solution under the skin of a dog, the urine would be found to contain a very considerable quantity of sugar, and this continued until the organism began to break down its own proteid. One investigator had found that if a solution of phloridzin were injected directly into the renal artery on one side, sugar appeared in the urine on the side on which the injection had been made, some time before it appeared from the other kidney. It had been inferred from this that the kidney had been injured first on one side, and then on the other. The idea that the sugar passed into the urine on account of injury to the kidney had received support from observations made on the sugar content of the blood before and after the injection of phloridzin. It was claimed that the quantity of sugar in the blood was less after than before the administration of phloridzin. His own experiments confirmed this view, indicating that there was a sweeping out of the sugar from the organism. It had been formerly supposed, probably as a result of Claude Bernard's observations chiefly, that the sugar content was uniformly increased. In severe cases of diabetes, however, the sugar in the blood was distinctly increased above the normal, and this seemed to be an objection to the view that injury to the kidney was the cause ot human diabetes. The problem had been very much complicated by the fact that the blood contained some substances which reduced Fehling's solution, but which were not sugar. For instance, Drexel had shown about ten years ago that the blood contained a substance known as jecorin, which was a combination of lecithin and sugar. There was reason to believe that the presence of lecithin sugar accounted for the reaction ordinarily obtained with Fehling's solution, and that there was no sugar in the blood normally. It was only when sugar came into the blood in addition to the jecorin that sugar was found in the urine. There was no good evidence that there was ever an increased production of sugar in the blood, either from carbohydrates or from proteids, and usually not from fats. In cases of diabetes, before that condition led to coma, the sugar in the urine could not be explained on the supposition that there was an increased production of sugar in the organism. The alternative theory was that there was a decreased combustion of sugar—a view which was supported by the best physiologists, and was apparently the only really tenable theory. The sugar was stored in the form of glycogen in the liver and, to a less extent, in the muscles. It had long been known that injury to the floor of the fourth ventricle was apt to be followed by the appearance of sugar in the urine, and that this did not happen if there was no glycogen in the liver and muscles. The glycogen could be removed from these tissues by starvation or by the administration of jecorin. The explanation of these observations, the speaker thought, was to be found in the changes in the circulation of the liver—the increased flow of blood brought about by the vasomotor changes. As a rule, the diabetes following an injury to the head in the human subject was of short duration, but permanent and even severe glycosuria from such injury was not unknown. Under such circumstances it must be assumed either that the pancreas was also involved, or that the circulation in the liver had been permanently changed in such a way that no carbohydrate could be stored as under normal conditions. Another explanation of the inability of the body to burn its sugar was to be found in defective oxidation in the cells, and possibly also to some extent in the blood, but it was evident from certain experimental facts that this could hardly be the primary difficulty in the case of diabetes, for there were conditions in which the oxidative capacity of the cells was markedly diminished, *e.g.*, acute yellow atrophy of the liver or acute phosphorus poisoning, and yet diabetes did not occur. Probably the primary difficulty was to be found in the inability of the organism to cleave the sugar molecul in such a way that it could be converted by oxidation into carbon dioxide and water. It was now believed that a ferment produced somewhere in the organism was the means by which this sugar-splitting process took place. It was well known that the complete removal of the pancreas was uniformly followed by the appearance of sugar in the urine. It had been shown repeatedly that the pancreatic duct could be ligated, and still no diabetes would result. The speaker said that in his somewhat limited experience in post-mortem examinations of cases of diabetes, there had not been a single case in which the pancreas had not been extensively diseased. Reference was made to the histology of the pancreas, and particularly to the islands of Langerhans as showing the admirable arrangement for the intimate interchange of material between the cells in this structure and the blood. The next point brought out was that there were two forms of pancreatitis, viz., (1) one in which there was an extensive increase of the connective tissue without much involvement of the glandular substance, and (2) one in which the connective tissue was not interlobular, but passed in among the secreting structures and compressed the islands of Langerhans. Diabetes was found associated with this second form of disease of the pancreas. Probably these islands of Langerhans produced an internal secretion which was of use in the combustion of the sugar; the withdrawal of this secretion resulted in an inability of the cells to burn the sugar. Recent observation had shown that in normal persons the blood was capable of destroying a considerable quantity of sugar. In diabetics there was an enormous falling off in the ability of the blood to decompose the sugar. The appearance of sugar in the urine, therefore, was due to diminished combustion of sugar, and this diminished combustion was closely related to disease of the islands of Langerhans, in the great majority of cases. The chief symptoms of diabetes were, of course, readily explained by the deprivation of the system of sugar.

Excretion of Acids in Diabetes.—The excretion of acids in diabetes, the speaker said, was of great importance, and was of more prognostic significance, in his opinion, than the excretion of sugar. With a given quantity of sugar in the urine there might be almost no organic acid in the urine or a very considerable quantity, yet in the one case the prognosis was good, and in the other it was bad. There was little reason to believe that the acids were produced in the

digestive tract in sufficient quantity to account for these acids found in the urine. An explanation was to be found in the fact that something was produced in the organism which was not properly burned. The importance of these acids lay largely in the fact that a free acid appearing in a cell or in the blood could not possibly remain there as a free acid; it must be neutralized by an alkali present in the body. If there was sufficient alkali for this purpose, no evil effect from the presence of the acid would be observed, so long as the alkalinity of the blood was not greatly reduced. The point of danger in the presence of organic acids in the blood and in the urine lay in the fact that these acids drew alkali from the blood. The body had a very remarkable source upon which to draw for alkali. This was the ammonia produced either by the tissues in the course of normal metabolism of the proteids, or the ammonia produced by the splitting off of certain ammonia-containing substances from the nitrogenous food. Meat, for instance, yielded a considerable quantity of free ammonia. This ammonia was normally converted into urea; from twenty to forty per cent. of all the urea originating this way. When acids were produced in excessive quantity, the ammonia which normally went to the formation of urea was diverted to neutralize the acid and carry it out of the body. This was the reason why in severe diabetes the ammonia was regularly increased in the urine if the acids were formed in excess. The principal acid was beta-oxybutyric acid, which might break down into acetone and diacetic acid. This acid came in part from proteid and in part from fat, and it might be that the feeding of large quantities of fat and meats in the later stages of diabetes was harmful. It should be borne in mind that these acids were undoubtedly the cause of diabetic coma. In this form of coma the respirations were usually deep and rapid, and there was considerable dyspnœa, though there was seldom any cyanosis. The explanation of these facts was to be sought in the peculiar condition of the gases in the blood and in the cells. On the introduction of an acid into a cell a certain amount of alkali was withdrawn—ultimately sodium and potassium. As soon as this had been done there was no opportunity for the formation of carbonates, which were necessary for the transportation of carbonic acid out of the cell. This resulted in a condition of asphyxia in the cell. Under these circumstances there was no diminution in the amount of oxygen in the blood, yet the cells could not get at the oxgyen, the carbon dioxide preventing the exchange of the gases. The quantity of carbon dioxide under these conditions was enormously diminished. There was no reason to believe that these acids acted through any special toxic effect of their own. The kind of acid was not of importance, as the same condition could be brought about by the administration of hydrochloric acid or other mineral acids.

Treatment.—In the precomatose stage of diabetes a very great deal could be done in the way of treatment by recognizing the important part played by these organic acids in the blood. If such persons were given large doses of sodium carbonate steadily and persistently they would be greatly improved and life prolonged.

Diabetes Induced by Phloridzin.—Dr. Graham Lusk said that some years ago, when he began the study of diabetes with Professor Boyd of Munich, the latter had expressed to him the belief that diabetes was the result of the non-combustion of the carbohydrates. To understand this subject the fact should be recalled that the fæces were only in very small part the residue of the food, but rather the residue of the intestinal juices and substances discharged into the intestinal canal. To determine the quantity of proteid decomposed in the body one should estimate the sum of the nitrogen in the urine and fæces in the twenty-four hours. Under normal conditions a reduction in the carbohydrates caused a largely increased proteid waste. Every gram of nitrogen in the urine represented the destruction of 6.25 gm. of the body proteid. The sugar was proportionate to the proteid decomposition. He was inclined to doubt the truth of the experiments cited by the previous speaker as showing that there was a production of sugar from fat, because these experiments had been made in only one laboratory and were totally opposed to the results obtained by many other experimenters. It had been claimed by some that gelatin was a good foodstuff for diabetics, but in an experiment that he had conducted in feeding this substance to an animal, the result showed, as might have been expected, that just as much sugar was produced as when proteid was used. Our object should be to find a sugar which could be burned in the body, as this would result in the reduction of the acids referred to. Both levulose and galactose were burned in the body to a certain extent.

Glycuronic Acid in the Urine, and its Distinction from Sugar.—Dr. John A. Mandel presented this phase of the subject. He said that as long ago as 1879 it had been noted that the urine of a dog which had been given camphor reacted as sugar ordinarily did with the usual tests. Long before this time it had been known that chloral hydrate, trichloral, butyl alcohol, and other substances, when introduced into animals, were eliminated along with some body having a reducing action on Fehling's solution. Under certain conditions dextrose was apparently oxidized in the blood into glycuronic acid. The latter acid could be easily obtained by decomposing the urine of a dog to which chloral had been given. Pure glycuronic acid was a non-crystallizable syrup, and a dextro-rotary body. The compounds found in the urine which were derived from this acid apparently polarized to the left. Although closely related to dextrose it did not ferment. It formed compounds with phenylhydrazin, which were amorphous and had a low melting-point. Glycuronic acid reduced Fehling's solution—indeed, the common tests for dextrose in the urine responded markedly with glycuronic acid, and this constituted the chief source of the pseudo-reactions for sugar. The administration of drugs of the aromatic series, or of the fatty series, *e.g.*, eucalyptol, creosote, guaiacol carbonate, the coal-tar products generally, betol, resorcin, etc., resulted in reactions which might easily be mistaken as an indication of the presence of sugar in the urine. After the administration of chloroform or of morphine such reactions might also occur. To distinguish these false reductions from the true reaction one should resort to the old reliable fermentation test. A glycuronic-acid urine would not yield carbon dioxide on fermentation. Another distinguishing feature was that the phenylhydrazin test yielded an amorphous instead of a crystalline deposit, as demonstrated by microscopical examination. Another test for glycuronic acid and pentoses was to add to the urine an equal quantity of hydrochloric acid, and then a tiny portion of phloroglucin, and heat. The characteristic reaction of such urine was a red color.

Cause of Lipæmia.—Dr. Louis Faugères Bishop referred to a fatal case of diabetic coma in which at autopsy the blood had been found in a condition almost like cream—a lipæmia—and he asked Dr. Herter regarding the relation of this condition of excessive fat in the blood to diabetes.

Dr. Herter replied that a very considerable excess of fat in the blood had been observed a number of times in diabetes, but always in exceptionally severe cases. The explanation seemed to him simple. The organism was practically in a state of starvation; it was living on its proteid and on its fat. In a state

of starvation about twenty per cent. of the caloric of the body came from the burning of the proteid molecule, and the remainder from the fat. Patients in this condition were living largely upon their fats, and the fats accumulated in the blood because in such bad cases the organism was unable to burn either fat or sugar.

Dr. A. Mayer said that two Vienna observers had recently found that within one hour after phloridzin had been administered the quantity of sugar in the blood was greatly increased. They had also observed that the venous blood in these cases contained a great deal more sugar than the arterial blood. From this it would seem that the diabetes produced by phloridzin was entirely different from what the physician understood by that term. It was not improbable that diabetes was after all only a symptom. Again, the sugar did not exist in the blood in a free state, but in the form of a chemical compound. The sugar of phloridzin diabetes was entirely different in appearance from the sugar obtained from the blood in the healthy state. In undoubted cases of diabetes in which perhaps the pancreas or liver was involved it was not uncommon for tuberculosis to be an intercurrent disease, and under these circumstances the sugar would disappear from the urine. It seemed to him if diabetes was a disease of the pancreas it should not be affected by such an intercurrent disease. A recent experiment of some significance was the feeding of diabetic urine to dogs and the production in them of glycosuria. If the diabetic did not burn up his sugar the body temperature would be subnormal, which was certainly not the case, as he had abundantly proved by numerous thermometric observations. The sugar, therefore, he thought must come from the tissues, and not from the food.

Dr. Herter said, regarding the experiments quoted as to the quantity of sugar in the blood after the administration of phloridzin, that these investigators had not published the method by which they had estimated the sugar, and until they did this he did not feel warranted in placing much reliance upon their results. His own observations had been made by a method which he believed to be absolutely reliable, and his results had been in accord with those obtained by Dr. Lusk and others. The scepticism that the last speaker had expressed regarding pancreatic disease was one which he knew was shared by many others, yet he himself believed that recent and most carefully made autopsies would support the statement that the pancreas was almost uniformly diseased in diabetics. The method that had been employed in the experiment of administering diabetic urine to a dog seemed to him so faulty that he could not draw any positive conclusions from it. If the organism could not secure a proper degree of animal heat from carbohydrates it would secure it from the fats, or even from proteids. There was probably no case of diabetes in which there was not at least a small proportion of sugar burned.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, January 21, 1901.

Parker Syms, M.D., President.

A Pathological Condition of Houston's Valves.—Dr. James P. Tuttle exhibited this specimen, and called attention to the nature of these valves, which normally existed in the rectum. The specimen showed a hypertrophied condition of the valves. He said that it was now a little over seventy years since Houston had first described them, and since then, particularly in recent years, there had been much discussion regarding not only their function, but even as to their existence. Drs. Martin and Pennington had recently directed special attention to them, but Matthews, of Kentucky, was still one of those who denied the existence of the valves. The specimen had been taken from a man about forty-five years of age. The rectum was almost occluded by two folds of mucous membrane under which ran fibres of the connective-tissue base. The existence of the valves could, therefore, not be doubted, though they were developed in varying degree in different individuals. It was supposed by some that these valves acted as a support for the fecal column, and as an additional protection to the lower end. Another theory was that they were simply plicæ or folds of mucous membrane, and that their object was to furnish a greater redundancy of mucous membrane to allow of sufficient distention of the gut. Recent observations, however, had shown that these folds stood out boldly as folds or bands when the rectum was greatly distended. The speaker said that he was not disposed to exalt the function of Houston's valves to such an extent as had Drs. Martin and Pennington, but it seemed to him not improbable that in certain cases they might be responsible for that form of obstinate constipation styled obstipation. An instrument was exhibited by means of which these folds could be safely destroyed when it was found that they offered any serious obstruction.

Lupus Treated by the Galvano-Cautery.—Dr. W. S. Gottheil presented a young woman who had been under observation for several years. She was presented to show the effect of an old method of treatment. The site of the former eruption was now covered with smooth skin of almost normal appearance. The treatment employed had been the destruction of the nodules with the galvano-cautery. It had necessarily been carried out irregularly, but had occupied altogether not over two months.

Lupus Vulgaris Treated by Static Electricity and the X-Ray.—Dr. A. C. Geyser read a paper on this subject, and gave a demonstration of the technique. He said that when lupus vulgaris attacked the face, nodules were at first buried under the skin, arranged in groups of irregular size and shape. The intervening skin became reddened and infiltrated. The nodules projected above the surface. They soon underwent degeneration, and there was formed within them an irritating fluid. The prognosis, so far as life was concerned, was good, but a spontaneous cure could hardly be looked for, and if it occurred it would be only after the formation of extensive and disfiguring scars. Caustics, to be effectual, must be severe in their action. The nearest approach to a specific treatment for this cutaneous disease was that with the Roentgen ray. The property of this ray to act either superficially or deeply was specially valuable. The patient was seated behind a screen of lead perforated over the area to be treated, and having a rim around this perforation. A "soft" tube should be used, such a tube as showed the bones of the wrist white, and not having sufficient penetration for the ordinary surgical uses of the *x*-ray. If too much pain resulted from the application the static spray should be temporarily substituted for the *x*-ray. The exposures might be made daily at first, and later on at intervals of a week. The worst case that he had treated, one of nine years' standing, had received forty treatments; others had been cured after eight or ten treatments. Out of eleven cases treated by this method, eight had been completely cured with little or no disfigurement; three were now under treatment with every prospect of an excellent result. Two patients were presented in illustration of what could be accomplished by this method. One of them, a young woman, had been treated previously for a period of several months in

almost every dispensary in this city, and had been treated by him since last March. In the man presented the *x*-ray had been used on one side of the face, and the static spray on the other side. The side treated by the *x*-ray was free from hair and quite smooth.

Dr. Gottheil said that Dr. Geyser was certainly to be congratulated on what he had accomplished. Some of those present had seen the young girl previously, and had declared that the result was most remarkable. Such results were new to him in the treatment of lupus vulgaris. Neither of the cases presented had been entirely cured, and he would like very much to see one that had been fully cured. The light treatment had been largely used in the treatment of these cases, but its great drawback was the many months required to effect a good result. The *x*-ray treatment had the disadvantage of requiring expensive and cumbersome apparatus, but it was certainly suitable for the very bad cases.

Exophthalmic Goitre of Syphilitic Origin.—Dr. R. Abrahams read a paper with this title, and reported three cases of this kind. The first was that of a woman of thirty-five who, in the spring of 1894, had contracted syphilis from her husband. She had come under treatment when there was a profuse eruption. This had disappeared quickly under mercurial inunctions, and the patient had then refused to continue treatment. Six months later she had returned with mucous patches in the mouth, and inspection had shown a bulging of the eyes, which she said had first been noticed two months before. At the same time she had suddenly become very nervous, and had suffered from dyspnœa and cardiac palpitation. The thyroid was large, soft, and pulsating. An attempt had been made to treat the exophthalmic goitre by the usual remedies, such as strophantus, digitalis, ergotin, arsenic, and iron, but with absolutely no benefit. She had then begun to suffer from severe nocturnal headache, and to relieve this she had been given a saturated solution of the iodide of sodium, beginning with a dose of gtt. xv. and running it up rapidly to 3 ii. The headache had been promptly relieved, and in two months all of the symptoms of exophthalmic goitre had disappeared. The result of this treatment had deeply impressed him. The second case was that of a woman thirty-six years of age, the mother of five healthy children. In 1894, shortly after the birth of her last child, she had had a sore on the vulva, followed by enlargement of the inguinal glands, and later by an eruption, sore throat, and falling of the hair. She had not been treated by any physician at the time. On coming under observation in 1896, she gave a history of three spontaneous miscarriages, and examination showed a perforation of the hard palate and an exophthalmic goitre. She sought treatment chiefly for a swelling in the neck. Under mercurial treatment a cure of the goitre had been effected in a short time. The third case was that of a single woman twenty-seven years of age, who gave a distinct history of syphilitic infection. At first there had been cardiac palpitation, and there had developed slowly an enlargement of the thyroid. She had been treated with a saturated solution of iodide of sodium in large doses. In less than a month the improvement in the goitre had been very decided, and she had been restored to perfect health in ten weeks.

Dr. C. W. Allen said that, as little was known about the etiology of exophthalmic goitre, it was most important to give heed to any means or suggestions along this line that might be offered. Syphilis had often been mentioned as a predisposing cause, but he believed it was new for syphilis to be presented as the predominant etiological factor. For this reason he could not agree with the reader of the paper that antisyphilitic treatment should be given a trial even in cases in which there was no syphilitic history. Iodine and mercury had long been known as useful remedies in Graves' disease. Many cases had been treated successfully in this country by the external application of iodine, usually combined with belladonna. So far as he knew there had never been on post-mortem examination of a case of this disease any indication of the existence of syphilis.

Dr. W. M. Leszynsky said that in a rather extended experience he had not met with a single instance in which he could consider syphilis as the cause of Basedow's disease. In young women there was not infrequently a perceptible enlargement of the thyroid gland associated with some protrusion of the eyes and tachycardia. This disappeared spontaneously. From his experience and from a knowledge of the literature of the subject, it seemed to him probable that syphilis might act as a predisposing factor through the anxiety and mental depression often produced in a patient by a knowledge of having contracted syphilis. It was pretty well agreed to-day that one was not justified in saying that an inflammatory exudate was of syphilitic origin merely because it had improved under the use of iodide or mercury. Cases were on record in which the symptoms of exophthalmic goitre had been present and had disappeared spontaneously in a few months. He would like to ask the reader of the paper if rest or any other method of treatment had been employed in these cases.

Dr. Abrahams, in closing, said that no other treatment had been employed in his three cases, and they had been allowed to go about at will.

Cystoscopy in the Female by an Improved Method, with Demonstration on the Cadaver.—Dr. W. R. Pryor read this paper. He said that he had been studying this subject since 1894. The cystoscope used by him consisted of a main tube for inspection, and alongside of this a tube to carry the lamp. He had obtained this idea from an old apparatus devised by some former interne of the Woman's Hospital for draining the bladder. The tube for illumination extended beyond the tube for inspection, and consequently no rays entered the latter—a point of much importance. For removing foreign bodies he had found a long slender alligator forceps better than the forceps used by Kelly. There were three or four different sizes of tubes. The posture of the patient was most important in examining the female bladder. The intra-abdominal force exerted upon the bladder tended to press it into a triangular form. The bladder should, therefore, be distended either with fluid or with air. The disadvantage of using fluid was obvious if one stopped to consider the refraction which light must undergo in passing from air into a denser medium of this kind. Since February, 1894, he had made use of a table which secured the desired posture. If the knee-chest posture were assumed, the very part of the bladder which one most desired to inspect would be out of sight unless special means were employed to prevent this. Dr. Pryor said that in his method the patient was placed on the table, and the bladder emptied. The patient was placed in the lithotomy position and then the head of the table was dropped down to an angle of about 45°. In this position, when air was admitted the bladder assumed approximately the shape of an equilateral triangle. With his instrument every portion of the bladder could be easily inspected, even the pubic and peritoneal surfaces. In December, 1899, he had made his first demonstration with his completed instrument.

Dr. F. Tilden Brown spoke of the different methods now in use for examining the interior of the bladder, and expressed the opinion that the segregator method was inexact. The method just demonstrated

was of the Pawlik-Kelly type, and appeared to be a great advance on that so long and so successfully practised by Dr. Howard Kelly. The knee-chest posture formerly employed was a very distasteful one to the patient and a very inconvenient one for the examiner, and that position seemed no longer necessary in view of the results obtained with the exaggerated Trendelenburg position employed by Dr. Pryor. The instrument just presented was one which he could only praise. The method seemed to him very suitable for class-room demonstration, and also useful because it allowed of the simultaneous collection of the urine separately from the two ureters. Specimens so obtained could be more accurately compared than if the two specimens were collected a few minutes apart, and when perhaps the mental and nervous state of the patient was not the same. The great disadvantage of the Kelly method was that it was practically applicable only to the female. Another disadvantage was that even the smallest tube was pretty large for the female urethra, and its introduction must cause considerable pain. His own practice was to make use of a double-barrelled instrument, by means of which the urine coming from both ureters could be simultaneously collected.

Dr. Pryor said that he ordinarily made use of an instrument measuring 1 by 1.3 cm. and that general anæsthesia should be used to secure the best results. The use of the double-barrelled instrument seemed to him faulty because if tubercle bacilli were present in both samples of urine it did not by any means prove that both kidneys were the seat of tuberculosis. Such an examination must be faulty if made through fluid. Harris' method was an absolute failure. To be quite exact in such an examination he believed that it must be made through a ureteral orifice which had been cleansed, and the method should be such that the catheter could be introduced directly into the ureters without touching other parts. His method was certainly useful for class-room demonstration, but that was not its chief object; it was only an incident.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BEER POISONING, THE EXTENDING EPIDEMIC—DISCUSSIONS AT LIVERPOOL INSTITUTE AND LONDON MEDICO-CHIRURGICAL SOCIETY—THE BIRTH RATE—THE LATE DR. JACOB.

LONDON, January 18, 1901.

Some more deaths from poisoned beer; cases in fresh localities; reports of inquests, these are items that still meet us in every newspaper, while our professional journals teem with contributions to the great scare. The most remarkable bit of evidence in some respects is the confession in the coroner's court that a firm supplied impure sulphuric acid to the manufacturer of glucose instead of the pure article as previously supplied.

In view of the increasing mass of materials and evidence, I will to-day deal with the two discussions I have already mentioned; but even of these your space will admit only a cursory notice.

There is this difference between the two principal discussions on arsenicated beer: at the Liverpool Institution speakers and audience were in the midst of the epidemic; in London, though Dr. Reynolds, of Manchester, came up to open the debate with a record of his experience, he was followed by speakers who could treat the matter only from a more or less academical point of view.

To begin with Liverpool—Dr. Nathan Raw opened the discussion, saying he had had one hundred and forty-eight cases under his care during the last twelve months, and most of them seemed alcoholic. But in the later cases the symptoms were more like acute irritant poisoning. He traced the first serious contamination of beer with arsenic to last May, and a sudden further increase to November. He suggested that the effects of arsenic were modified by alcohol.

Dr. Reynolds, of Manchester, related the steps taken to trace the origin of the epidemic, and spoke of the great heart weakness observed in the cases.

Dr. Stansfield, of Birkenhead, said he usually saw three or four cases of peripheral neuritis in the infirmary in the course of a year, but since October they had increased to thirty-two. He, too, thought arsenic more potent in beer.

Dr. Barendt spoke of the rashes after (*a*) heavy and (*b*) moderate drinking, and said some had been mistaken for cutaneous diseases of different origin—the pigmentation being often taken for a sign of Addison's disease.

Dr. Glynn had seen some cases occurring after only a few glasses of the contaminated beer had been imbibed, but could not accept the suggestion that alcoholic neuritis was always due to this, for he had seen cases in spirit drinkers who took no beer.

Dr. Carter said it needed some such outbreak to startle the country. The traffic in alcohol was constantly increasing, and the death rate due to it continually rising. A great fall in the death rate of Salford had been reported since the alarm had led to less beer drinking. He urged the duty of the legislature to prevent the adulteration or contamination of beer.

Dr. Hope related how the brewers had destroyed large quantities of beer as soon as they heard of the poisoning; more than 180,000 gallons being poured into the Liverpool sewers.

Dr. Leslie Roberts described the cutaneous symptoms observed, which he divided into a chronic vasomotor group and a nutritive group.

Dr. Newall remarked on the sudden outbreak in Chester and asked if it were possible for arsenic to cause severe, rapid paralysis and marked sensory phehomena without vomiting, diarrhœa, colic, skin affections, or tremors. If not, then the Chester cases must be due to some other cause.

Dr. Prytherck said there was much evidence that the Chester cases were really beriberi, and in this he was supported by Major Ross. He did not even admit that the finding of arsenic in the urine was conclusive proof.

Dr. J. E. Nevins found the cases in the Liverpool Parish Hospital milder than in the West Derby Hospital, and had noticed much freckling in arsenical cases with or without other pigmentation. Freckles were marked and more frequently present in these cases.

Dr. J. H. Abram said most of his cases had no pigmentation. In the absence of skin lesions examination of the urine should not be delayed. The failure to detect arsenic was sometimes because it had been eliminated.

Dr. D. Smart, though medical officer to a workhouse, had had no cases definitely due to arsenic. He had had seven cases of neuritis which, though examined by others, could not be traced to the poison.

Turn now to the debate at the Medico-Chirurgical Society begun on the 8th and adjourned to next week. It was opened, as I said, by Dr. Reynolds, of Manchester, who detailed the steps by which he was led to the discovery that the epidemic originated in poisoned beer. First he noticed an unusual number of skin diseases, then he observed that these were associated with peripheral neuritis which had also been more prevalent. Remembering that herpes might be produced by arsenic, he suspected the drink which seemed to be the cause of the multiple neuritis. On analysis by Professor Delepine arsenic was found in the beer, then in the invert sugar and other substances used in brewing. Many thousands had suffered in the northern and midland districts. The patients complained of "pins and needles" pains in the feet and limbs, tingling in the soles of the feet, difficulty of walking, general weakness, swelled feet, vomiting, and diarrhœa. Numerous skin symptoms appeared with pains preventing sleep. The puffiness of the face, especially about the eyelids, and the peculiar walk were characteristic. The nervous system was extensively affected, the symptoms closely resembling those of alcoholic neuritis. There was intense tenderness of muscles, but sometimes partial anæsthesia. The heart was gravely affected and death often ensued from this. Catarrh of mucous membranes was commonly observed. Vomiting occurred in seventy-five per cent., and diarrhœa was as frequent. The urine in some cases contained arsenic a fortnight after leaving off the beer. The poison was also secreted in the milk. In some cases the temperature rose. Summing up his observations on about five hundred cases, it appears that the poison affects the skin, the respiratory and digestive mucous membranes, the nervous system, the heart, and the liver. The cases might be arranged in four groups: one in which all the symptoms appear, another in which skin affections predominated, a third in which the heart and other viscera were most prominently involved, and a fourth in which paralytic symptoms predominated. Some patients recovered in a few weeks, others not for eighteen or twenty-four months.

Sir W. Gowers sent a letter pointing out that there seemed some immunity from arsenical poisoning in pa-

tients who took it in combination with bromide and suggesting that alcohol might have an opposite influence.

Dr. Buzzard said the cases seemed largely due to arsenic, though perhaps it might not be the only cause. At any rate he could not admit, as some have suggested, that alcoholic neuritis was only a form of arsenical poisoning. His experience of medication with arsenic or bromides corresponded with that of Sir W. Gowers. A moderate drinker would take only a tithe of the amount of arsenic which an epileptic took in his medicine. No doubt some persons were specially affected by arsenic—he mentioned a case of this in a man taking Fowler's solution, who was severely affected but ultimately recovered.

Statistics show a steady decline in the European birth rate during the latter part of the past century. They also show that the fall in Great Britain has been more marked than elsewhere. England has now the lowest birth rate of any first-class power, except France. The fact is viewed with satisfaction by Malthusians, but with uneasiness by others. Our great trade rival, Germany, has gone ahead of us in this respect. The statistics are not likely to be improved in a time of conflict like this with its terrible losses. It is to be noted that the diminished death rate in some degree discounts the effect of the fall in the birth rate.

Dr. Jacob, of Dublin, died on Saturday, aged sixty-three years, deeply lamented by a host of friends. The name of Jacob as an ophthalmologist and journalist seems inseparable from Dublin. Arthur Jacob, whose name was given to the *membrana Jacobi*, long reigned almost supreme in Dublin among its most distinguished surgeons, and as an oculist and founder and conductor of the *Dublin Medical Press*. At length his son succeeded him in both capacities, and now he has passed over to the majority. He, the son, Archibald Hamilton Jacob, was educated at Trinity, graduated both in arts and medicine, and took the fellowship of the College of Surgeons, of which he was for a long time a councillor and eventually professor of ophthalmology. These positions he held up to his death, as well as the office of ophthalmic surgeon to the Lord-Lieutenant and the House of Industry Hospital. In 1865 our deceased friend purchased the *Medical Circular* and amalgamated it with his own journal. He remained one of the editors to the time of his death, holding naturally entire control of Irish matters, but also writing on other questions. In fact, some of the best articles were due to his ready and forceful pen. In many respects he was a model editor. Rapid in judgment, bold in execution, careless of his personal interests, but entirely devoted to those of his profession, his facile pen was perhaps the most effectual weapon ever wielded for the defence of the medical profession in Ireland. Though he could charge it with terrible sarcastic power, it was only at times he did so when nothing else seemed able to cope with injustice and hoary abuses. His many accomplishments and kindly disposition endeared him to all who had the privilege of his friendship, and outside that circle every medical man in Ireland knew him as the most able champion of his profession.

THE CAUSATION OF RHEUMATISM AND GOUT.

To the Editor of the Medical Record.

Sir: I write this on my back ruminating most sorrowfully as to the subject matter of the above heading. I have been in similar circumstances many a weary time. I have just read Dr. Haig's elaborate paper on gout in the issue of January 6th. It makes me mad. Unlike Dr. Haig, I have never had a gouty headache. When I am laid by the "back," or "heels," whichever may be the correct quotation, my brain is unusually clear. That is why there is room for the madness. Dr. Haig says that rheumatism and gout are one. He thinks they are—I don't. I never had gout, and I don't want it. Dr. Haig is welcome to it. But I have had rheumatism until I am sick of it, and I think I know something about it after nearly a twenty-year experience.

The late Dr. Alonzo Clark, of glorious memory, in one of his lectures said, "Rheumatism is an inflammation of the fibrous tissues." That is one of his sayings which made a plastic change somewhere in my head. That is a story for the nerve men. I bore and saw out noses—when I get a chance. But Dr. Clark was perfectly right. Various fibrous attachments in my composition attest the statement as being good. The uric-acid theory may be all right in some respects, but it don't exactly work in with rheumatic etiological considerations. There is more than one factor at work in producing rheumatism. An inflammation of fibrous tissue may be caused by quite a list of direct and indirect causes. We may have hereditary tendency to hyperæmic conditions of certain tissues, including the fibrous—this being due to acquired habit in ancestors. The inflammation may be due to strain or even unusual moderate use of the misbehaving part. Every attack of miscalled myalgia that I have had, has had such a causative factor included in the etiology. I don't think that muscular inflammation can be taken into account with this disease. Muscular tissue is too elastic in its responses to hyperæmic incursions to be more than sympathetically convulsive when incited by contiguous fibrous tissue. But when those same muscular spasms occur, it sometimes hurts a man like the d—l: as women seem to suffer during parturition. There is usually some irritant or paralyzing element in the blood causing rheumatism. It may sometimes be the poison of gonorrhœa or of scarlet fever; but so far as I can judge, it usually proceeds from a fermentative process in the alimentary tract. I don't think it is uric acid. It is more likely lactic acid. There may be some specific causative bacteria.

Whatever it is, it, in my case, riotously proliferates when I feed it on sugars and starches, rather than proteids. It seems to be more a matter of quantity of food than quality. Whatever influence depresses digestive power acts as an indirect cause, *e.g.*, too much use of the nervous system, or even exhaustive use of the muscular system. If only such food as can be easily digested is put in the stomach there would be little heard of rheumatism. I think that gout is caused by the absorption of more digested nutrients than can be properly oxidized and eliminated. One may call it uric acid, but it originates differently from the irritant of rheumatism and it acts somewhat differently. The two causative irritants may be acting at one time.

Of course the great curative treatment of these troubles is a healthy starvation. The longer I can stand hunger the less rheumatism I have; but in many cases the remedy is worse than the disease. In other cases, however, a perpetual hungry condition is the lesser evil. I have taken this cure partially, but never have been quite able to do so fully. It is not a popular treatment. If any one thinks so, let him apply the principle to some profitable patient, and watch the result on the bank book. In acute attacks, active elimination by brisk catharsis, and restricted diet, along with decided constitutional sedation, shorten an attack two-thirds. In subacute and chronic cases, colchicum, the salicylates, and other sedatives and depressants, are alleviative temporarily, but so far as I can see usually do more harm than good by weakening digestive capacity. The derivative effect of superficial frictions with the horse-hair brush, and of deep massage of unaffected tissues, is helpful. So also are hot dry air and hot wet baths, which act eliminatively as well.

But when the local hyperæmic habit is acquired the treatment is slow, unsatisfactory, and frequently unsuccessful; uric acid in one's food to the contrary notwithstanding. Neither in cows nor in men can the depreciative effect of advancing years on an already poorly nourished tissue be escaped—the poorer the nutritive condition of condensed fibrous tissue is, the more is such tissue likely to suffer from unusual strain, and from reflex and direct nervous disturbances. We who have been there know when the east wind blows.

J. M. W. Kitchen, M.D.

East Orange, N. J.

THE BILL TO REGULATE MEDICAL PRACTICE.

To the Editor of the Medical Record.

Sir: The profession must know, of course, that a bill has been introduced in the legislature of this State, the purpose of which is to enable those who are empowered to do so, to enforce the medical laws. As at present interpreted these laws can be enforced only against illegal practitioners who give medicines. If a person desires to evade these laws, all it is necessary to do is to adopt some peculiar title, as Christian Scientist, osteopath, hydropath faith curist, or even no name, refuse to give medicines or drugs, and although such a person may treat disease, there has been, as yet, no lawyer who will advise action against such an illegal practitioner. The law as at present enforced is an incentive to uneducated people to adopt some of these peculiar names or methods, and they can prey upon the community with impunity and without molestation.

The bill under consideration was objected to in the beginning by manufacturers of proprietary articles, opticians, and others, who claimed that its enactment would prevent a person recommending a friend to take a dose of pepsin, or some other simple remedy, and would interfere with the sale of patented articles and in this way hinder the newspapers from advertising such articles.

The framers of this bill had no such intention in drawing the measure, and agreed on its phraseology being altered. As it reads now the bill says that any person shall be regarded as practising medicine who shall give treat-

ment to any other person, by any method whatsoever, for the cure of disease, excepting in an emergency. There can be no valid objection to this bill on the part of patent-medicine manufacturers, wholesale or retail druggists, truss or instrument makers, or any other person who does not make a business of treating disease. Retail druggists have no right now to treat disease, except in an emergency, and this bill will not alter their position nor curtail their rights in any way. The legitimate business of an optician will not be interfered with in any way. This bill is designed to give an increased protection to the public, which is the only reason for the existence of any medical laws. Christian Scientists, osteopaths, and others will have to comply with the law, after which they can continue their peculiar methods if any one can be found to endorse them, or if they continue to believe in these methods themselves. There is no desire to interfere with free thought or religious liberty. There is no desire to prevent any person practising any method his or her intelligence tells them is the best method. We only insist that every person who treats disease shall demonstrate to the State Board of Medical Examiners his or her ability to tell whether a disease exists, how to differentiate the disease which may exist, and then the matter of treatment must be left to individual judgment.

The battle is on, and it will be won by those who believe in protecting the community, if all who so believe will write to the Hon. Nelson H. Henry, chairman of the Assembly Committee on Public Health, giving their names and addresses, and urging the enactment of the bill.

FRANK VAN FLEET, M.D.,
Chairman, Committee on Legislation, Medical Society of the State of New York.
63 EAST SEVENTY-NINTH STREET.

FOR RELIEF OF STOPPAGE OF TEAR PASSAGE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The device described in the MEDICAL RECORD of this date by Dr. E. A. Pond, of Bangor, Me., "For the relief of stoppage of the tear passage," etc., is one that has been in use by Dr. W. W. Vilas, of El Paso, Texas, for a number of years. It was described by Dr. Gallagher, of El Paso, in a medical paper four years ago. The difference is that Dr. Vilas' method is better. He has a small tube —which I have seen; this he passes down the duct into the nose. Through this he passes a silver wire or silkworm gut suture and then removes the tube, leaving the wire or gut *in situ*. He then clamps a shot onto the lower end of the wire and pulls it up into the nose. A perforated shot is then run onto the wire above and clamped close to the upper outlet of the duct. The wire or gut is then cut close and the patient is discharged.

I once asked the doctor how long he allowed this to remain. "Until the patient returns," he said. As he has practised over a wide extent of territory, this may not be for weeks.

This was but one of many valuable suggestions I learned from the physicians who practised in the Southwest before the era of railroads.

I believe Dr. Vilas was the first man west of the Mississippi to stain and see Koch's bacillus.

F. V. CANTWELL, M.D.
TRENTON, N. J., February 2, 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 2, 1901:

	Cases.	Deaths.
Tuberculosis	282	190
Typhoid fever	27	15
Scarlet fever	336	14
Measles	116	2
Diphtheria and croup	361	40
Smallpox	50	2

Green Hair in Copper Workers.—In the *Deutsche medicinische Wochenschrift* (43, 44) Dr. Lewin, of Berlin, gives an exhaustive survey of the effects of absorption of copper on workers in that metal. His conclusions are that a true chronic copper poisoning does not exist, though the rapid absorption of considerable quantities of the metal by the respiratory or digestive organs may produce a feeling of malaise. The chief chronic effects are seen in the teeth, gums, and hair. The formation of a green or dark blue "patma" is frequent on the former and is found to contain a large proportion of copper. Green hair is less common, Dr. Lewin having found it in only eight out of three hundred copper workers. The color gradually disappears when the work is given up, and the question whether the copper is deposited within the hair or excreted on its surface appears still unsettled.

Arsenicated Beer.—The *London Times* comments as follows on the above subject: "There is no difficulty in seeing how arsenic might make its way into beer. Indeed, the thing is so simple that the difficulty is to understand why, if beer is the source of the mischief, poison symptoms did not force themselves upon the medical attention years ago. Most people are probably dimly aware that modern beer is made from a great many substances besides the malt and hops from which it was exclusively derived in more primitive ages. The alcohol produced by fermentation comes in all cases from the decomposition of sugar, but the origin of the sugar is immaterial so far as the alcohol is concerned, though it exercises an important influence upon flavor. . . . The sugar now largely used in brewing comes either from low grades of cane sugar or from some cheap form of starch, most commonly the starch of Indian corn. In both cases the conversion into brewing-sugar is effected by treatment with sulphuric acid. Now, commercial sulphuric acid is largely made from pyrites, which yield sulphur on roasting. But they also contain arsenic, and arsenic is volatile at the temperature employed. Consequently arsenic passes over with the sulphurous vapors which are led into the acid chambers and finally appears sometimes in very considerable quantity as an impurity in the resulting sulphuric acid. We have only to suppose that the maker of brewing-sugar uses this arsenical sulphuric acid to convert his maize starch in order to understand how arsenic in appreciable quantity may find its way into beer. Arsenic may be said to be invariably present in commercial sulphuric acid, but it is naturally present in far larger quantities in some samples than in others. . . . It remains to be seen what breweries have been supplying arsenicated beer. There is no excuse for them if they have been using arsenicated sugar without knowing it. They ought to ascertain for themselves the purity of the ingredients they use, and if they have no chemist on the premises capable of conducting the exceedingly simple and conclusive tests for arsenic, their negligence is culpable."

Influence of Fatigue in the Causation of Typhoid Fever.—Bodily fatigue and mental worry apparently increase susceptibility to typhoid fever. The effect of fatigue is especially observable in armies. However, there are certain points connected with the study of this subject that are not altogether clear, and there is a possibility of falling into error in formulating conclusions concerning the relation between fatigue and typhoid fever. In the first place, exhaustive physical exertion, as is instanced after prolonged forced marches with raw troops, may cause a continued fever which resembles typhoid fever clinically, but is wholly different in its etiology and pathology. This fever of exhaustion may continue for two or three weeks and may be mistaken for typhoid fever. However, it never occurs in epidemic form. It has been observed that within two or three days after a forced march or other

exhaustive exercise the number of typhoid-fever cases increases. The short time elapsing between the exercise and the appearance of the fever does not justify the belief that infection occurred during or after the exercise, but in many of these cases infection must have occurred before the physical exercise, and the only effect attributable to this is that of causing the more speedy development of the disease in persons already infected. It is true that physical exhaustion may, and probably does, increase susceptibility to typhoid fever; this probably is brought about by lowering the resistance of the body against an infection. —Report on the origin and spread of typhoid fever in United States military camps during the Spanish war of 1898.

Use of Obstetric Forceps.—For a delay in the second stage of labor, arising from (*a*) uterine inertia, (*b*) small-size vagina, (*c*) rigidity of maternal tissues, (*d*) obstruction from bands, (*e*) large size of head, (*f*) want of flexion, (*g*) pelvic deformity. For delay in first stage, (rarely) as in (*a*) placenta prævia, (*b*) rigidity of the os uteri, (*c*) absence of a natural dilating agent. For certain accidents in labor in any stage, and when rapid delivery is indicated, as, (*a*) convulsions, (*b*) prolapse of funis, (*c*) excessive uterine action, menacing rupture. For certain secondary purposes, as for (*a*) extraction of the child after rupture of the uterus, (*b*) for removing tumors and foreign bodies from the maternal passages.—Dr. W. J. Gillette, *The American Medical Compend*, November.

The Hydrostatic Test of Still-Birth.—Dr. Dilworth records a case which shows how careful one must be in accepting the trustworthiness of the hydrostatic test of still-birth, at any rate when some days have elapsed before the examination of the body has been made. Owing to some rumors an inquest was held on the body of an illegitimate female child, which was exhumed after being buried ten days. The evidence given at the inquest went to show that the child had been born rather precipitately, but that the woman had been attended first by some neighboring woman, then by a medical man, and finally by the parish nurse, all of whom saw the baby alive though weakly. At the post-mortem the body was found to present the appearance of a child born at full term and fairly well developed. When the chest was opened the lungs were found collapsed, not filling the chest cavity, and in a state of complete atelectasis. On resort being had to the hydrostatic test it was found that the lungs sank when both were immersed together, when immersed separately, and even when small portions were thrown in—in fact, they presented all the appearances found in the lungs of a still-born child. The matter seems of some interest as emphasizing the doubt which has been often expressed as to the reliability of this sign of still-birth.—*The Hospital.*

The Increased Prevalence of Appendicitis in Switzerland.—*The Lancet's* Zurich correspondent writes that Dr. Haemig, first assistant of Professor Krönlein, made an interesting communication on December 6th at a meeting of the Zurich Medical Society, on a series of cases of appendicitis observed at the surgical clinic of Zurich from 1881 to 1900, the number of years during which Professor Krönlein had been in charge of the clinic. The number of cases admitted increased from year to year, so that against 45 cases in the first fifteen years there were respectively 13, 21, 35, 41 and 48 cases of admission in the last five years. Of these 203 cases, in 35 there was no operation, 5 of the patients being in a hopeless condition, and in the other cases operation being considered unnecessary. Fifty-one patients had to be operated upon in the acute stage for abscess, 4 of these cases terminating fatally; in 27 cases generalized peritonitis had already supervened, and of these 21 terminated in death, notwithstanding immediate operation. Ninety-one patients were operated upon in the "free interval," and all recovered. The mortality percentage of the cases was 14, but if only the cases operated upon in the "free interval" be considered it will be seen that 142 cases had a mortality of only 3½ per cent. Dr. Haemig laid due stress on the desirability of operating in the "free interval" and if possible after the first severe attack of appendicitis. The fact of the greater prevalence of appendicitis among men (70 to 30) is accounted for, he considers, by the better blood supply of the appendix in females.

The Germicidal Properties of Ethylic Alcohol.—Bertarelli (*Il Policlinico*, October 1, 1900) has tested the germicidal properties of ethylic alcohol in various strengths from twenty-five per cent. to one hundred. Silk threads were impregnated with various bacilli (for example, B. prodigiosus, pyocyaneus, staphylococci, vibrio, B. typhosus, etc.), then immersed in alcoholic solutions of various strengths. From these researches alcohol appears to have only a moderate antiseptic value, and the more concentrated the solution the less the antiseptic power; fifty-per-cent. solutions are the most efficacious. Perhaps the comparative inefficiency of the stronger solutions is due to the fact that they cause greater coarctation of the peripheral masses of bacilli and so leave the central masses more or less untouched. In spite of its low bactericidal properties alcohol hinders the development and later vital manifestations of the micro-organisms. Alcohol appears to have an inhibitory effect on the antiseptic power of certain germicides (for example, corrosive sublimate) dissolved in it, and the greater the alcoholic strength the greater the inhibitory power.—*British Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended February 2, 1901:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	January 19th to 26th	2	
Florida, Jacksonville	January 12th to 26th	10	
Illinois, Chicago	January 19th to 26th	25	1
Indiana, Michigan City	January 20th to 27th	1	
Kansas, Wichita	January 19th to 26th	9	
Kentucky, Lexington	January 19th to 26th	2	
Louisiana, Shreveport	January 19th to 26th	5	
New Orleans	January 19th to 26th	11	3
Maryland, Baltimore	January 19th to 26th	1	
Pennsylvania, Erie	January 19th to 26th	1	
Pittsburg	January 19th to 26th	2	
Tennessee, Memphis	January 19th to 26th	8	
Nashville	January 19th to 26th	4	
Texas, Houston	January 19th to 26th	44	1
Utah, Salt Lake City	January 19th to 26th	31	
Wisconsin, Milwaukee	January 19th to 26th	1	
Smallpox—Foreign.			
Belgium, Antwerp	December 29th to January 5th	1	
Brazil, Pernambuco	November 15th to 30th	..	30
China, Hong Kong	December 8th to 15th	1	
Egypt, Alexandria	December 24th to 31st	2	1
England, London	January 5th to 12th	1	
New Castle, on Tyne	January 5th to 12th	2	
France, Paris	January 5th to 12th	..	11
India, Bombay	December 24th to January 1st	..	4
Mexico, Mexico	January 13th to 20th	1	
Tuxpam	January 14th to 21st	..	1
Vera Cruz	January 6th to 13th	3	
Russia, Moscow	December 22d to January 5th	9	4
Odessa	December 22d to January 12th	137	24
St. Petersburg	December 22d to January 5th	6	2
Warsaw	December 22d to January 5th	..	23
Scotland, Glasgow	January 11th to 18th	121	2
Yellow Fever.			
Cuba, Havana	January 12th to 19th	..	2
Mexico, Vera Cruz	January 6th to 20th	5	
Cholera.			
India, Bombay	December 24th to January 1st	..	2
Straits Settlements, Singapore	November 16th to 27th	56	36
Plague.			
India, Bombay	December 24th to January 1st	..	154
Turkey, Constantinople	January 7th	..	1

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Original Articles.

THE PROBLEM OF APPENDICITIS FROM THE MEDICAL AND SURGICAL POINTS OF VIEW.[1]

BY ROBERT ABBE, M.D.,

NEW YORK.

MR. PRESIDENT AND GENTLEMEN: When I was asked to address this meeting upon a subject of common interest to us all, I felt that thought and experience justified the choice of a topic of such widespread interest as the one I have chosen, even though the literature of the past few years teems with contributions to the subject. It needs no apology that I should speak of that which has appalled the modern surgical world by its gravity and ravages, and taken from us some of our best leaders and workers—Agnew, Little, Griswold, Lincoln, and a host of others—which has come to the doors of our homes, and strikes so quickly and so fatally when it does come. The subject has few rivals in the surgical field, and takes rank to-day with typhoid, pneumonia, and rheumatism, in medical thought. Surely, when the active surgeon of to-day can number one hundred operations for diseased appendices yearly—and there are a dozen such men in this city and in other cities in the same proportion—we begin to grasp the importance of the subject and its menace to the community.

Surgical propositions and novelties loom up from time to time before the profession with apparent significance, only to be lost to view and to memory in another year. They die young, because the estimate of their importance is erroneous, but this subject lingers in the eye of the profession.

The problems of surgery to-day are fewer than they were twenty-five years ago, although there is vastly more surgical work done. This period has seen great changes in the class of cases that fall into the hands of the operator. Then, strangulated hernias were extremely common; to-day, owing to the vast number of radical cures, they are comparatively rare. Pyæmic joints and abscesses were then the daily care of the surgeon; to-day they constitute a small proportion of active work. Abscess of the kidney, so fatal then, is now relatively infrequent, owing to care in preventing cystitis with ascending infection, due to the use of impure catheters. Aneurisms and tertiary bone lesions are comparatively rare, owing to better understanding of primary and secondary diseases. Tuberculous lesions seem to me, also, to be much less common, owing to more careful isolation of the infected subjects, better house sanitation, and milk and food control. In fact, it would seem that the statement were almost true, that no profession is doing as much as ours to end its own existence. Yet, as soon as one problem is put upon the list as better understood, another comes up for solution. We may rightly take the view that this subject of appendicitis is as capable of expression and demonstration as a problem in algebra. There is yet a widespread division in practice as to the wisest care of any case, but if the theory and knowledge of the subject were presented before two equally discerning minds, they would both arrive at the same logical conclusion. I speak, therefore, of this problem of appendicitis, not with the intention of reviewing its history, or wearying you with statistics, or to exploit any of my own; not to make an exhaustive consideration of the subject, to enumerate the numberless contributions to its literature, nor to reiterate the oft-repeated methods of operation; not even to dogmatize as to what should or should not be done. I would simply present those comprehensive and essential features seen by those of us who come in close contact with the internal appearance of the appendix and surroundings, features which are unknown to the practitioner who rarely sees the diseased organ. Each physician must satisfy his own conscience as to his advice to the patient when he has once comprehended the subject. The question, as still in the public mind, is, "Have we entered on a cycle of epidemic appendicitis analogous to one of diphtheria or plague, or is the conspicuous appearance of the disease like the similar sudden discovery of pneumonia within the professional recollection of most of us?" If it is an epidemic, it will be found to present a group of symptoms unlike those of any disease of previous years, but if it is the result of better understanding of an older disease, classified under a newer name, just as pneumonia was sifted out of the greater group of "congestion of the lungs," which formerly included pleurisy, suffocating bronchitis, etc., then we shall find the symptoms in older text-books so described that we can identify the disease there.

The public continues to ask the physician what was appendicitis formerly, and he answers: Probably it passed under the description of "inflammation of the bowels," or "peritonitis." It is true that less than a generation ago numberless people, in the course of summer travel, were stricken with so-called inflammation of the bowel or peritonitis, and died.

Now, we hear of no one so reported, but it is said, "he had an attack of appendicitis, was beyond the reach of a surgeon and died," or "So-and-so had an attack of appendicitis, was operated upon and recovered." Hospital statistics show the same changes of tabulated diseases. It is merely a new name, not a new disease.

Before we can consider the subject intelligently, we must perfectly understand the morbid condition existing in the appendix, which is the cause of the outbreak. There is no aid to an understanding of the subject at all to compare to seeing the exact physical state of the organ as shown in a large series of preparations. I cannot but feel that if we keep this in the mind's eye, it illustrates every new case which one is brought to face. While it is true there are no two morbid specimens entirely alike, the universality of the presence of internal stricture, of septic infiltration, and of obstruction leads to all the destructive sequelæ.

I wish first to present for careful study a sufficient number of specimens selected from several hundred and arranged in groups of ten which will amply illustrate these facts. Most of these preparations have been

[1] Anniversary address before the New York Academy of Medicine. December 6, 1900.

removed in the interval between attacks, or at the onset of an acute one, and therefore represent the morbid condition always lurking in the part. It has been customary, on removing an appendix, for the operator either to pass into it a probe, or to cut it with scissors, or to drop it into alcohol, for pathological study, where it shrinks to a hard meaningless remnant. But in no such way is it possible to grasp the conditions presented by the disease. The preparations here shown have all been treated by first distending them with alcohol and hardening them in it; then cutting them lengthwise, thereby demonstrating the tightness and number of strictures, the pocketing of the appendix, and the condition of the contained stone in view. (See MEDICAL RECORD, July 10, 1897.) The resulting demonstration is of the utmost interest. One can see most graphically the cause of all symptoms. Observe in this first series, for example, "single strictures." You will see them near the colon in one—near the distant end in another. All are quite tight, permitting only a bristle to pass, and you will see a horse hair passed through some of them to direct the eye to it. In one only of the single strictures, which have been removed for the attacks they have caused, is the size reduced to but a third of the normal calibre, and that gave serious trouble, because the distention of a six months' pregnancy bent the appendix and closed the stricture, producing for the time mild septic symptoms.

Observe others with multiple strictures, each tight enough to permit alcohol to pass through and distend the next cavity in the appendix, so that five or six successive strictures and channels are seen. When removed from the body, these pockets contain mucopurulent fluid, sometimes pure yellow pus, full of infectious bacteria. The colon bacillus is always present, and by authorities is considered the most virulent. The symptoms dependent upon this pathological finding are more apt to be found in the recurrent variety, alternating between a severe colic with slight fever and an attack of so-called indigestion, with three or four days' detention at home. Indeed, it is this, more than other forms, that is found in patients reduced to chronic dyspepsia and invalidism.

Observe another series in which concretions have formed. Many have been found in the cases of interval operation, but more are removed in the acute, grave, septic cases, in which fortune has brought the patient to operation in the first two days before destructive processes culminate.

The ever-present bacterial activity reduces the morbid effete material within the appendix to a condition capable of expulsion into the colon, or of absorption. So bacterial action, ever going on around the rootlets and sacs of the great trees and plants, breaks up and prepares nutrition for absorption from nature's mould and refuse in the earth.

But, as you see in several specimens, a momentary blockade occurs, interior tension rapidly arises, the bacteria are aroused to more virulent action; the walls suffer anæmia, devitalization, and necrosis, and give way at the weakest point, opposite to the pressure point of the stone. Now begins an instant change which has not been hitherto spoken of, but which is demonstrated by scores of specimens, and to understand which, gives a clew to most of the spontaneous cures. Immediately the evacuation takes place, if it be sudden, either by rupture or by overcoming the resistance of the stricture and emptying into the colon, there is a prompt swelling of the lining membrane, which fills the tube and obliterates the space previously filled by the pent-up fluid.

Being impregnated with bacteria, it is inflamed and usually sheds its epithelium, so that a synechia or sealing of the opposing walls promptly follows. If by good fortune the thrown-out material is kindly disposed of by nature, there is an end of the trouble forever. A partial sealing, however, sometimes occurs, and a remnant of the canal remains to produce further trouble.

A series is here shown of such overgrowth of the lining membrane and subsequent occlusion, both in the acute septic swollen condition and in the later obliteration, and tells the story to you of many spontaneous cures better than words can describe. The student will not be deceived, however, by thinking that this ending is to any large extent the rule. As a matter of fact, it is the great exception. It tells us lucidly what we all wish to know, how a large number of grave attacks culminate in their own destruction. One or two of the series are of interest in illustrating the fact that even a completely obliterated cavity may leave an atrophied organ, which is the seat of disabling neuralgia, requiring its removal, which ends in restoration to health.

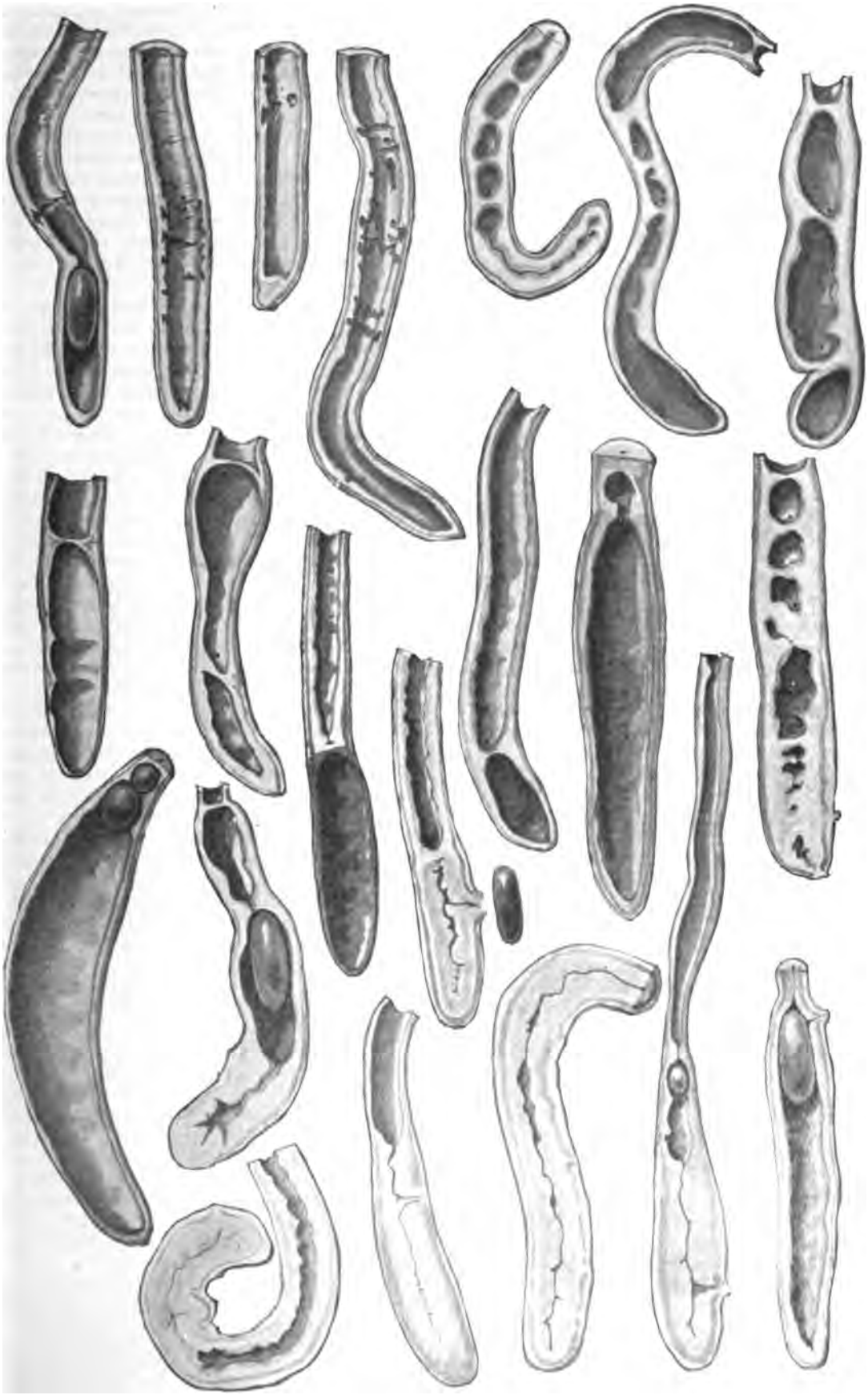
I have arranged one series of appendices, whose interior showed only small follicular septic ulcers. In looking at these, as at the others which have perhaps a more angry appearance, one must supply in imagination the putrefied contents which have been cleaned away in the preparations.

To all students of pathology, however, the ulcerations here shown, with points of entrance for poison, are ample evidence of the cause of slight septic fever accompanying the attack, for which they were removed. In some, the ulcer is a ring-like furrow, half-way or two-thirds around the tube, and, if they progressed to healing, would have in time resulted in linear strictures. It is capable of demonstration that an appendix once thus diseased does not again restore itself to normal health, because of its internal deformity. The detention of its contents, when once a stricture begins to form, converts it, as it has been aptly said, into a veritable culture tube.

The idea embodied in the word "catarrhal" appendicitis is, in the main, a correct one, and yet it so feebly expresses the morbid condition present in an attack of the disease that it should more properly be confined to the initial stage. Excluding the rarer cases in which foreign bodies are entrapped, or in which the kinking of the appendix from its short mesentery produces "obstruction"—the origin of the stricture is found in one of two causes: either the cicatrizing of the septic linear ulcer, or the contraction of the catarrhal inflammation antedating the stricture by many years. The age of the stricture is of the greatest importance in studying the subject. We know from similar contractions, resulting from inflammatory conditions in other parts, œsophagus or urethra, that many years often elapse before the closure is sufficient to give trouble; so in many cases of appendicitis in which study of the removed appendix shows one or more strictures, we follow back the history of attacks from five to twenty-five years, and thus can definitely say that such length of time was taken to develop the final grave conditions. We may say, therefore, that in the earlier years of life an infantile colitis, or a simple influenza, must have been the primary cause of an invasion which lurked in this, the only pocket of the alimentary canal, while the disease was swept from the main channel.

From this study we may say with absolute certainty that the first attack of appendicitis recognized by the patient is in most cases the end of the disease, for the appendix shows the presence of a stricture which must have existed for many years. If one disputes this point and says that strictures sometimes form very quickly, we still have a considerable number of these specimens which we have studied that have behind the stricture a concretion which there is every reason to believe had taken years to form.

At this point let us understand exactly what these concretions are which you see in many of the specimens. Observe, first of all, that they are always on the side of the stricture farthest away from the colon. Their composition is of particular interest. They vary in hardness according to their age. It is rare to find any food products in their composition. They always contain a large proportion of desquamated epithelium mixed with pus corpuscles, the whole teeming with bacteria. If they are of harder variety, they are apt to be laminated and contain needle-like crystals and sometimes calcareous incrustations.



AVERAGE CONDITION OF THE INTERIOR OF THE DISEASED APPENDIX.

Examples selected from several hundred—prepared by distending with alcohol after removal, usually "in the interval" between attacks. Septic follicular ulcers. Strictures, single or multiple, with pockets. Gangrene beyond stricture. Concretions, always formed behind stricture. Spontaneous repair after perforation. Areolar hyperplasia following evacuation. Partial or complete obliteration.

These are indubitable proofs of the long existence of the stricture.

With some recent writers the erroneous idea still prevails that these concretions are formed in the colon and drop into the appendix, dilating it and producing trouble, but the fact that the concretion is always on the distant side of the stricture shows that it has grown where it is found.

Evidence is, therefore, complete that the stone does not begin to form until the stricture has contracted to so small a calibre that the exfoliated epithelium is unable to work its way into the colon in the ordinary process of elimination. Then the fluid contents of this terminal pocket alone pass through and the débris of epithelium left behind, irritating by its presence, begets proliferation, pus cells, and other evidences of decomposition. It is hard to conceive that this process could take less than a few years. I have recently had one case in which a gangrenous appendix containing a concretion had been preceded twenty-five years by a mild but typical attack.

In no case have I found concretions which were not detained by very tight strictures and composed of a desiccated cast-off epithelium of the appendix. These concretions will always be found packed in close to the stricture, which is a most important consideration in understanding the mechanism of acute attacks. The hard oval body acts exactly like ball valve, or like a gall stone in the gall bladder, and when its presence has induced necrotic changes we will almost always find perforation at the point at which it presses.

To return to the possible primary cause of the catarrhal condition, I have twice removed an appendix a fortnight or more after the subsidence of appendicitis in conjunction with an acute attack of influenza, in both of which smart vomiting, fever, and exquisite tenderness of the appendix had ushered in the attack, and in which at operation acute inflammation with follicular ulcers of the mucous membrane of the appendix existed without stricture, thus illustrating that long after the system had thrown off the acute symptoms the appendix harbored this lurking infection. It is fair to presume that several years might have elapsed before the appendix would have had secondary strictures and a new variety of septic disturbance.

These illustrated Draper's suggestion, that in the recent widespreading epidemic of influenza there might be found an explanation of the origin of many a sequel in appendicitis.

It is seriously suggested that gout may be a causative factor in producing appendicitis, in view of the fact that minor attacks are relieved by salicylate of sodium and dietetic treatment, that it is occasionally seen in otherwise gouty subjects, and that mild joint inflammation is sometimes associated. Against this we have the argument that appendicitis occurs largely in youth and childhood; that operation always discloses a mechanical cause for an attack; that the peritonitis is uniformly of bacterial origin and not from gouty irritation; and that the type of joint disturbance is that of a low-grade pyæmic infection.

Above all things, we must consider the mechanical condition revealed in this study as absolutely the essential fact in every recurring attack. The tightening stricture, the multiple pockets harboring the bacterial colonies, and the calculi therein formed, must be remembered by every practitioner as being invariably present in each case of recurring appendicitis. The study of the appendix removed in the interval, when to all appearance the patient has been cured, shows the almost inevitable future recurrence of these attacks. To understand these morbid states elucidates and explains all the symptoms connected with disease, and is the keynote of the entire situation. It stands proved beyond question that, between attacks, the strictured condition frequently shows no tenderness, and usually the appendix is impossible of palpation, even after years of recurrent trouble. I have preferred to speak of this condition as "latent" rather than chronic appendicitis, because the word "chronic" carries with it the idea of ever-present disease, which one would think could be felt, while as a matter of fact this particular organ has the property of hiding itself from discovery between attacks. It presents a "latent" danger, and the term expresses the hidden rather than the chronic aspect of the disease.

Given an appendix with one or more reasonably tight strictures, it is only necessary to produce transient congestion to swell the tissues and block the stricture. Hence it is easy to understand the frequent recurrence of slight attacks, which are seemingly dependent upon such incidents as a violent fall, wrestling, long bicycle rides, eating clams or green apples, or various other accidents, which, to the public, seem adequate cause. The acute attack, however, is really due to the general vascular disturbance of the alimentary canal, in which hyperæmia and excitement the appendix takes part. Even the menstrual disturbance provokes such acute attacks when the trouble is latent. The immediate sequel of the engorgement and blockade is an increased secretion within the shut-off tube. With increased bacterial activity, the size of the appendix is at once inordinately increased by the distention. This is demonstrated by operation done at the onset of the attack, when the surgeon often finds an appendix, which should be the size of a lead pencil and three inches in length, distended to the size of the finger and five or six inches in length. When it is cut away it immediately shrinks to nearly its normal size, but when again distended with alcohol it reproduces the condition found at operation.

In this interesting elongation, the tip of the appendix will be found capable of a wide sweep among the bowels. It pushes across the median line, or to the bottom of Douglas' cul-de-sac, or sometimes upward to the liver. Under this high tension the penetration of bacteria, whose increased virulence is greatly enhanced by the pressure into and through the coats of the appendix, excites an immediate leucocyte exudation, so that thickening and œdema rapidly follow, and the bacteria penetrate the unbroken peritoneum. Without operation one can only conjecture what the early hours of an attack of appendicitis exactly represent, but if a physician could be present and witness the findings on first opening the abdomen during an acute attack, the appalling picture often presented would startle the most conservative mind. Even in most attacks which would subside under medical care the swollen, purple, slimy appendix, often bathed in turbid serum, presents an angry and menacing appearance. This unpromising condition will be quickly overcome when the pressure within the appendix is sufficient to overcome the stricture and discharge its pent-up fluids into the colon. At a later attack, the stricture being tighter, the infection and destruction having proceeded still further, we may see an appendix altered from a mahogany color of capillary stagnation to the poisonous green appearance of beginning gangrene. Nothing more perilous to human life can present itself to the eye of the operator, and yet, gross and threatening as it appears, we see a stage of the decay of the tissues that precedes the formation of abscess in many of those cases which may be even conducted to a natural cure without operation.

Again we find in very early operations the distended appendix covered with thick gray membrane, no less virulent looking than diphtheritic patches in the throat. This seems to be the most severe challenge to nature for cure. The surgeon is prone to present

such gross and offensive organs to the physician for whom he is operating, and challenge the belief that a few more hours would have produced a fatal issue. It becomes the privilege of those who study both the conditions at such a crisis in the disease, and of other conditions discovered at the time of operation in the interval between attacks, to show that nature is perfectly competent to cope with any of the gravest forms of disorganization in a limited number of cases—a very limited number, as attested by the long death roll.

When we have learned from experience that there need be hardly any deaths when operations are properly done, no matter how acute the stage, we see a contrast that does infinite credit to modern surgery.

The glaring inaccuracy of comparative estimates of cures by medical and surgical measures is self-evident when we realize that every case coming to operative cure represents from five to twenty medical cures, for careful search of the histories shows every patient to have been under physicians, time and again, in previous years for a two days' or a week's illness, and each time "cured." I remember, some years since, the illustrious Dr. Loomis told me he sent almost all his appendicitis cases out of the hospital "cured"; that is, he said, "frequently with a small hard lump still remaining inside." So when Ewald says ninety per cent. are cured by medical means, it means only that a lull has occurred, and that "latent" trouble remains each time, though the patient does not feel it then. It is the rarest incident to have a patient unable to recall past attacks, and we must add to those recalled a few more that most patients forget, in the beneficent oblivion to which nature consigns our memory of pains.

We must reconcile the ever-recurring difference between the medical and surgical view of the subject. The physician always wants to postpone, and the surgeon does not dare to take the responsibility of postponing. Why is this? The physician who says he has always "cured" with medicine has made his observations most carefully. That he is conscientious and consistent no one questions, and it becomes the duty of the surgeon to acknowledge to him that the evidence presented in the abdomen, in the region of the appendix, as found by the surgeon in the operation done in the interval between attacks, proves the correctness of the medical view: that, without the aid of the surgeon, nature is often capable of coping with the very gravest complications unaided, and of restoring the parts to almost a normal condition, so that it ill becomes the surgical observer to deny any case of possible restoration to health. It remains with him simply to show that the vast number of so-called "cure" cases are of a mild attack, while the disastrous ones may possibly undergo spontaneous cure, though it be rarely. Some of the exhibited appendices were removed after recovery to health from patients who had unquestionably experienced general septic peritonitis from a rupture of the distended organ, which had scattered its putrid contents widely through the abdomen, begetting a profuse septic effusion, with intestinal paralysis, tympanitic distention, and profound septicæmia. Operation after recovery showed universal intestinal adhesions; a cicatrized point of rupture on the appendix, and concretions and stricture within it, awaiting another opportunity for trouble.

Again, when the preparations are studied by the method demonstrated to-night, one frequently finds, long after grave attacks, the cicatrized perforations sometimes at two points, indicating different attacks, and nothing but a few adhesions to show the remarkable power of nature in clearing up the infection. Around such a point one will occasionally find buried in the adhesions the remnant of an old abscess of large size, dried down to perhaps a teaspoonful of sterile yellow débris. Although this is often seen in other parts of the body, it is nowhere more impressive than when found so close to vital parts.

One noteworthy specimen shows the appendix open at two points into the intestines, where it had discharged numerous calculi, some of which yet remained in it.

It must have happened to every operator, as it has to the writer, either to have been refused the privilege of operation, or himself refusing to operate in cases nearly moribund, that the patients have recovered, more often perhaps by the spontaneous evacuation by ulceration into a neighboring intestine. Yet to the surgeon these cases are no offset to the hundreds of cases of fatal attacks which happen every year, all of which were failures of nature, because of the overpowering infection, and almost every one of which could have been saved by a very early operative procedure. The feeling is growing among experienced operators that no acute case can be at any time more safely operated upon than when first recognized.

Apropos of the query, Why and how do so many of our cases of appendicitis make a spontaneous recovery? we face the marvellous revelations of the intrinsic natural power of recuperation in every form of malady to which our bodies are subject—fevers and injuries as well. We study and we wonder; we speculate on how little human agency has to do with it beyond guiding nature. We aid the fallen giant to his feet, but how little do we do to make him walk. We face the destruction impending in the bacterial warfare against the human organism, and by intelligent guidance we aid the unknown power which restores health. But what that agency is, we do not know. The recuperative power! What is it? Shall we, in this advanced stage of science, still sum it up in the words vital force, that unfathomed thing called "life"? The intelligent act in recovery! Whose was it? Yours, or that something in the patient that made for health? This is an ancient query—not yet answered by the hosts of eager scientists, whose only explanation of the ordinary laws of repair is to acribe to the cells of the body a natural tendency to restore themselves to normal states, a hereditary tendency to right themselves when wrong, and an adaptivity to defend themselves against assault. The human body, as a whole, is considered an intelligent entity composed of orderly but unintelligent cells.

That has always seemed to me an assumption, and, from analogy and observation, I am quite willing to accept the view that every cell is sentient and acts with a purpose by volition, for will cannot be placed in any cell or group of cells, and why may it not be universal? Does not every fibre of the body cry out with pain; does not each organ resent abuse? Lubbock shows the minute insects, like the ant, to be endowed with a high order of reason; they build, colonize, police, go to war, lay by stores for seasonable use, etc.

The individual cells of the swift-growing mushroom can be studied in their life history, confined for a few hours under the microscope, and each cell is said to display affinities and even affection in relation to others.

Why should we, as trained beings, self-classified as of a higher order, arrogate to ourselves the only capacity to deal intelligently with repair in surgical emergencies? Who among us could do anything, did not the extraordinary novel action of each cell lend its aid in new circumstances of its life?

Those which had for half a lifetime repeated their daily growth, death, and reproduction, suddenly spring into activity in a new rôle without our volition. The

healing of even a mere scratch is a study of orderly, exemplary, and intelligent reproduction of cells after a new plan, as if they had been drilled all their lives to wheel into line, and do exactly what was needed, but which was not their previous habit. A hernia suddenly becomes strangulated! At once an intestinal peristaltic action that had for forty years been downward is reversed, as shown by nausea and other symptoms, as if an engineer reversed his engine to avert danger, and why? For no other reason than to help try to pull the loop of intestine out of the pocket in which it was caught.

We think of elaborate warfare of drilled troops, marshalled by thinking generals, as evidence of God-like intelligence. But what of the revelation of science that most diseases are an invasion by bacterial armies which would conquer, were it not for successful resistance of hosts of infinitely small but friendly cells, acting without our control, attacking the invaders, as the picture has been truthfully drawn, and in vast numbers going to their death, as seen in so-called pus, dead leucocytes merely—soldiers on the field after the battle.

But we stand aghast at the methodical procedure of those who met the invading bacteria, embraced and devoured them literally, and thus compassed the recovery of the patient, for which we and the patient take credit. Observe the invasion of tubercle bacillus in a healthy body. Follow the instant array of resisting cells, the leucocyte attack on the foreign invader, the quick hyperplasia of cells, to barricade and surround the group, the starvation of the prisoner, his death, and ultimate disappearance.

Whose is the glory when incipient consumption is conquered? We arrogate too much when man's intelligent action is placed above that of the individual cell.

In laboratory research and philosophical discussion of the still incomprehensible process of repair, as shown in inflammation, it is easy to say "we must dismiss from our minds all ideas which introduce the conception of something in the nature of an intelligent foresight on the part of the participating cells," but only materialistic prejudice will thus beg the question in favor of the not yet proved adaptability of cells to follow only their hereditary and physiological habit of reparative growth. We may say there are certain innate bactericidal and phagocytic properties of cells "called into action" by the presence of inimical poisonous bacteria. Why not, with equal or greater probability, say, "they enter into action"? It is as just to say that a trout jumps at a worm without volition, or that a beaver builds his dam without thought. In realms of beings of higher development than man, he may be regarded as endowed with less will than he now regards the wonder-working amœba.

The imperfect outcome of Nature's repair at times when she signally fails to overcome disease is no more argument for the physiological rather than sentient action of her component cells, than the trout's leap for a false fly, or the beaver's dam being inadequate for a heavy flood, is proof of lack of intelligence.

The more elaborate proceedings of repair, in the terrible emergencies of appendix disturbance in the very centre and vital parts of the body, are seemingly after a design that often the human mind could not rival in ingenuity and sometimes studied success. For instance, the appendix becomes blocked by a stricture at its attached end, and being distended and loaded with deadly contents to the muzzle, smears itself over with a gluey coat and seeks to attach itself to some convenient outlet for its foul contents.

To evacuate into the peritoneal cavity is death to its owner, but if, by care, it can seal itself to another piece of bowel or the bladder, perhaps it can save its owner's life, and discharge into the outer world. It makes the effort!

Very often it succeeds, and we see such amusing accidents as an appendix discharging for years into the bladder, a miscarriage of justice, as it were, but designed—designed to save the patient. Who designed it? Not the owner of the organ. And what established habit of it, or its ancestors, taught it, or left it a heredity that came so opportunely in use? We stand appalled at the efficiency of Nature's methods at times, and yet she is a most bungling surgeon! Wonderful at repair, but a bungling surgeon.

And this idea brings us to consider the fatuous hope that lingers in the mind of all physicians, that what has happened once in repair will occur always; that reliance can be put upon the oft-witnessed success in ending this disease without operation. We may admire her reparative power, but must call her to account for her innumerable failures, and supplement her by the precise and successful methods of modern surgery.

Interest in the subject under discussion is doubly increased when doubtful cases bring the physician and surgeon in consultation; when at times a single symptom will turn the scales of doubt, one could often wish for unerring indications of the diseased appendix. One soon learns that pain over the appendix is not always present, or when present it may simulate other pains, so that an attack of gravel can be so like an appendical colic that only the discovery of a few blood cells in the sedimented secretion of the kidney will tell the presence of irritation of a small stone. Even the most characteristic local descending pain along the cord and bladder irritation may be simulated by adhesion of the appendix to the bladder surface.

The most complete experience of variations in symptoms is often required to differentiate between the disease in question and even so unlike a disease as typhoid fever, which in its onset is well imitated by it.

What has already been so much dwelt upon in the pictorial representation of its pathology, helps us here to understand why the mild pyæmic condition may simulate typhoid, and it becomes a deeper problem than usual to summon other resources, such as the leucocyte count of the blood, to determine the diagnosis.

This latter study of leucocytosis has grown to much importance in differential diagnosis. Typhoid fever can often be eliminated, because, if uncomplicated by ulceration, which is wanting in its early stage, there will be little or no increase in leucocyte development.

On the other hand, progressive leucocytosis in which 12,000, 15,000, 20,000 or more are found, indicates a progres in ordinary appendicitis to a certainty of abscess formation.

Again the sudden development of very marked leucocytosis, with diffused peritonitis, is an argument for the successful outcome of operative work, no matter how grave the appearance of general infection.

Many valuable observations are accumulating, so that we can get much help in diagnosis and prognosis from this newer aid.

It is not my purpose in this paper to enter into further scientific study of the many ramifications into which one might be led, though one may well have attention directed to the variety of hitherto unsuspected maladies of which this little organ is now rec ognized to be the frequent cause.

Its manner of hiding itself from suspicion is nowhere better shown than in conditions of profound pyæmia, into which a patient may be plunged after a day of appendix disturbance, followed by an absolutely painless condition when the physician is called on

the second or third day. Then, perhaps, the patient has a chill, and profound pyæmia with graver and graver symptoms follows. The physician is justifiably in doubt of a cause, on account, incredible as it may seem, of the absence of local signs, although a septic phlebitis of the larger veins adjacent to the appendix is present. Several times I have witnessed this local peritoneal anæsthesia masking the real cause of fatal pyæmia.

The resemblance of appendix disease to a large number of internal troubles would afford a chapter in surgery of great importance to the student.

The mimicry of other diseases by appendix disturbances is so accurate, at times, that the physician has to suspect this complication, not only in any case of supposed gall-stone pain, or that of movable kidney, or that associated with progressive dysmenorrhœa, but he must regard the ordinary colic, or the recurrent pains of indigestion to which the "chronic dyspeptic" is subject, as surely due, in many cases, to this cause.

It has been my hope to show that this problem is capable of such demonstration that the ever-recurring difference between the medical and surgical view of treatment should be reconciled.

Easy as it is to fall into the "waiting habit," the medical inaptitude for operation is not consistent with the seriousness of the subject.

Our greatest practical life-insurance companies recognize that a single attack of appenditis disqualifies from insurance for one or two years; recurrent attacks disqualify until the removal of the appendix.

I have shown: that inflammatory strictures are almost universally present, the foundation and cause of the subsequent disease; that while they are uniformly of slow growth the real mischief does not begin until occlusion occurs; that attacks are often cured by natural method; that a long respite does not mean a cure; that it is impossible to predicate a cure; that, unless the appendix is out, the disease is always "latent," when once it has begun.

In all studies of medical problems, truth spells itself out letter by letter, and it is many years before united opinion allows the knowledge of a topic to be incorporated in the surgical creed.

There will probably always be some diseases which will be beyond the successful management of the doctor. This subject, however, has now been lifted from the opprobrium of the past. It is one to which the cynicism of Matthew Arnold cannot now apply, when he says:

> Bring not to see me cease to live
> Some doctor, full of phrase and fame,
> To shake his sapient head, and give
> The ill he cannot cure, a name!

Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-Ray.—A. Everett Smith thus treated a patient of eighty years who was suffering from a lupus patch of the nose, inner canthus of the right eye, and inner thirds of the lids. A mask of sheet lead was made for the face, and a hole was cut for the diseased portion of the face, which was exposed every fifth day for about twenty minutes at a time, the diseased surface being placed about two inches from the light. About twelve treatments were given. Marked improvement appeared after the second treatment, which was not interrupted until the sore was entirely and completely healed. There was no burning from the light, nor were there any unpleasant symptoms except a slight headache and a crawling sensation in the sore with the first two treatments. The cicatrix has produced a slight ectropion by everting the inner end of the lower lid, and has drawn the upper down and in, but vision is normal.—*Buffalo Medical Journal*, January, 1901.

THE CAUSES OF FAILURE OF COMPENSATION IN DISEASES OF THE HEART.[1]

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To discuss the causes of the failure of compensation of the heart is by no means the unprofitable task it would at first glance appear, for the maintenance of life itself—and that too often during the critical periods of acute illnesses—may depend upon the proper appreciation of some of these causes. Too frequently we are unaware of the dangers which are lurking for patients with organic heart disease until some undue strains from acute illness, muscular overexertion, etc., warn us most emphatically of the real status. In pneumonia and nephritis death comes from the heart, and in all acute and chronic diseases the key of the situation lies in the myocardium. Another good reason for recognizing these causes is that from the information gained thereby we often obtain important therapeutic indications after digitalis and the other heart tonics will have lost their effects; so that we are thereby enabled indirectly to assist the enfeebled circulation by the relief of some of its collateral burdens.

Of still greater importance is this study to the thinking physician, since a clear conception of that ultimate crisis or crises to which all patients with organic cardiac diseases are finally doomed, may enable him to put off the evil day for a very long time; for compensation may endure for surprisingly long periods. Romberg mentions a case at the Leipsic clinic in which it was maintained for thirty-eight years, and Forler quotes another in which combined aortic and mitral lesions remained compensated for fifty-three years in spite of constant hard physical labor. It may not be amiss to mention that the average duration of compensation in one hundred and two cases, studied by Romberg, was seven years—a very good average when it is added that in one-third of these cases, from various causes, compensation was never established.

This discussion, however, is most difficult at the present time, since we are now going through a transition period in which many long accepted facts have been ruthlessly upset and have been replaced by others which, although apparently correct, have not yet been subjected to the crucial tests of time and experience. Indeed, the findings and the teachings of the new schools of Engelmann, Krehl, His, Romberg, and others are not universally accepted by all physiologists and pathologists. Many of the pioneer views of Traube and his school and the later work of Rosenbach still find numerous able defenders in spite of the radical claims of von Basch and his pupils, that there is no such process as that of compensation. The admirable work of Sherrington and other physiologists on the dynamics and physics of the heart and circulation, while they have shed much light upon many obscure phenomena, have not been grasped in their true significance. How far-reaching are these new views on cardiac physics may be comprehended from the admirable Lane lectures which have recently been published by Clifford Albutt. Likewise, perusal of von Leyden's address on the nervous mechanism and the autonomy of the heart muscle will afford much information on these most interesting subjects.

The consideration of these topics, although of very great importance to a proper and comprehensive conception of our subject, would require far more time than is at my disposal this evening. It need only be stated that the supreme importance of the muscle cells of the heart is clearly brought out, and that all else is of lesser significance.

[1] Read at a stated meeting of the New York Academy of Medicine, February 3, 1900.

Pathologists have also corroborated this, and it is, therefore, in the myocardium that we must look for the immediate relations of both compensation and decompensation, as the failure of compensation has been aptly termed by Romberg.

For a long time it was believed that the cause of decompensation lay in the undue distention of the myocardium, with subsequent fatty degeneration of the muscle cells. This view was upheld for a long time as the result of the influence of Stokes, Friedreich, Rosenstein, Strümpell, and others. Duclek was the first to doubt it, and it is now generally accepted by von Leyden, Strümpell, Fraentzel, Romberg, and others, that fatty degeneration is only of minor importance. This is also corroborated by Balint's experimental fatty degeneration in animals. Furthermore, the importance of an undue amount of residual blood being left behind in the ventricles or auricles as the result of valvular leakage is minimized by the observations of Roy and Adami, that the normal ventricles do not completely empty themselves during systole. Moderate leakage does not affect the healthy cardiac walls, and even undue distention may be successfully coped with by sound muscular fibres. But, as well described by Albutt, "the morbid results of dilatation lie not in the occasional stretching of a normal ventricle beyond the mean—this can be well met by the ordinary reserve energy together with the stimulus of excess loading—but they lie certainly in such a persistence of excess as to exhaust the organ. Nutrition being unequal to the persistent importunity, tone yields to prolonged, excessive tension, and although hypertrophy for a time may stave off the impending failure, a restoration somehow of normal conditions must come about if the heart is to regain its equilibrium. While it is essential then to a useful life that the heart shall be thus adaptable to fluctuations of demand, even to extreme demands, yet, on the other hand, over a long period of time the work ought not to exceed a certain mean, the amount of which varies for each individual; for Mosso and others have shown that the rate of muscular fatigue, whether skeletal or cardiac, varies in different individuals. In one person temporary dilatation of a ventricle under incidental stress is rapidly overcome; in another the limit of specific elasticity, insufficiently guarded by tone, is passed and strain irremediable may be established. The mutual play of tone versus dilatation is then of the first importance in all men; but tone varies in all men constitutionally, and in the individual with fluctuations of his health. Under no circumstances is tone more profoundly weakened than under the influence of the toxins of the infectious diseases."

That the normal heart can readily deal with acute dilatations has repeatedly been demonstrated in cases of overstrain from mountain-climbing, etc., the most striking examples of which have been the *x*-ray demonstrations of T. Schott. But the heart walls of patients who have had or have organic valvular disease are not normal, as has been demonstrated by Letulle in 1889, and much more elaborately in 1890 by Krehl and his school. Letulle showed that in hypertrophy the interstitial connective tissue increased as well as the muscle fibres; and he assumed that this proliferation of connective tissue caused a fatty degeneration of the muscle fibres. Tangl, in experimental hypertrophies in animals, showed that such an increase of connective tissue does not occur, but the importance of his findings is lessened by the findings in diseased human hearts, to be mentioned directly.

Krehl's elaborate studies with serial sections on hearts from patients with valvular disease threw a flood of light upon the relations of compensation and its failure. He found marked myocardial changes with increase and subsequent contraction of the connective tissue between the muscle fibres, with occasional focal destruction of the parenchyma. These changes were not found diffusely by Krehl, His, and Romberg, but they occurred only in small areas or foci and followed a necrosis of the muscular fibres; they were usually the result of some change in the nutrient blood-vessels, or they would follow inflammation of the endocardium or pericardium. In acute infectious diseases it appeared as if the acute interstitial inflammation resulted directly in the formation of new connective tissue.

Krehl, His, and Romberg studied the changes not alone in valvular diseases, but also in acute infectious diseases, pericarditis, heart strain, many intoxications, etc., and found these varying degrees of myocardial changes in foci in different parts of the heart.

Sack claimed that the auricles were most frequently involved, and regarded it as a compensatory phenomenon to strengthen their walls.

Dehio claimed that in addition there was also a diffuse process, a myofibrosis, in which there were diffuse new formations of connective tissue throughout the entire heart, which were interfascicular as well as interstitial. He claimed to have found this in the various cardiac lesions, and especially when the increased work of the heart had caused hypertrophy and dilatation of the entire organ or only a part of it. It was the stretching to which the hypertrophied muscles had been subjected which was the cause that the weakened muscular fibres gradually disappeared, and, as a reparatory act, connective tissue replaced them, the contractile powers of the muscle cells being replaced by the elastic force of connective tissue. This process was most marked in the auricles since their weak muscular walls could least stand dilatation. Thus the dilatation is the chief cause of the myofibrosis. He also admitted that diffuse connective tissue might occur in the acute infections. He also found myofibrosis in senile hearts, but believed that coronary arteriosclerosis was the chief cause.

Hochhaus and Reineke studied fourteen diseased hearts (senile, valvular, and acute and chronic infectious), but failed to find this diffuse myofibrosis in six cases of valvular disease. Their findings in these cases corroborated those of Krehl's school, that there are distinct focal changes in the parenchyma and interstitial connective tissue. They direct especial attention to the occurrence of focal changes, which being connected neither with the endo- or pericardium or blood-vessels, must have been the result of the acute infections (acute articular rheumatism, etc.) which caused the primary organic cardiac diseases. The foci were found in order of frequency in the left ventricle, right ventricle, and the auricles.

It is to be added that these views of Krehl and his school have been rejected by Bollinger, Rieser, and others.

Finally Ott claims to have found distinct changes in the cardiac ganglia in cardiac stasis and hypertrophy, and Bálint in experiments on animals found that the vagus was of importance in determining the time when decompensation set in after experimental destruction of the aortic valves.

To sum up briefly the various pathological conditions reported above, one is justified in stating that hearts which have been attacked by actual organic valvular disease from any cause no longer have an absolutely normal myocardium, since the latter has been involved in its parenchyma or interstitial tissue, or both, in various foci. Any defect in the valvular apparatus is compensated for a longer or shorter period by hypertrophy, which in turn is followed by changes in the parenchymatous muscle cells, or interstitial connective tissue, or both, or in the ganglionic cells or nerve fibres, or both, which may finally result in such

a weakening of the heart walls that the heart is no longer able to propel the blood in normal amounts, as needed by the system at large. The causes of this breakdown may be either one or both, the distention of the cavities which results from leakage at the valves, or it may be due to defective nutrition of the myocardium from arteriosclerosis, anæmia, chronic or acute intoxications, mechanical overstrain, or other causes, which will be discussed later on. But although this will explain why, *cæteris paribus*, a man with valvular disease will react more promptly and more markedly to a given insult, yet it is also demonstrated that if the nutrition of the heart is properly maintained, if the work which the heart must perform is properly regulated in amount and time, then these myocardial changes will in no way exert any deleterious action upon the individual, but may even be conservative to the heart as such, until the appearance of the arteriosclerotic changes, to which all hearts and all parts of the body must sooner or later succumb, since it must be distinctly understood that the reserve power of the hypertrophied heart is just as great as that of the normal organ; but if the causes of the hypertrophy are still active, then the constant çall on its reserve energy, as already stated above, will result in the diminution of the amount at its disposal. Finally, while it is admitted that a hypertrophied heart is more liable to arteriosclerosis of the coronaries and chronic myocarditis, yet with proper care for the nutrition of the body at large and the work of the heart this may be controlled for a long time.

Viewed from the clinical side it may be said that the failure of compensation is not a clinical entity, nor does it represent any definite etiological or anatomical factors; but, to paraphrase Romberg, it represents the clinical course of various anatomical, dynamic, and functional influences which are always occurring in various combination, since it is not always the result of one cause acting alone, but very frequently of several acting in combination or succession. It will be found that these factors either produce dilatation of the chambers of the heart or impair the nutrition of its walls.

The most important of these causes may be grouped as follows, modifying the classification of Osler:

1. Failure of general nutrition of the body.
2. Disturbance of local nutrition of the heart.
3. Increased work of the heart.
4. Functional cardiac disorder.
5. Effects of improper treatment.

Failure of general nutrition is in its final results closely allied to the second group of local disturbances of nutrition, yet it is important to consider each separately on account of the differences in the etiological factors.

I. Of the general causes anæmia is one of the most potent and common; it may result from poverty with its endless exposure, poor food, etc.; or it may be associated with obesity; or, far more commonly, decompensation may follow severe reduction cures. Many a compensation is shattered at Carlsbad and other resorts under the so-called guidance of physicians. How many more are wrecked by the patient's own efforts in Banting, thyroid medication, etc.! Far too many paunches are flattened, livers shrunken, and gall bladders cleansed, dyspepsias cured, vain women's figures restored to youthful lines and suppleness with the high sacrifice of cardiac compensation. Small wonder, then, that Carlsbad physicians are now sending their patients to Nauheim for the after-cure!

The chronic infections and intoxications, such as result from chronic nephritis, severe digestive disorders, tuberculosis, metallic poisons, are also important factors; gout, diabetes, and similar constitutional disorders are also potent causes in slowly producing changes in nutrition, which are finally indelibly impressed upon the heart.

More rapid in action are the acute infections, such as acute articular rheumatism, diphtheria, scarlet fever, typhoid fever, pneumonia, influenza, sepsis, etc. The most important of these are influenza in persons over forty-five years of age, with its marked general depression, and acute articular rheumatism. The latter acts in a twofold way, for besides the general effects of all infectious disease, which are already referred to above in Krehl's findings that the so-called "Herzschwiele" results directly from the acute infections, each successive attack of acute rheumatism may inflict further damage upon the structure of the heart. It is also to be noted that Schroetter and others believe that in some of the acute infections there are additional central disturbances which affect the vasomotor system, and thus indirectly influence the heart.

II. Disturbances of local nutrition of the heart. Of these causes coronary arteriosclerosis is by far the most important and far-reaching in its action. Insidious in its onset, silent in its slowly progressive action, it is most destructive in its effects upon the myocardium and brings to light any defects in this structure; in consequence the reserve power is so diminished that the heart can no longer respond to the calls which are made upon it, and hence, unless the patient has been warned about his condition, he is apt to subject the organ to strains which may cause irreparable damage.

As the arteriosclerotic process is rarely limited to the coronary arteries, but is usually manifested in the aorta and the other arteries, the effects of atheroma of the aortic valves, arch of the aorta, chronic nephritis, are added to the burdens of the heart.

The other effects of chronic endocarditis and pericarditis are self-evident, and need no further discussion here. Of chronic myocarditis it need only be added that the special localization of the areas of degeneration may precipitate the occurrence of decompensation, as for instance when the auricles are especially involved, or the apex of the left ventricle, the latter being particularly marked in aortic regurgitation.

Hearts with valvular disease and hypertrophy are especially liable to these disturbances of nutrition, and respond to them more markedly since, as has already been stated, definite changes are established in the heart structure by the primary cause of the lesion.

III. Increased work of the heart. This may arise from a variety of causes, and may either be of transitory duration or may last for an indefinite period. It plays an important rôle in the causation of decompensation, and not infrequently is the means of telling a man that the condition of his heart is not what it ought to be.

Muscular overstrain, due to overlifting, undue mountain climbing, bicycle riding, and prolonged and violent athletic exercises, has been so fully discussed during recent years that it does not require much more than mention here. The damage inflicted by distended auricles and ventricles, ruptured heart valves, etc., may at first be equalized by the reserve force of the heart; but later on, if the insult is repeated too often, or if the structure of the myocardium has suffered, it can no longer do so and irreparable dilatation may result. It is to be noted that most of the changes occur in the right auricle and ventricle. If people would exercise with their brains as well as their muscles, as suggested by Schroetter, such cases would be less common than they are.

Parturition in women with valvular disease is closely allied to this class of cases, and the increased work thrown upon the heart has not infrequently led to an acute failure of compensation, which was fatal

in a few hours or days; or there may be more or less complete recovery from the decompensation.

The work of the heart is also increased in many other conditions, among which may be mentioned pericardial adhesions, renal diseases and arteriosclerosis in general, obesity, chronic bronchitis and emphysema, large pleuritic effusions, pulmonary infarctions, and other conditions which increase the work imposed upon the right heart.

More tangible and under more direct control are the effects of excesses in food, alcoholic stimulants, tobacco, etc. It will be observed that many of the above factors act injuriously in more than one way, and deserve the especial attention of physicians in the prophylaxis of decompensation.

IV. Purely functional cardiac disorders as causes of decompensation are rare; extreme mental emotions, such as fright, marked mental excitement or emotions, prolonged worry, may act in this way on account of the enormous rise in the arterial pressure which, according to Romberg, may follow them when they occur in persons with weak hearts. Deaths from broken hearts must be accepted as an actuality. These cases are usually due to idiopathic dilatation. "In some the condition is acute and the patient has dyspnœa, slight cyanosis, cough, and great cardiac distress. Death may occur in a few days, or dropsy may supervene, and the case become chronic. Delafield has reported an interesting series of cases of this group" (Osler). Schroetter and others have also reported cases of this kind.

V. As a separate group may be placed those unfortunate cases—alas! too large in number—in which the failure of compensation is not due to disease but to the physician or the patient himself. I refer to the abuse and improper administration of cardiac drugs by doctors to whom the presence of a murmur is the signal for the prompt and heroic administration of digitalis, etc. The constant and uncalled-for demands upon the reserve energies of the heart by such means not infrequently precipitate cardiac failure. At present the abuse of the Nauheim method, Zander exercises, etc., in the hands of many physicians, is doing more harm than good in destroying compensation rather than in improving the condition of the heart. Following fads is one thing; judicious employment of these rational methods after comprehending their underlying principles is another. This is not theoretical, since I have seen such cases.

Lack of time has induced me to omit the narration of any special cases to illustrate these various causes of decompensation. I trust, however, that the underlying causes have been made sufficiently clear. As a corollary it follows that the treatment of heart diseases consists in much more than the observation of heart murmurs; that the heart muscle is the important factor; and that in the treatment of failure of compensation broad and comprehensive views, which include not only the condition of the heart itself but of the entire body, can alone do the greatest amount of good to this class of patients.

Regular Breathing in Beginning Narcosis.—C. Hoffmann emphasizes the importance of securing regular respiration while the first stages of anæsthesia are progressing. Quiet and kindly encouragement of the patient are of great value, and the direction to count out loud often accomplishes the purpose, but a still more efficacious method is to have the patient begin with some number having three figures or more and then count backward. The amount of mental concentration required to do this, as well as the act of pronunciation, insures deep regular respiration in almost every case.—*Centralblatt f. Chirurgie*, January 19, 1901.

STRABISMUS AND ITS MANAGEMENT.[1]

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Every physician must advise strabismic patients from time to time respecting the management of their condition. For the guidance in this regard of those who need it, my purpose will be to outline the subject as simply as possible, divesting it of technicalities and stripping it of abstruse considerations, which are of interest to ophthalmologists alone, and yet making it sufficiently complete in detail to attain the object in view.

Strabismus is an abnormality of the eyes in which the lines of sight do not meet at the object upon which the gaze is fixed. When the lines of sight meet between the observer and the point observed, the condition is known as convergent strabismus. When the lines of sight either do not meet at all, or meet beyond the point observed, the condition is called divergent strabismus. The line of sight of the deviating eye may rise above, or it may sink below, the observed point. In the former condition we speak of an upward strabismus, while in the latter we speak of a downward strabismus. Combinations of convergent and divergent strabismus with upward or downward strabismus occur. Of these combinations the most often observed is that in which the eye turns upward and inward.

In deference to custom we are all using a terminology in discussing this subject that ought to be considered obsolete. The terminology proposed by Stevens some years ago leaves nothing to be desired, and it should supplant the older and less scientific terms. Thus heterotropia signifies a deviation of any kind; esotropia signifies a deviation toward the nose; exotropia signifies a deviation toward the temple; hypertropia signifies a deviation of one of the lines of sight above the observed object, while hypotropia signifies that one of the lines of sight falls below the point of fixation.

From the etiological point of view cases of heterotropia are subdivided into two classes, namely, cases of paralytic strabismus, and cases of non-paralytic strabismus. Among the examples of paralytic strabismus there are cases in which the suspension of function is complete, and there are others in which it is incomplete. Non-paralytic deviations may be alternating, in which case either eye may fix its gaze upon the object looked at; or the strabismus may be unilateral and constantly confined to the same eye.

Paralytic strabismus is sequential to a pathological or a traumatic lesion of the ocular muscle itself, or of its motor nerve, or of the origin of the nerve. When the paralysis depends upon a lesion of the muscular tissue, the cause is most frequently a contusion, or a laceration, or an incised wound of the orbit. Rheumatism is the most common condition of the ocular muscles themselves, resulting in suspension of their function. And of these cases, rheumatic paralysis of an external rectus is observed most frequently.

The function of the motor nerve may be suspended by penetrating traumatisms of the orbit and by fractures of the base of the skull. Pathological changes in the membranes covering the base of the brain, and diseases of the bones composing the base of the skull, also may interrupt the function of the motor nerves of the eyeball. A large percentage of the lesions are syphilitic, and, in general, a provisional diagnosis of that disease may be entertained as a working hypothesis. Other diseases of the meninges and cranial bones are observed as etiological factors in paralytic strabismus. Among them may be mentioned as especially

[1] Read before the New York State Medical Association at its seventeenth annual meeting, October 16, 17, and 18, 1900.

important pachymeningitis, leptomeningitis, tuberculous meningitis, cerebral tumors, and cranial osteomata.

The central lesions which destroy the function of the ocular muscles are also frequently of syphilitic origin. Thrombosis, embolism, and rupture of the cerebral blood-vessels often cause paralysis of ocular muscles, usually in conjunction with paralysis of other parts of the body.

Paralytic strabismus occurs as a congenital defect. In certain cases this paralysis may have been due to traumatisms of the orbit sustained during delivery. In other cases, however, there can be no reasonable doubt that the function of the affected muscle had been arrested *in utero*.

Ocular paralyses are due also to acute systemic diseases, especially typhoid fever. Diphtheria often gives rise to paralysis of the accommodation, but it is rarely followed by paralysis of the muscles that rotate the eyeball.

The symptoms of paralytic strabismus may be enumerated in the order in which they attract attention; thus, confusion of sight, vertigo, double vision, impairment of the sense of perspective, uncertainty of gait while both eyes are open, deviation of one of the lines of sight from the object observed, restricted movement of the eye, confused feelings in the head, and sometimes headache. Their onset is sudden, and they are fully developed early. The most characteristic and troublesome symptoms is the diplopia.

The pathology of non-paralytic strabismus is still less simple. In a considerable number of cases hypermetropia, myopia, or astigmatism is the predisposing condition. It occurs as a sequence of ulceration of the cornea, even during the stage of inflammation and photophobia. It is induced by opacities of the media of the eye, and by other conditions which reduce the visual power of one of the eyes below that of the other. Its beginning is often observed during or immediately following an attack of whooping-cough. We find, moreover, that after the hypermetropia, myopia, or astigmatism has been corrected by properly fitted glasses, even in many cases which were primarily due to those errors of refraction, the squint still persists. Then the persistence of the deviation will be the result of contracture of the overacting muscle and its investing capsule, or to enfeeblement of the antagonistic muscle through stretching of its fibres, or to both conditions combined.

These are the common apparent causes of non-paralytic strabismus. It is not pretended that this *résumé* may be regarded as anything more than a sufficient explanation of the commonest phenomena, for the guidance of those who are not especially interested in the subject. Further discussion of it would involve technicalities which the limits of the paper do not permit me to inflict upon you, even were I desirous of doing so.

The principal symptom of non-paralytic strabismus is deviation of the line of sight of the squinting eye away from the object upon which the gaze is fixed. This constitutes a deformity, which, in marked divergent strabismus, may be almost hideous. And yet, however great the deviation, the movements of each eye separately are not restricted in any direction in the same sense as they are in paralytic cases. When the squint is alternating, the visual power of both eyes is about equal; when it is fixed, the squinting eye is always more or less amblyopic, and the ophthalmoscope reveals no reason why its visual power is not normal, or why it may not be raised to normal by lenses. As yet I have not seen a case of non-paralytic strabismus in which the patient complained of double vision. Indeed, it is often extremely difficult to make the patients see double. They do not use both eyes simultaneously. The images that are photographed upon either the central or the peripheral portions of the retina of the deviating eye are not consciously perceived without an effort of the will. And the longer the period through which the squint is permitted to exist the less sensitive to visual impressions does the eye become. On the other hand, if the heterotropia be corrected and proper glasses worn, considerable acuteness of sight may be gradually restored to many of these eyes.

A differential diagnosis of paralytic from non-paralytic heterotropia does not present any important difficulties. It is evident that the sudden appearance of annoying double vision is the most significant indication of paralysis of the ocular muscles. In non-paralytic cases, patients do not complain of diplopia, although in certain instances it may be proven to exist, notwithstanding that the patients are unconscious of its presence. Restriction of motion toward the side of the paralyzed muscle is the second important differential factor. There is some restriction of movement in the direction opposite to the deviation of the squinting eye in very marked non-paralytic squint. But in paralytic cases it is the almost invariable rule that limitation of the excursions of the eyeball is so distinct as to suggest paralysis immediately. Moreover, the sudden onset of confusion of sight, the sudden impairment of the sense of perspective, the sudden inability to walk without closing an eye, or turning the head so as to suppress the false image, complete the differential diagnosis of paralytic from non-paralytic strabismus.

From a psychological point of view the significance of paralytic heterotropia is much greater than that of the non-paralytic variety. It is quite as important from a sociological standpoint; for the greater number of patients are adults, engaged in useful and profitable occupations, whose ability to continue their pursuits with their customary vigor is either suspended or greatly impaired by the ocular defect. Furthermore, life is often endangered by the lesions upon which the paralysis depends. In every case a favorable prognosis as regards permanent and complete recovery from the squint should be made with great reserve.

In non-paralytic heterotropia two factors are especially important to the patient: (1) the existence of deformity that distinguishes him from his associates, and (2) the exclusion of one of his eyes from participation in binocular vision. Inasmuch as these squints develop in childhood, their significance from a psychological and sociological standpoint should not be overlooked, for children are made sensitive, shy, and timid by the attention which unthinking adults and barbarous playmates bestow upon their deformity. Others become morose, resentful, and suspicious. These facts are common to both sexes. The cosmetic importance of normal and attractive eyes to the female needs no elaboration. These deformities, then, may prove to be serious handicaps in the struggle for existence, a disadvantage that is intensified by loss of binocular vision. If we comprehend, therefore, the significance of these drawbacks to individuals afflicted with strabismus, we must understand that their condition materially diminishes their importance as members of society.

A great deal of misapprehension respecting the relationship of non-paralytic strabismus to "eye strain" has been revealed in ophthalmological literature even within recent dates. From what has already been said it must be clear to every one that "eye strain" cannot be due to non-paralytic heterotropia, for in such deviations there is no effort of binocular vision. In cases of paralytic heterotropia, when the paralysis is not complete, instinctive efforts to suppress diplopia develop the symptoms of muscular asthenopia; but

when the paralysis is complete, I would not classify the symptoms in any case as belonging to that category.

In the management of paralytic strabismus a thorough determination of the extent of the paralysis and a probable diagnosis of the underlying lesion must be made at the very outset. I submit to you the rational proposition that this may be accomplished only by those who are conversant with cerebral pathology and the intricacies of ophthalmology as well. A complete diagnosis is essential, for there are cases which are hopeless from the beginning, and there are others which may be relieved by the application of proper measures. In syphilitic cases anti-syphilitic remedies, in rheumatic cases anti-rheumatic remedies, are indicated. Sometimes medicines that diminish the blood-pressure must be prescribed. In other words, the internal therapeutics of ocular paralyses depends upon the nature of the lesion and the extent of its manifestations.

Locally, we are compelled to exclude the deviating eye from the act of vision, in order to suppress the diplopia. When the paralysis is confined to one or two muscles, and especially if it be incomplete, prisms, stereoscopic exercises, and electrical stimulation at the proper time, are indicated. Later, if the paralysis be confined to a single muscle, and should it prove to be incurable, advancement of the paralyzed muscle may be considered. The operation is most likely to succeed in cases of partial paralysis; but it should be recollected that diplopia from ocular paralysis is a very difficult symptom to subdue.

The management of non-paralytic strabismus consists, in the first place, in a proper correction of the errors of refraction of both eyes. Atropine should be used until the accommodation is completely paralyzed, and all the resources of ophthalmology should be brought to bear to insure a perfect correction of the refraction. Were it not for the fact that many physicians are in the habit of sending patients to opticians to have their glasses fitted, it would be superfluous to comment further upon this point. It is incomprehensible that an intelligent and conscientious physician should give such advice to one of his patients. But it is done regularly by a very large number of our colleagues; more frequently, I believe, in large cities than in smaller communities. What criticism would be heaped upon ophthalmologists if, in a perfectly comparable and precisely as reasonable a way, they were to advise patients to consult a druggist for their various ailments! You would struggle to find words suitable for the expression of your indignation, I am sure. The welfare of thousands of patients depends more upon the adjustment of correct lenses to their eyes by a trained ophthalmologist who understands pathology as well as optics, than upon all the medicines in all the drug shops in this city.

In a comparatively small number of cases the constant use of proper lenses will subdue the heterotropia. In a certain percentage of cases relief may be obtained by the addition of exercises with the stereoscope to the treatment. In the majority of cases one or more operations will be required to complete the cure. When the strabismus is alternating and marked, both eyes must, as a rule, be operated upon. When the strabismus is unilateral, operation upon the deviating eye alone will usually prove sufficient. Division of an ocular muscle is, indeed, a small matter which any surgeon can accomplish without much effort. But that is not what we mean nowadays by the treatment of strabismus. The doctrine that, given convergent squint, for example, we must divide one internal rectus, and if that does not cure we must then divide the other, has resulted in so many examples of divergence that the tradition of those days of heroic ignorance still carries distrust of ophthalmic surgery to the minds of many patients and physicians. The truth is, each case is a problem by itself, to be studied with care and solved with cautious deliberation and sound judgment. In general terms we have to deal, on the one hand, with an overacting and often contractured muscle, and on the other with an overstretched and enfeebled muscle. The principle that ought to control operative interference is that we should weaken the one by judicious tenotomy, and strengthen the other by advancement of its insertion. Upward deviations, so often overlooked in convergent strabismus, must be corrected by "graduated" tenotomies, in order that the object sought may be attained.

The ideal result consists not only in reduction of the apparent squint, but in the establishment of normal binocular excursions of the eyeballs, and in restoration of binocular vision. It is readily comprehensible that such an ideal may not be attained by a *coup de théâtre*. That it may be attained by painstaking endeavor is one of the many achievements of modern ophthalmology.

Treatment of heterotropia should be inaugurated as soon as the child is old enough to wear glasses. Even operative interference need not be postponed, as some advise, until the sixth or seventh year; for it is frequently advantageous to begin such work at an earlier age. On the other hand, the fact that strabismus has persisted twenty or more years does not contraindicate an operation for its correction.

In conclusion, it may be said that heterotropia is vastly more difficult to deal with satisfactorily than are most cases of cataract, notwithstanding that the truth of the proposition depends upon one's conception of what constitutes a good result. Operations for heterotropia should not be undertaken by one who is not familiar with the anatomy, physiology, and pathology of the visual apparatus; and only those operators whose technique is characterized by scrupulous surgical cleanliness should be permitted to engage in such work.

58 West Fortieth Street.

Pathology of Puerperal Sepsis.—Alfred Bass (*Centralblatt für die Grenzgebiete der Medizin und Chirurgie*, November 22, 1900) draws the following conclusions: (1) The uterine cavity of healthy, unexamined pregnant women, and in most cases that of healthy post-partum patients, is free from pathogenic germs. (2) The question as to whether the vagina of healthy, unexamined, and non-irrigated pregnant women and post-partum cases is free from pathogenic bacteria, cannot at present be definitely answered, even though a series of observations point in this direction. (3) Auto-infection in any given case must be diagnosed only when every possibility of external infection has been excluded; then auto-infection, Ahlfeld's view notwithstanding, will be found as a very rare occurrence. (4) The following bacteria have been found as causes of puerperal sepsis: streptococcus pyogenes, staphylococcus pyogenes aureus and albus, bacterium coli commune, pneumococcus, typhoid and diphtheria bacilli, bacillus aerogenes capsulatus, and vibrion septique. (5) The portal of infection is most frequently the endometrium, especially the placental site, both of which are reached by the direct introduction as well as the rapid growth of the bacteria. (6) The way of infection is lymphatic or circulatory, seldom both at the same time. (7) A positive clinical differentiation of the various bacterial forms cannot be determined, though the anaërobic infection runs a milder and more favorable course. (8) The blood examination, with the exception of bacteriæmia, shows nothing characteristic for puerperal sepsis.

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STATE BOARD OF CHARITIES.

THERE is a bill before the legislature of this State which has for its object the abolition of the present State board of charities of twelve unpaid members and the substitution of one paid commissioner, with whom are to be associated two State officials selected by the governor. As the charities of the State have for the most part been organized under the advice and direction of the medical profession, and as the State board of charities was created with the aid of our profession to provide adequate State supervision of these institutions, the radical changes in the composition of the State board, which this bill contemplates, deserve our serious consideration. The reasons given for the proposed change are threefold, viz.: (1) the board is too large; (2) one commissioner can perform the duties of the board; (3) economy. These propositions can now be discussed intelligently, for we have before us the results of thirty-four years' work of the board. Let us first trace the organization of the present board. The plan is that of the famous English commission, which has done so much to elevate the charities of that country during the last half century, viz., an unpaid body of commissioners, distinguished for their philanthropy, having the power of visitation, inspection, and supervision. The State board at first consisted of one commissioner from each judicial district of the State, eight in number; subsequently, three additional members were appointed from New York City and one from Brooklyn, making the board consist, as at present, of twelve members. The advantages of an unpaid board of large size are threefold. First, the politician never seeks a position that has neither salary nor patronage; hence the board is entirely removed from the sphere of political influence. Second, a large board permits the different religious denominations interested in charitable institutions to be represented in its councils; Protestants, Catholics, and Jews are represented in the present board. Third, a large board secures the appointment of persons of different occupations who are specially adapted for the various duties devolving upon the board; in the present board there are four distinguished lawyers, one of whom was a former attorney-general, two physicians eminent in their profession, five business men of large experience, and one woman who has long devoted herself to the visitation of the charities of New York. The history of the board during the thirty-four years of its existence shows that its membership has always been specially adapted to its work, and at no time has there been a taint of politics or religious influence in any of its acts. The advantage to the board in having among its members two physicians, skilled in the management of institutions devoted to the care of the sick, is incalculable. Scarcely less important is the advice of its legal members, as the board is required to make rules and regulations which have the force of law. The value of the experience of business men and of a woman commissioner in the inspections required cannot be doubted.

It is alleged, second, that a single commissioner can perform the duties required of the board. We can best judge of the truth of that statement by reference to the duties imposed on the board by the constitution and the statutes. The constitution provides that the board "shall visit and inspect all institutions, whether State, county, municipal, incorporated or not incorporated, which are of a charitable, eleemosynary, correctional, or reformatory character," excepting prisons and institutions for the insane. The legislature in the State charities law provides that the board shall not only visit and inspect, but shall "maintain a general supervision" of these institutions. In addition, the law requires that the board shall aid in securing their just, humane, and economic administration; advise the officers in the performance of their duties; secure the erection of suitable buildings; approve or disapprove the organization and incorporation of all charitable institutions; investigate the management of charitable institutions as to the conduct and efficiency of the officers and the care and relief of the inmates; secure the best sanitary condition of buildings and grounds, and advise measures for the protection and preservation of the health of inmates; secure the establishment of such industrial, educational, and moral training in institutions having the care of children as is best suited to the needs of the inmates; investigate the condition of the poor seeking public aid, and advise measures for their relief; administer the laws providing for the care, support, and removal of State and alien poor, the support of Indian poor; collect statistical information in respect to the property, receipts, and expenditures of all institutions, and the number and condition of the inmates and of the poor receiving public relief. Investigations are almost constantly being made by individual commissioners in their districts of complaints of abuses in institutions under their immediate supervision. On such occasions the commissioner is empowered by law to issue compulsory process for the attendance of witnesses, to administer oaths and examine persons under oath, and to exercise the same powers in respect to such proceeding as referees appointed by the supreme court. The State board must approve of the incorporation of every institution which is of a charitable character; before the board takes action the commissioner of the district where the institution is to be located makes a thorough investigation of all the circumstances connected with the pro-

posed incorporation, and reports the facts to the board as the basis of its action. Finally, the recent dispensary act places all the dispensaries of the State under rules and regulations made by the State board, and requires that board to enforce them.

Can a single commissioner perform these duties as satisfactorily as a board of twelve members located in the several judicial districts of the State? This question must be left to the judgment of our legislators.

It is alleged, third, that a board with a single paid commissioner will be more economical than a large unpaid board. This is a proposition depending upon so many conditions and contingencies, such as the number and qualifications of employees, the frequency of visitation and inspections of institutions, etc., that an intelligent statement cannot be made. It cannot be doubted, however, that if the single commissioner is to do the work of the twelve commissioners, as that work is detailed in the annual reports of the board, the proposition is preposterous. He not only cannot do the amount of work done by the board, but being a man bred to a particular calling he cannot do the variety of work which is required. A large percentage of the charitable institutions should be often visited by a medical commissioner; many of the investigations should be conducted by a legal commissioner; certain examinations should be made by a woman commissioner; the business affairs of institutions should be investigated by business commissioners. If in place of the word economy we substitute the word efficiency, there can be no hesitation in deciding in favor of the large commission.

While, therefore, we are led to the conclusion that the reasons given for changing the large unpaid board to a single paid commissioner with two associates, already occupied with other official duties entirely foreign to those of supervising charitable institutions, are fallacious and ought not to prevail with the legislature, it is not difficult to detect dangers to our charities lurking in a board of supervision made up as provided in the bill before the legislature. Such a board cannot take that broad and comprehensive view required of a body whose duty is to supervise the management of institutions having a great variety of religious, social, educational, and financial interests. Nor can it have that freedom from the contamination of political partisanship so essential to the moral power which an independent board like the present exercises.

We trust the legislature will be governed in its action in this matter by the considerations which led the constitutional convention to make a State board of charities a permanent feature of our State government; its committee on charitable institutions made an exhaustive study of our system of administration of charity and of its supervision by the State board. In its final report of the clauses of the constitution relating to charitable institutions the committee enlarged upon the necessity of a closer State supervision, owing to their enormous increase and the vast amounts of money which they annually expended. The committee, therefore, not only greatly enlarged the powers and duties of the board, but recommended that it be made a permanent feature of the State administration, and that the existing board should be continued. In the discussion of the report which followed, the president, Hon. Joseph H. Choate, urged the adoption of the section reported, and stated that State supervision of charitable institutions should be so thorough that every dollar of money contributed to their support could be traced to its ultimate destination. The report was adopted by the convention and a State board of charities became a constitutional organization, and the existing board was continued with greatly increased powers and responsibilities. As there is no allegation that the body thus constituted has not, in every respect, performed wisely and promptly all the duties imposed upon it, both by the constitution and by the laws subsequently enacted, we urge the present legislature to proceed with great caution in the adoption of the proposed plan of reorganizing the State board of charities.

THE HEALTH OF HAVANA.

THE report of Major W. C. Gorgas, the chief sanitary officer of Havana, respecting the health of that town of somewhat evil repute, is decidedly encouraging. In the MEDICAL RECORD asseveration has frequently been made that, given thorough sanitary methods carried out on American lines and supervised by American experts, in the course of time Havana, from being regarded as perhaps the most-to-be-dreaded city in the world, will be looked upon in much the same light by the inhabitants of this hemisphere as are Nice and other towns on the Mediterranean coast by the people of Europe. Those persons from the United States who have occasion to visit Havana on pleasure or business, undertake the trip, as a rule, with a considerable degree of fear and trembling. Yellow fever is ever present in their minds. The report alluded to above will tend to allay much of this alarm, and the steady decrease in the death rate will assist in imparting a well-grounded confidence in the efforts of the sanitary staff to purify Havana. Although it is true that in 1900 yellow fever claimed three hundred and ten victims, while in the previous year (the first of American occupation) but one hundred and three succumbed to the disease, yet at the same time the fact must be taken into consideration that even in 1900 seven other maladies ranked above yellow fever from the standpoint of mortality. And further than this, Major Gorgas states that the death rate of Havana was less in 1900 than in any year in the preceding decade. In 1896 no fewer than 1,282 of its inhabitants died of yellow fever, the highest number in the eleven years of which notice is taken in the report. The list of deaths from various diseases is as follows: 851 from tuberculosis, 506 from diarrhœa and enteritis, 443 from organic heart troubles, 393 from meningitis, 357 from diseases of the arteries, 344 from malaria, and 319 from pneumonia. Typhoid, diphtheria, and smallpox figured inconspicuously as causes of death. During the past year the total cases of yellow fever numbered 1,244, of which 920 occurred

among Spaniards and 235 among Americans. Twenty-five per cent. of the Spaniards died, and 14.89 of the Americans—a result which may be put down to three causes: the superior stamina of the Americans, the better conditions under which they lived, and the more efficient nursing which the majority of them were able to procure. The Spaniards, who have been flocking into Havana at the rate of 2,500 per month, and who have suffered most severely from yellow fever, were for the most part a poverty-stricken, ill fed class, and consequently ill-adapted to withstand the attacks of the disease. The important fact stands out prominently that there were fewer deaths in Havana than in any of the past ten years. The increase of yellow fever in the year 1900 over that of the previous one may be indisputably attributed to the large Spanish immigration of the afore-mentioned period. The measures taken by the sanitary department of Havana and recorded in the report will convey a good idea of the magnitude of the task and of the energy displayed by its members. Of the 857 occupied blocks making up the city, 452 have had one or more cases of yellow fever in them. In these blocks there are 26,701 houses, of these 885 have shown evidence of infection by having had one or more cases. Of the 885 infected houses, 694 were successfully disinfected by one disinfection, as shown by the fact that they had only one case, 139 required two disinfections; that is, of the 885 infected houses all but 61 were freed from yellow fever after the second disinfection. That these exertions have met with their due reward is evidenced by the decreased death rate, which in 1900 was 24.40, while the lowest of the preceding ten years, that of 1893, was 30.66, and for the first year of American occupation, 1899, it was 33.67. In perusing the report, it will be observed that in the list of deaths by sex and nationalities, the large proportion of deaths among the white males is very noticeable. The explanation of this is that many of the inhabitants of Havana are foreigners, these foreigners being almost entirely males, which causes the male population of Havana to be greatly in excess of the female. Other interesting points contained in the report are that young persons are more susceptible to yellow fever than those of mature age; that the highest death percentages among the aliens were 47.05 for the Italians and 40 for the British, the American percentage being only 14.89; that native Cubans are not by any means wholly immune, but that negroes appear to be almost entirely so. Major Gorgas is fully entitled to the self-gratulatory remark that the work of his department has been eminently successful. A few more years of such work will undoubtedly make of Havana a city as salubrious as it is beautiful.

Atlantic City (N. J.) Medical Society.—At the annual meeting held February 6th, the following officers were elected for the ensuing year: *President*, Dr. Theodore Boysen, of Egg Harbor City; *Vice-President*, Dr. W. K. Darnall; *Secretary and Treasurer*, Dr. Theodore Senseman; *Reporter*, Dr. A. B. Shimer.

News of the Week.

Despatch of More Nurses to South Africa.—The secretary of state for war of Great Britain has announced that thirty nursing sisters of the Army Nursing Service Reserve are proceeding to South Africa.

Infant Mortality in France.—Attention is being drawn in France to the very serious infant mortality. The industrial and mining districts appear to suffer most, and a connection between the numerous deaths and the large consumption of alcohol is drawn.

Against Compulsory Vaccination.—A bill has again been introduced into the Pennsylvania legislature for the repeal of an act providing that all pupils who wish to enter the public schools must produce the certificate of a physician, stating that they have been successfully vaccinated. The Philadelphia bureau of health is opposed to the repeal and in favor of compulsory vaccination—as, in fact, are all others competent to form an unprejudiced opinion.

College of Physicians of Philadelphia.—At a stated meeting held February 6th, Dr. John Chalmers Da Costa read "A Memoir of the Late Sir James Paget." Dr. J. F. Schamberg and Dr. F. J. Frank Wallis exhibited wax models of cutaneous diseases, and made remarks upon the uses of wax models and their preparation. Dr. B. Alexander Randall read a paper entitled "Notes on Fifty Operations for Otitic Extradural Abscess." Dr. John B. Roberts presented a cast and a skiagraph from a case of so-called Smith's fracture of the radius, and a skiagraph from a case of so-called Bennett's fracture of the metacarpal bone of the thumb or "stave of the thumb." Dr. John H. Musser and Dr. H. R. Wharton read a paper entitled "Perforated Ulcer of the Stomach; Operation; Recovery."

Interesting Excavations.—Twenty-seven years ago Dr. Rudolph Herzog, of Tübingen, undertook excavations in the island of Cos, with a view of finding the temple of Æsculapius. At a depth of 80 cm. (thirty-two inches) he came upon a mosaic flooring which represented Orpheus charming the wild beasts. At a depth of 2.5 m. (nearly eight feet) in the neighborhood of the Church of Saint Anna he found two columns, and not far from them the remains of an aqueduct and a small statue of a young man. Great importance is attached to Dr. Herzog's discovery of the supposed temple of Æsculapius. The excavations are still in progress, and it is hoped that many antiquities will be unearthed.

Serum Mystery in Milan.—A curious case of poisonous serum is reported from Milan. Eight persons suffering from diphtheria died of tetanus after having undergone the orrhotherapic treatment. The authorities immediately closed the institute and prohibited the use of the serum throughout all Italy, pending an investigation by the health board of Milan and the council of hygiene in Rome. The directors of the institute in Milan called in all the flasks of serum which it had sent out, and destroyed all the materials for the different serums in process of

preparation. The case puzzles the professors. They don't know yet whether the serum was contaminated by the presence of microbes of tetanus, or whether by some unfortunate accident anti-tetanic serum was used in the diphtheria cases with fatal effect.

Percentage of Insanity Caused by Religion.—The report of the superintendent of the Central Hospital for the Insane, Indianapolis, has recently been submitted to the governor. The superintendent classifies the causes which led to the insanity of the persons committed during the year, and of the five hundred and seven nearly ten per cent. were made insane by reason of religious excitement. The report says that none of the latter was affected by hereditary insanity.

Seats for Female Shop Assistants.—The new French law as to the provision of seats for shop assistants came into force on January 1st. All shops and similar places where goods are offered for sale by a female staff must be provided in each room with a number of seats equal to that of the women there employed. This law differs from that which will come into force in Germany on April 1st, as the latter provides only for a sufficient number of seats. The English law of 1899 provides one seat for each three women employed.

Prevention of Malaria in Italy.—It is stated that in the budget of the Italian minister of the interior there will be included a sum of money for the prosecution of the campaign against malaria, which has already been begun in various parts of Italy under the influence of the experiments of Professors Celli and Grassi. This money will be devoted by the government to the carrying out of new experiments and the establishment of prizes. The Italian parliament has before it a bill for the prevention of malaria, by which it would be made compulsory on all employers of labor in malarial districts to make provision for the lodging of laborers with proper precautions against infection in accordance with the present state of knowledge.

Vital Statistics of London for 1899.—According to Mr. Shirley Murphy's report, the population of London is estimated at 4,568,689 and the recorded death rate per 1,000 was 19.3 for the past twelve months. This death rate corrected for age and sex distribution amounts to 21.1, which is the highest since 1895. The metropolis, however, still justifies its reputation as one of the most healthy large towns, when its death rate is compared with those of other English towns having populations which exceeded 200,000 persons at the census of 1891, for out of twelve such towns London had a lower death rate than any except Bristol, Bradford, Hull, and West Ham. The death rate from cancer during 1899 maintained the progressive increase which has been in evidence now for many years.

To Close the Front Door of Street Cars.—The MEDICAL RECORD has long strenuously urged that the front doors of street cars be kept shut. With its customary apathy, however, the New York public have endured the discomfort and incurred the danger to health involved in the custom without protest. Latterly the community has come to a sense of its foolishness in permitting the conductor to be the master of the situation, and it is now announced that the railroad commissioner of the assembly on Wednesday, February 13th, gave a hearing to Mr. Ritchie's bill to compel companies operating surface or elevated railroads in Greater New York to keep the forward or front door of each and every car in actual operation upon such railroads, closed and secured against the ingress or egress of passengers for a period of six months, from October 15th until April 15th. Mr. Ritchie has been fairly deluged with petitions in favor of the bill. Even the worm will turn.

Annual Report of Cooper Union Institution.—The annual report for 1900 of the receipts and expenditures of the Cooper Union shows that the total revenue was $104,282.86 and the expenditure $97,717.49, of which latter sum $22,639 was spent in reconstruction and new laboratories.

$100,000 for Tuberculosis Hospital.—On February 7th Senator Davis, of Buffalo, introduced in the Senate a bill appropriating $100,000 for the construction of buildings for the New York State hospital for the treatment of incipient pulmonary tuberculosis. The plans are to be prepared by the State architect. The buildings are to be large enough to accommodate at least one hundred patients besides officers, employees, and attendants. The additional sum of $20,000 is appropriated for the equipment and furnishing of the hospital. This amount will be available on January 1, 1902.

Mount Sinai Hospital.—The statistics of Mount Sinai Hospital, as presented in the annual report, show that the number of patients treated during the year was 3,352. Of this number 1,963 were discharged cured. Accident cases treated not included in the above were 592. More than four-fifths of the patients were treated gratuitously. In the dispensary there were 86,431 consultations and 77,663 prescriptions were filled. With regard to the new hospital building to be constructed at 101st Street and Madison Avenue, it was reported that of the $1,650,000 required all but $225,000 had been subscribed.

Anti-Cigarette Bill for Utah.—Representative John L. Belch, of San Pete County, has introduced in the Utah legislature a sweeping anti-cigarette bill providing for a fine of not less than $10 or more than $200 to be imposed on any person, firm, or corporation that sells, gives away, or otherwise disposes of cigarettes or cigarette paper to any person. no matter what his age may be. The bill also provides for the arrest and fining of persons smoking cigarettes.

Charity in 1900.—The amount given away for philanthropic purposes during the year just ended, says *Charities*, is reported to have reached $60,000,000. Almost exactly half of these donations have been made to educational institutions. Libraries have re-

ceived about $6,500,000, mostly for new buildings. Charities have received $13,400,000, an increase over the previous year; churches and church enterprises $8,800,000. Though this is a splendid record, it falls short of the donations and bequests of the previous year by $20,000,000.

Tuberculous Cases to be Quarantined. — The United States commissioner of immigration has decided that tuberculosis is a disease which may subject the patient to quarantine.

Decoration for Dr. von Holleben.—Emperor William has bestowed upon Dr. von Holleben, the German ambassador at Washington, the Crown Order of the First Class.

Took Poison for Headache.—Frank Fisher, a member of one of the most prominent families in Maryland, died at his residence in Baltimore on February 7th, from poison taken in mistake for a headache remedy.

Dr. Francis J. Quinlan.—A complimentary dinner and loving-cup were given to Dr. Francis J. Quinlan on Wednesday evening, February 8th, on his accession to the chair of laryngology at the New York Polyclinic, by the members of the Celtic Medical Society.

Bubonic Plague at Cape Town.—The appearance of bubonic plague at Cape Town seems likely to add to the difficulties of the situation in South Africa. The authorities there have decided upon a wholesale extermination of rats. Should the disease spread it will necessitate changes in the military arrangements.

Ophthalmological Section, New York Academy of Medicine.—At the annual election of the ophthalmological section of the New York Academy of Medicine, held on Monday evening, January 22d, the following officers were elected for the ensuing year: *Chairman*, Dr. John E. Weeks; *Secretary*, Dr. Henry H. Tyson.

Bill Against Christian Scientists.—A bill has been introduced in the Massachusetts legislature, which is aimed at faith curists, clairvoyants, and persons practising magnetic healing. The bill aims to have inserted in the present medical law (chapter 458 of 1894) a new section providing that "whoever, not being registered, shall advertise or hold himself out to the public as a healer of disease, or able to abolish disease or the symptoms of disease, or as competent to do surgery, or shall in any way treat or prescribe for the sick or injured for gain, shall be punished by a fine of not less than $100 or more than $500 for each offence, or by imprisonment in jail for three months, or both."

Congress on Tuberculosis.—The London *Practitioner* says: "The arrangements for the congress on tuberculosis, which is to open in London on July 22, 1901, are making steady progress. Among the subjects to be discussed in the section of medicine are the influence of climate on consumption and the extent to which cases can be grouped for treatment in certain climates, and the question of sanatoria. In the pathological section the following subjects are proposed for discussion: 1. The varieties of tuberculosis (morbid anatomy and histology). 2. The morphological and physiological variations of the bacillus tuberculosis and its relations: (*a*) to the other acid-fast bacilli; (*b*) to the ray fungus and other streptothrices. 3. The tissue changes and constitutional effects produced by the various constituents of tuberculosis. 4. The pathology of tuberculous conditions requiring surgical interference. 5. Mixed infections in tuberculosis. 6. The congenital factor in tuberculosis. There is every prospect of a meeting that will lead to useful practical results."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ended February 9, 1901. Passed Assistant Surgeon J. A. Guthrie detached from the *Franklin* and ordered to the *New York*, February 18th. Surgeon A. M. D. McCormick detached from the naval hospital, Norfolk, Va., and ordered to the Naval Academy, February 2d. Passed Assistant Surgeon R. Spear detached from the *Buffalo* on arrival at Cavite, and ordered to the *Isla de Luzon*. Assistant Surgeon W. B. Grove detached from the *Vermont* and ordered to the naval hospital, New York. Assistant Surgeon W. H. Bucher detached from the naval hospital, New York, and ordered to naval hospital, Norfolk, Va. Assistant Surgeon M. V. Stone detached from the *Isla de Luzon* and ordered to the *Buffalo*. Medical Inspector E. Z. Derr ordered to the Naval Academy, February 14th. Surgeon W. R. DuBose detached from the Naval Academy, February 13th, and ordered to the *Wisconsin*. Medical Inspector D. M. Bertolette ordered to the *New York*, February 16th.

Camps for Tuberculosis in Pennsylvania.—The forestry commissioner of the State of Pennsylvania, Dr. J. I. Rothrock, has devised a plan for the open-air treatment of pulmonary tuberculosis in impecunious patients. He proposes the establishment of camps on the various forest reservations of the State that may be suitably located for the purpose, where individuals suffering from pulmonary tuberculosis, but without means to seek climates better suited to their condition, may spend several months in the summer. The first camp is to be opened on a reservation in Clinton County, situated two thousand feet above the level of the sea. This reservation has an area of forty-five thousand acres and is contiguous to two other large reservations. The plan contemplates the erection of large tents, with permanent foundations and anchorages, so that they will withstand the effects of the most violent storms. The tents will be provided with heavy wooden floors and be placed fifteen feet apart. In front of each tent a covered wooden platform raised from the ground will be erected, so that the invalids may not on rainy days be prevented from taking their customary exercise. The intention is to permit those who care to avail themselves of the privilege to live as fully as possible out of doors.

The State will not be asked to contribute any money to the support of the enterprise, as sufficient has already been subscribed for the purpose from private sources. The patients will be furnished only shelter free of charge, but they will have to provide their own means of living. They will be required to adhere rigidly to the fish and game laws and all laws for the preservation of forests, including precautions in the use of fire. If the plan proves successful a second camp will be established on a forest reservation in Dauphin County, overlooking the Lykens Valley at an elevation of about fourteen hundred feet; and eventually similar camps would be established on every healthy forest reservation in the State.

Opposition to the Proposed Changes in the Lunacy Law.—The board of managers of the State Charities Aid Association, at a meeting held on February 8th, passed resolutions against senate bill No. 255 and assembly bill No. 396. These bills propose to repeal the existing provision of law which requires that the president of the State commission in lunacy must be a physician who has had five years' actual experience in the care and treatment of the insane and who has had experience in the management of institutions for the insane. The board of managers opposes the bills because the extensive powers possessed by the State commissioner in lunacy require the knowledge of the construction and equipment of buildings especially designed for the treatment and custody of the insane, experience of the requisite number and qualifications of physicians, nurses, and employees in State hospitals for the insane and of their proper salaries, a knowledge of the quantity and quality of food supplies to be allowed, and because the State commission in lunacy is practically a court of appeals, to which an appeal may be taken in behalf of any person who is forcibly detained in a private or public institution for the insane and who it is claimed is not insane.

Obituary Notes.—Dr. Charles A. Cowgill died at Philadelphia on February 2d, at the age of seventy-five years. He was born at Dover, Del., was graduated from the Pennsylvania Medical College in 1846, became a surgeon in the Union army during the War of the Rebellion, and served with distinction in many Southern hospitals. At the close of the war he went to Florida, and in 1876 he was appointed by the governor controller of the currency, a position that he held until 1880.

Dr. Henry S. Mellinger died at Creswell, Pa., on February 6th, at the age of seventy-nine years. He was graduated from Jefferson Medical College in 1845.

Dr. F. M. Bennett, a graduate of the Medical College of Virginia in 1878, died in Montgomery, W. Va. He was a member of the Medical Society of Virginia, member of the State board of health of West Virginia, president of the Fayette County (W.Va.) board of health, and medical examiner for the New York Life Insurance and other companies. He was an enthusiastic advocate of life insurance for medical men, and left an estate of nearly $12,000, which consisted almost entirely of insurance.

Progress of Medical Science.

New York Medical Journal, February 9, 1901.

Some Remarks on Epidural Hemorrhage without Fracture of the Skull and Report of a Case.—By J. S. Horsley. The patient, a man aged twenty-one years, was struck with a club. He was momentarily stunned, but soon picked himself up and felt all right. In an hour and a half he became stupid but could be roused. In twenty-four hours his condition seemed to call for operation. There was a small contusion on the left parietal eminence. The patient was in profound coma. His pupils were slightly contracted, were equal, and would not respond to light; his breathing was slow and stertorous but not very deep; the pulse was irregular and intermittent, and on the operating-table, before the clot was reached, would vary from 110 to 160; the temperature was 97° F. The right side of his body and face was paralyzed, and the left arm and leg were in constant jerking convulsions. He had lost control of the bladder and rectum. The left parietal eminence was trephined and a large blood clot found. There was no fracture of the skull, not even a fissure. The trephine opening was enlarged with rongeur forceps, and a quantity of blood, estimated as from four to six fluidounces, was removed by means of the finger, a uterine curette, and small gauze mops on artery forceps. The opening was a little above the middle of the clot, which measured an inch and a half deep at its centre and covered an area about four inches in diameter. Only slight bleeding occurred after the clots were broken up and removed; so the space was loosely filled with iodoform gauze and a rubber drainage tube inserted. A few silkworm-gut sutures were introduced and left untied. Recovery was uneventful, the patient being discharged about a month after operation.

A Case of Gastro-Intestinal Hemorrhage Caused by Fatty Degeneration of the Right Ventricle of the Heart.—By Charles Phelps. The patient was a man aged fifty-eight years, a free liver, who had accumulated much abdominal adipose tissue and had a small umbilical hernia which was operated on. Four days after operation he went into collapse, and during the last day of life had several hemorrhages from the bowel, succeeded by hemorrhage from the stomach, proving fatal. Autopsy showed in the liver the following changes: (1) Moderately extensive fatty infiltration. (2) A less decided cortical atrophy due to chronic passive congestion. (3) Marked obliterative arteriosclerosis (endoarteritis) of the small branches of the hepatic artery. (4) A moderate degree of chronic interstitial hepatitis. The lungs were small and nearly bloodless, but otherwise of normal appearance. The heart was of normal size. Its right ventricle was covered with a layer of fat at least three-fourths of an inch in thickness, and the wall of this ventricle was of no greater thickness than paper and almost pultaceous in character. The left side of the heart was less encumbered by fatty deposit, and had suffered less fatty degeneration of its fibre. The left ventricle was firmly contracted and empty of blood; the right ventricle contained blood in small amount. The extent to which the cirrhotic disease in the liver had advanced was obviously insufficient to account for the fatal gastro-intestinal hemorrhage; but the condition of the heart seems to afford adequate explanation.

Auto-Intoxication from Renal Insufficiency with and without Diseased Kidneys, with Reports of Some Remarkable Cases.—By J. T. Jelks. The author believes that uræmia may occur in persons with perfectly sound kidneys which are imperfectly eliminating products of body waste. If urea or a kindred product becomes stored in the body, one of several things may occur: a general condition of uricacidæmia, manifesting itself in vertigo, contracted capillaries, arteriosclerosis, cold skin, especially of the extremities, so-called sick headache, which is now recognized as uric-acid headache; "the blues" or melancholia, palpitation of the heart, interrupted heart beat, various forms of skin diseases, rheumatism, gout, endocarditis, pericarditis, myocarditis, hysteria, epilepsy, and genuine insanity. Various clinical histories illustrate the foregoing statements. He closes by saying that those patients who are suffering from renal insufficiency because of nephritis usually die, not from the nephritis, but from the cardiac complications, namely, the hypertrophy and subsequent dilatation, with which, sooner or later, all these cases are afflicted. Hence the main indications for treatment are connected with the heart. If it is pounding because of capillary contraction or arteriosclerosis, nitroglycerin, opium, chloral hydrate, or iodide of sodium should be given to overcome the peripheral resistance. Careful watch should be kept on the heart, and if dilatation is threatened, digitalis infusion or digitalin should be prescribed, with rest in bed.

A Clinical Analysis of Digitalis and its Preparations, Calling Special Attention to the Glucosides and More Especially to Digitoxin.—By L. L. Solomon. The author makes a plea for a more careful study of the various principles of this drug which he enumerates and the action of which he compares. He says that when we order this remedy we should have very definite conceptions as to just what effect we desire, whether an immediate or a slow result, a cardiac action, a diuretic action, or a combination of the latter two. On this decision should depend the choice of a particular preparation. Concerning digitoxin he says that as a diuretic it is superior to digitalin, since it actually dilates the renal vessels while stimulating the heart. Furthermore, its action is prompter and more certain than that of digitalin. It manifests its effects oftentimes within twelve hours, and is less liable to cumulative action than digitalin. Because of the uniformity of its action and of its energy and strength, no doubt digitoxin has the brightest future of all its sister glucosides. A series of fourteen cases illustrates the therapeutic points made in the paper. A solution of digitoxin is liable to precipitate on coming in contact with the secretions of the body. The following solution has, after experimentation, been found to be stable and will not precipitate upon contact with blood serum, water, or sodium-chloride solution: ℞ Digitoxin, gr. $\frac{1}{120}$; chloroform, ♏ iss.; alcohol at ninety per cent., ♏ xxiii.; water sufficient to make ℥ ss. M.

The Closing of Cutaneous Wounds without Suture.—Howard Lilienthal commends the use of sutures for the deeper layers of tissue, but in his operations of recent years the wound in the skin has been left covered merely with sterilized gutta-percha tissue until healing was well under way, when the edges have been approximated with strips of india-rubber zinc plaster twenty per cent. Still more recently he has applied these plasters at the time of operation, and has had good results. He finds the trade preparation called sterilized Z.O. strips useful for the purpose indicated. Before applying the plaster one must be careful to check all hemorrhage and to dry the skin thoroughly with alcohol or ether. The strips are then laid on while an assistant adjusts the edges of the wound. The method should not be used when there is tension, but only when the wound can be closed without force. It is perfectly applicable to the partial closure of wounds when drainage is employed. The strips should be removed on the fifth or sixth day by loosening both ends and drawing them toward the wound.

Tracheal Injections in the Treatment of Pulmonary Tuberculosis.—By T. Morris Murray. The author has used injections in thirteen cases. Cough and expectoration were lessened, temperature was lowered, and the general condition of the patient improved. He prefers Mundell's solution of the essences of thyme, eucalyptus, and cinnamon, of each 5 gm. in sterilized olive oil, 100 c.c. Each injection should consist of 3 c.c.

Amœbic Abscesses of the Liver, with a Report of Four Cases.—By C. R. Darnall.

Intestinal Obstruction.—By L. A. Hering.

Philadelphia Medical Journal, February 9, 1901.

A Case of Cocaine Habit of Ten Months' Duration Treated by Complete and Immediate Withdrawal of the Drug.—George William Norris tabulates the following facts: (1) Cocainism is the most insidious of all drug habits. The use of the drug being unaccompanied by disagreeable after-affects—headache, nausea, vomiting, etc., which are met with after the ingestion of opium or alcohol—the vice is readily and rapidly established. (2) Cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol. (3) Cocaine is eventually tolerated by the system in huge doses. (One case is recorded in which gr. lx. were daily consumed.) (4) A relatively large number of habitués are found in the medical and dental professions. (It is said thirty per cent.) (5) The continued indulgence in cocaine invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration. (6) The smallest fatal dose on record is gr. ½ hypodermically. (7) While many cases of acute intoxication are being continually reported, there are relatively few fatal cases. The majority of such are the result of large doses injected into the urethra and bladder. (8) The amount of cocaine sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes is becoming proportionately more frequent.

Exophthalmic Goitre of Syphilitic Origin.—R. Abrahams, after reviewing several cases, makes the following comments: (1) The occurrence of exophthalmic goitre in three undoubted syphilitics cannot be regarded as either an accident or coincident. (2) The old dictum which relegates the origin of exophthalmic goitre to a perturbance or disturbance in the cervical sympathetic system should receive attention only after the existence of syphilis, present or past, is absolutely excluded. (3) Those cases which yield to mercury or iodides should be favorably looked upon as being of syphilitic origin. (4) Cases in which all the orthodox remedies fail should be put to the test of specific treatment. (5) Cases which are characterized by gangrene of the extremities, various pigmentations of the skin, nocturnal headaches, or other suspicious luetic symptoms, should receive the benefit of specific remedies.

Case of Blindness from Sympathetic Ophthalmitis, Complicated with Secondary Glaucoma, Restoration of Vision by Two Iridectomies, One with Extraction of Lens, an Iridectomy, and Tyrrell's Operation of Drilling.—By Charles A. Oliver.

Report of a Case of Enormous Ventral Hernia, of a Case of Dermoid Cyst of the Ovary, and of a Case of Profound Shock following a Crush of the Arm.—By Francis T. Stewart.

The Surgical Importance of Apparently Simple Carbuncles and Furuncles of the Upper Lip.—By Charles A. Powers.

Sudden Death in Pleurisy, with Report of a Case.—By Charles Lewis Allen.

A Case of Unilateral Progressive Ascending Paralysis.—By William G. Spiller.

The Treatment of Postoperative Hernia.—By Irving S. Haynes.

On the Dietetic Management of Typhoid Fever.—By David Inglis.

Cavite Fever.—By B. L. Wright.

Medical News, February 9, 1901.

Remarks upon the Construction of Amputation Stumps, with a Report of Two Cases of Amputation by the Osteoplastic Method of Bier.—Alexis V. Moschcowitz states that every amputation stump must (1) be able to support the weight of the body; (2) be painless; (3) be no more liable to local disease than any other portion of the body; (4) disfigure its owner as little as is commensurate with the nature of the ailment. The technique of amputation of the leg is taken as a prototype: (1) A large anterior flap, with its corners rounded, is formed, its base occupying somewhat more than half of the circumference of the leg. (2) The next step is the formation of the osteoplastic flap. (3) Ablation of the leg; the method of doing it depending upon the length of the anterior flap. (4) Ligation of the bleeding vessels. (5) The osteoplastic flap is turned over the divided surfaces of the bones, and its periosteal fringe is sutured to the periosteum of the tibia and fibula, or to fasciæ and tendons in its proximity. (6) Suturing of the skin. The author believes that Bier's method of amputation is the operation *par excellence* in all cases, with the exception, perhaps, of diabetic and senile gangrene.

Parasites in the Blood.—Leon T. Le Wald writes that of the true parasites which are found in the general systemic circulation, there are two of great importance: (1) The filaria sanguinis hominis, causing the disease known as filariasis. There are three varieties of this parasite, viz., filaria nocturna, filaria diurna, and filaria perstans, the terms indicating their special characteristics. The transmission of this parasite by means of the mosquito has been established. (2) The plasmodium malariæ (tertian, quartan, and æstivo-autumnal). The parasite, after developing in the stomach of the mosquito, breaks up into small bodies which pass to the salivary glands and thus into the proboscis of the mosquito. The mosquito thus acts not only as the definite host of the malarial parasite, but also as the transmitting agent.

General Remarks on the Combination of Ether (Fifty-seven Parts) and Chloroform (Forty-three Parts), Known as the M. S. Mixture.—Edward Adams sums up the advantages of the M. S. Mixture as follows: (1) The stage of excitement and struggling are not marked. (2) It requires a short time to get a patient under—five or ten minutes. (3) Very little of the anæsthetic is required. On an average about 40 c.c. an hour are used. (4) It is a comparatively safe anæsthetic. (5) It is very pleasant to take. (6) The after-effects marked are not. (7) Patients recover quickly. (8) It can be used in nearly every condition in which either chloroform or ether is employed.

A Report of Some Cases of Abdominnal Surgery with Remarks on the Diagnosis of Carcinoma of the Cæcum and the Surgical Treatment of Carcinoma of the Liver and the Gall Bladder.—By Charles Greene Cumston.

Some Unusual Cases of Infectious Diseases: a Clinical Report.—By Delancey Rochester.

Journal of the American Medical Ass'n, Feb. 9, 1901.

Movable Kidney, from the Standpoint of the General Practitioner.—Alex. Marcy says that the treatment of this

condition may be divided into medical, mechanical, and surgical: (1) The medical treatment would consist in the use of such measures as would improve the general health of the patient, together with the accumulation of surplus fat. (2) The mechanical treatment consists in the use of elastic bandages, sometimes fitted with a special pad, called a kidney pad, and in some cases this device relieves the symptoms, but probably never keeps the kidney in its proper place. (3) The ideal treatment is surgical, and with the present methods is attended by practically no mortality when it is not complicated by other abnormal conditions. The author strongly urges that every patient weighing less than one hundred and twenty pounds who complains of general nervous symptoms, indigestion, palpitation, etc., be carefully examined for movable kidney. If this condition is not revealed by the first examination, the search should not be discontinued till after several trials have been made.

Preventive Treatment of Migraine.—E. W. Mitchell in discussing this subject speaks of the correction of ocular defects, uterine and menstrual disorders, removal of adenoid growths, and the correction of vicious habits and hygienic sins. The writer believes that the essential in preventive treatment is the withdrawal of the red meats from the diet. The outline of treatment is as follows: (1) Red meats are to be rigidly excluded. Water may be taken very freely. Meals should be regular and moderate. (2) The medicinal treatment aims to regulate the bowels, to promote intestinal antisepsis, and to stimulate the liver. The same end may be attained by various means. The various salicylates are useful. An occasional mercurial is required. (3) As much outdoor exercise is to be taken as possible. Hot baths two or three times a week are indicated, and in some cases the morning cold sponge bath.

Treatment of Menorrhagia of Pelvic Origin by Electricity.—G. Betton Massey believes that electricity offers a most valuable remedy for the permanent cure of persistent menorrhagia even of the most severe forms. The method may be carried out in office practice, is free from risk to already congested appendages, and may be relied on to cure when conjoined with intelligent regulation of the general health and habits of the patient.

Ovulation and Menstruation Not Interdependent Functions.—C. C. Thayer speaks of ovulation without menstruation, menstruation without ovulation, and conception without menstruation. He concludes that menstruation is not an integral part of ovulation, nor an absolute factor of conception, though usually concurrent and attendant.

Cases Illustrating the Value of Rectal Injections of Salt Solution in Hemorrhage and Threatened Collapse.—By T. B. Greenley.

Analgesia from Spinal Subarachnoidean Cocainization.—By John B. Murphy.

The Technique of Bloodless Work.—By Robert H. M. Dawbarn.

Some Notes on the Climatology of Arizona.—By William Duffield.

Physiological Resuscitation of the Still-Born.—By Daniel Lichty.

Clinical Report: Case of Ectopic Pregnancy.—By J. Henry Barbat.

Rheumatic Diseases of the Eye.—By H. W. Woodruff.

Dysmenorrhœa.—By George Tucker Harrison.

Boston Medical and Surgical Journal, February 7, 1901.

Gonorrhœal Infection.—Benjamin Tenney thinks that specialists have greatly overestimated the number of persons suffering from this disease. His present impression is that twenty per cent. of the males and five per cent. of the females of the community may have become infected, but certainly not more. He has never had a gonorrhœal patient who was a total abstainer, and rarely one who did not admit an excess of alcohol at the time of his infection. This, of course, can be reasoned out in two ways, but the author cannot help believing that alcohol in the circulation or in the urine affects the urethral epithelium and partially destroys the normal resisting-power of the cells. Abbott's experiments on rabbits prove that alcoholized animals show the effects of inoculation with bacteria earlier than the non-alcoholized, and in the case of the streptococcus inoculation the lesions produced are more pronounced. We know clinically that a declining gonorrhœa takes a fresh start if the patient neglect the advice to "let rum alone."

Treatment of Acute Gonorrhœa.—Franklin G. Balch says that for the abortive treatment he has come to believe in only three remedies used as injections: nitrate of silver, permanganate of potassium, and protargol. The last-named is a safe injection for the patient to use himself. A one-half-per-cent. solution is strong enough to begin with, and if there is much scalding this should be diluted. An ordinary two-drachm syringe should be used, and the injection retained for at least three minutes. This should be repeated three times a day for the first ten days, and then at longer intervals until a cure is effected. If the patient presents himself only after the disease has been fully developed for several days, there is no use trying to abort the trouble. It is usually safest to give no local treatment, but to rely on medicines. As the gonococcus grows in an alkaline medium, drugs to render the urine alkaline would seem to be contraindicated. Two quarts of water a day should be drunk. Compound salol capsules are good, taken after meals and before going to bed. A simple diet is best, without alcohol, or peppery foods or drinks.

The Bacterial Diagnosis of the Gonococcus.—Oscar Richardson gives minute directions for the detection of the gonococcus. The necessity of rigidly subjecting the suspected gonocci, obtained in cultures, to certain criteria described, is emphasized by a recent observation of a case of acute arthritis of the knee, clinically of gonorrhœal origin. Cover-glass examination of the exudate showed Gram decolorizing cocci inside of the pus cells, which were regarded at the time as gonococci. At the time the pathologist had no doubt that the case was one of gonorrhœal arthritis. The cultures, however, from the exudate in the knee showed an organism which had a considerable resemblance to the gonococcus, so much so that, only after it had been cultivated through a number of generations and had been carefully subjected to various tests, it was declared not to be the gonococcus.

Gonorrhœal Prostatitis.—John Babst Blake has not been able to obtain accurate statistics of the frequency of this affection, but thinks that seventy per cent., as given by Montagnon and Eraud, is not excessive. A well-defined abscess, however, is infrequent. The beginning of congestive prostatitis may be suspected when the symptoms of an existing posterior gonorrhœa increase, and pain and a feeling of soreness and weight deep in the perineum become especially prominent. The patient should be put to bed, the bowels moved by salines, the diet made bland, and hot rectal injections of moderate size given and retained. Opium may be given in suppositories and oleum santali will modify the accompanying cystitis. European writers recommend Finger's hollow bulbous rectal tube, through which flows a continuous stream of cold water.

When is a Gonorrhœa Cured?—Paul Thorndike puts the question and says that it cannot be answered. Before it is safe to marry, all acute cases should be freed from all traces of discharge, both that visible at the meatus and that showing as shreds in the urine, and should remain thus free for a period of months. In the chronic cases the cause of the discharge, whether it be a stricture already formed, granulating patches, areas untreated and uncured in the posterior urethra, involvement of the seminal vesicles, etc., must be sought for and treated and cured. This can usually be done, but often takes a number of months for its accomplishment. Having been so accomplished, the patient must pass through a period of probation similar to the one mentioned above.

Gonorrhœa in Women.—W. L. Burrage says that the majority of authors give the following as the most frequent seats of chronic gonorrhœa in the order of frequency: urethra, cervical canal, Bartholini's glands, uterus, tubes, vulva, vagina, and bladder and rectum. Clinically, acute gonorrhœa in the female is much less frequent than in the male. The disease is not always preceded by a period of acute invasion, and for this reason gonorrhœa in women is often overlooked. It is difficult to say when a woman is entirely free from the danger of transmitting gonorrhœa, but we may consider that she is cured when there are no signs of chronic inflammation about the uterine organs, and when two or more negative cultures have been taken from the urethra and cervical canal.

Treatment of Chronic Gonorrhœa.—Gardner W. Allen says that the objects to be aimed at are the removal of fibrous deposits, the restoration of the rigid and thickened mucous membrane to approximately its original soft and elastic condition, and the cleaning out of diseased follicles and glands. The first principle of this treatment is dilatation of the anterior urethra by means of the four-branched dilators of Kollmann. After dilatation the local application of various remedies is effected by means of injections or irrigations, and later the urethra is inspected through the endoscope and local applications are made under control of the eye to such points as require them. The author describes the course of procedure in detail.

Gonorrhœal Conjunctivitis.—Charles H. Williams in ophthalmia neonatorum irrigates the eye with a warm saturated solution of boric acid, used in quantities of half a pint to a pint at a time by means of a small fountain syringe and a tube provided with a glass nozzle with its end drawn out to a tube not over one-eighth of an inch in di-

ameter, the end carefully rounded in the flame. This should be cautiously inserted between the eyelids with the end carefully turned away from the cornea toward the upper part of the conjunctival sac and moved across the lid so that the discharge may be removed from the whole of the conjunctival sac by the warm stream of irrigating fluid. The author gives further directions as to treatment.

The Seminal Vesicles in Gonorrhœa.—Charles L. Scudder considers that acute seminal vesiculitis is extremely rare. At the outset, measures directed toward checking the inflammatory process should be taken. If pus is present it should be evacuated by incision and drainage through the rectum or the perineum. Chronic seminal vesiculitis causes not inflammatory but functional or neurotic symptoms. The treatment by massage of the vesicles should be instituted before extirpation is resorted to. The author describes the inguinal, perineal, and sacral operations.

The Lancet, February 2, 1901.

The Hemorrhagic Diathesis in Typhoid Fever and its Relationship to Purpuric Conditions in General.—By A. G. Nichols and G. E. Learmouth. The term "hemorrhagic" in this connection should be restricted to those cases in which multiple hemorrhages take place, and which are evidenced clinically by purpuric eruptions into the skin, oozing of blood from the mucous membranes, epistaxis, hæmoptysis, hæmatemesis, melæna, or metrorrhagia. The authors have made a careful bacteriological and histological examination of the various tissues in this class of cases. In regard to classification they think that in the light of our present knowledge it would be better to speak (1) of an "essential" purpura hæmorrhagica, including under this term morbus maculosus, morbus Werlhofii, purpura simplex, peliosis rheumatica, and purpura urticans. Whether scurvy (purpura scorbutica) should be included in this class is perhaps doubtful, since "essential" purpura is a sporadic disease, while scurvy is apt to be epidemic and endemic. Some observers, however, would place scurvy with the others in the "infective" category. Babes particularly has described a bacillus which he thinks is the cause, but other observers have obtained negative results. Hæmophilia certainly should not be included in the first group, since it is characterized by family and hereditary peculiarities. It might be termed a "normal" condition for certain individuals and is not to be regarded as a true pathological state, since it is a permanent and not an incidental or transient condition. The second group might be termed (2) "symptomatic purpura" and would include all those cases which are met with in the course of the infective fevers, such as typhoid fever, variola, measles, scarlet fever, pest, yellow fever, sepsis, acute yellow atrophy, icterus gravis, etc. A third group might be termed (3) "cachectic," including forms found in pernicious anæmia, leukæmia, carcinoma, Bright's disease, etc. A fourth group is (4) the toxic purpuras, such as are met with in certain forms of poisoning (snake-bite, phosphorus, copaiba, antipyrin, etc.). A fifth form is that found in (5) disseminated sarcomatosis, to which attention has been called by Martin and Hamilton; here in one case which they studied there was actual sarcomatous invasion of the internal coat of the vessels and in another emboli of sarcoma cells were found. Whether these were the only factors or not seemed to be doubtful. The first two groups, and possibly the third, would fall under the head of "infectious" purpura.

Considerations Touching the Pathology and Relations of Diabetes.—First Baillie lecture by W. H. Dickinson. The author mentions among the relations between this disease and the nervous system the occurrence of phosphaturia, essentially the phosphate of lime. In severe and advanced conditions of diabetes the increase of urinary lime, practically all in the form of phosphates, may be termed extraordinary, since it is unexampled in any other disease. He has placed on record a case in which the daily excretion of lime exceeded 3 gm., another in which it exceeded 2 gm., and several in which it approached 1 gm. The average of the urinary lime in health, according to Dr. Parkes, is 0.26 gm. Call it 0.3 gm. by way of being liberal. The maximum of Dickinson's cases of diabetes was 3.38 gm., eleven times the average of health. The calcareous increase in these cases does not wholly depend on the amount of urine, for it is out of proportion to the diuresis. To take a single example—a woman passed in one day 4,980 c.c. of urine, which was found to contain 3.38 gm. of lime. Supposing that this urine contained only the normal percentage of lime, this would amount for the whole quantity of urine to under 1 gm. Thus the lime is increased out of proportion to the urine. Having regard to the affinity which exists between lime and sugar, it may reasonably be suspected that the superabundance of lime in diabetic urine may depend on the attraction of the sugar for the lime, as a consequence of which the sugar carries out the lime with it. But the facts give no encouragement to this supposition. He found that a patient with severe diabetes under strict diabetic diet passed on an average of two days 3.28 gm. of lime. When the urinary sugar was largely increased by the addition of sugar to the diet the lime amounted to 2.76 gm. With more sugar there was less lime—as if the one did not directly depend on the other. Much has yet to be learned concerning the connection of the nervous system with diabetes; but, having regard to the undoubted relation of the excessive secretion of the earthy phosphates with certain conditions of cerebral irritation, it cannot but be suggested as a provisional hypothesis that the extravagant exit of phosphate of lime in some cases of diabetes has to do with the state of the nervous system in this disease.

Selenium Compounds as Factors in the Recent Beer-Poisoning Epidemic.—F. W. Tunnicliffe and O. Rosenheim note the great discrepancy between the amount of arsenic taken and the severity of the symptoms produced thereby. They believe that some other substance thus far undetected has found its way into the beer along with the arsenic. In searching for such a substance their attention was directed to the possible impurities of sulphuric acid used in the handling of arsenical ores other than arsenic but exerting a physiological action similar to arsenic. Selenium and thallium at once suggested themselves. Their experiments have led them to believe that compounds of selenium have played a definite rôle in the recent beer-poisoning epidemic. This rôle, however, is subsidiary to that of arsenic. The presence of selenium in the beer would explain many anomalous cases, among which may be numbered those in which the dose of arsenic taken was very small, those in which arsenic could not be found in the excretion, and those also (notably two cases of infants at the breast) in which no arsenic could be found in the milk. In the absence of extensive pharmacological investigation upon the higher animals it is impossible to say to what extent the presence of selenium with the arsenic might modify the symptom complex produced by this latter poison. The most important conclusion, however, which they would draw from their investigations relates not to the past but to the future. In view of the poisonous action of selenium it is absolutely essential that all sulphuric acids used in the manufacture of food products should not only be arsenic but also selenium free.

Filatow's Spots in Morbilli.—By L. Falkener. These spots are now generally known (at least in this country) as Koplik's spots. Falkener has studied the records of seventy-six cases at a period in the disease when one could reasonably expect the spots to be present. From an examination of his figures it appears that whenever his cases were examined on the day of the first appearance of the definite onset of the exanthem (as apart from premonitory rashes) and the day preceding it these specific spots of Filatow were invariably present. It will also be noticed that the incidence for cases examined on either the second day of the exanthem or the second day preceding the exanthem was seventy-five per cent.; while for those on the third day of the exanthem or the third day preceding it the incidence was fifty per cent. Among his cases, whenever Filatow's spots have persisted up to the third day of the exanthem, they have nearly always by that time become very much diminished in numbers, and frequently in definition; while on the fourth and fifth days they were often barely distinguishable, and were in several cases far from typical in appearance. He has never seen them later than the fifth day. In most cases they disappeared earlier than the exanthem, but in one or two cases both spots and exanthem disappeared simultaneously. In every one of the seventy-six cases the spots were present.

An Intraperitoneal Method for Radical Cure of Inguinal Hernia.—By T. H. Wells. The different steps of the operation are enumerated in the following propositions: (1) Make an incision two and a half inches long in the linea semilunaris, ending over the external abdominal ring and passing through skin, fat, and superficial and deep fascia; (2) deepen the upper one and a half inches through the abdominal muscles, transversalis fascia, and subperitoneal fat, and having arrested all hemorrhage open the peritoneal cavity; (3) explore the sac with the finger and remove any gut; (4) insert forceps along the palmar surface of the finger, seize the apex of the sac and invert it, bringing it out into the upper wound; (5) stitch the sac, after giving it a couple of twists on itself to obliterate its cavity, to the peritoneum; (6) stitch up the external abdominal ring; and (7) close the wound by bringing the structures layer by layer into accurate apposition.

The Treatment of Typhoid Fever.—By F. J. Smith. The author presents a well-considered set of rules for the treatment of the disease, though nothing new is brought forward. He is disposed to be quite liberal in the matter of diet. The patient should never be awakened to be fed. As a means of relieving pyrexia he prefers tepid sponging to cold bathing. The condition of the abdomen should be

carefully watched and tested at every visit, and at the first appearance of tympanites all food should be stopped, though water should be continued. To relieve tympanites he advises the administration of two drachms of sodium sulphate every two hours until the bowels are moving freely.

Laparotomy and Cleansing of the Peritoneum in a Case of Tuberculous Peritonitis.—By G. W. Davis.

A Case of Primary Carcinoma of the Vermiform Appendix.—By T. R. C. Whipham.

Femoral Hernia.—Abstract of clinical lecture by W. H. Battle.

Reflections on Therapeutics.—By Harry Campbell.

British Medical Journal, February 2, 1901.

Remarks on a Case of Retroperitoneal Cyst.—John Ward Cousins gives the following history of a case: The patient was the mother of two children; her abdomen had been increasing in size for many months and she thought she was pregnant; she had suffered no pain nor was there any disturbance in health. The swelling of the abdomen extended from three inches above the umbilicus to the pubes. The long axis ran downward obliquely to the left, and a distinct sulcus was situated over the umbilicus. The walls of the abdomen were elastic and moved freely on the tumor, and its outline was clearly discernible. Fluctuation was very distinct in all directions. Resonance on percussion was well marked in the left flank and over both inguinal regions. Laparotomy was performed and the surfaces of the cyst when exposed were found to be continuous with the inferior layer of the mesocolon, the descending colon presented on the left, and the small intestines overlapped it below. The tumor extended backward toward the centre of the abdomen, and the vessels in every direction were much distended. Six pints of a clear fluid were removed by aspiration and the operation was completed by fixing the cyst to the lower angle of the wound and inserting a glass drainage tube. This was in 1897. Early last year the patient was seen again and was in good health.

Nervous Hyperpyrexia following Parturition.—Howard Distin emphasizes these interesting features in a case of this kind: (1) The force used to deliver the child—considerable traction being necessary—without the help of anæsthesia, and with little or no immediate shock to the patient. (2) The prolonged period which elapsed between labor and the advent of pyrexia, elevation of temperature being first noticed on the sixth day after labor. (3) The complete absence of any symptoms pointing to septicity, the lochia continuing normal and the abdomen free from tenderness throughout. (4) The long period (ten days) during which the fever continued, producing very little ill-effect on the general condition of the patient. (5) The occurrence of a rigor after each of the uterine douches, and at no other time. The erratic temperature was considered to be of purely nervous origin.

Strangulated Femoral Hernia: Successful Primary Resection of the Damaged Gut.—Henry Betham Robinson reports an interesting case, and from the technique employed he draws attention to the following points: (1) The accurate apposition of the mesenteric border of the cut ends was attained by the stitch similarly used by Maunsell in his method of resection. (2) The adoption of a continuous Lembert's suture whereby the sutured edges are more evenly supported and much time is saved. (3) The resection *in situ*, instead of making an abdominal incision, withdrawing the damaged gut, and running the risk of fouling the peritoneal cavity. Should any difficulty be met with in replacing the bowel, the opening can be enlarged and then resutured without causing any weakening in the lower part of the abdominal wall.

Carcinoma of the Liver at the Age of Twenty-four Years.—Daniel McKenzie reports this case, the remarkable feature of which is the youth of the patient when the illness commenced. The diagnosis of carcinoma as opposed to sarcoma was arrived at upon consideration of the chronic afebrile character of the illness and the bony, hard, and general enlargement of the liver.

Some Remarks on the Radical Cure of Hernia, Based on One Hundred and Ninety Cases of Operation for the Cure of Oblique Inguinal Hernia.—By A. R. Anderson.

Remarks on Aneurism of the Coronary Arteries of the Heart; with Notes of Two Cases.—By T. Wardrop Griffith.

Laparotomy for Intestinal Obstruction: Removal of a Large Vermiform Appendix.—By George Thomas Beatson.

A Clinical Lecture on the Complications of Gastric Ulcer and their Treatment.—By A. W. Mayo Robson.

A Case Illustrating the Relief of Chronic Gastric Disease by Gastro-Enterostomy.—By Arthur E. Barker.

Foreign Bodies in the Rectum.—By W. W. Abbot Anderson.

Two Cases of Varicella.—By Valentine Matthews.

A Case of Acromegaly.—By T. R. Atkinson.

French Journals.

Proof of the Presence of Sugar in Children.—P. Nobécourt states that in spite of the quantity of lactose ingested every day by the child in its milk, the condition of lactosuria cannot be determined in the normal state. Nevertheless, this condition is not rare in certain pathological states. In the normal condition of the child it is necessary to give large doses of lactose in order to cause its appearance in the urine. The infant organism is physiologically capable of caring for large quantities of glucose. Thus the appearance of an alimentary glycosuria has a certain value. In the gastro-enteritis of nurslings, E. Terrien has determined recently that glycosuria is observed in about half the cases with doses of glucose less than 4 gm. Unfortunately, this writer does not indicate whether the infections concerned are acute, temporary or prolonged, subacute or chronic. As to subcutaneous injections of glucose, G. Finizzio injected under the skin 2.50 gm. of glucose per kilogram of body weight and did not see any resulting glycosuria. The investigations should be carried on with great care, for it is not rare to see a temporary rise of temperature following these injections. In the actual state of our knowledge, the proof of alimentary lactosuria and saccharosuria does not appear to give important data relative to the functioning of the intestinal mucosa. On the contrary, the proof of alimentary glycosuria, whether the glucose be absorbed by the digestive tract or subcutaneously, has already furnished interesting results, and allows in a certain measure the appreciation of the functional activity of the liver and the tissues.—*La Presse Médicale*, January 12, 1901.

The Treatment of Acute Articular Rheumatism by Massage with Petroleum.—Hector Sarafidis concludes that massage with petroleum is the best treatment for acute articular rheumatism, for the following reasons: (1) The treatment demands very little expense, the oil being very cheap. (2) The treatment can be used as well in the country, far from a pharmacy, as in the city. (3) During the treatment, the patient is not surfeited with drugs, as the petroleum is sufficient to cure the rheumatism. (4) The treatment by petroleum can be used by everybody, for it can never cause any trouble. (5) Its application lowers the temperature. (6) Petroleum can be used on those suffering from Bright's disease. It is well known that in the course of an interstitial nephritis it is not possible to administer salicylate of sodium; the same observation must be applied to pregnant women.—*Revue de Thérapeutique*, February 1, 1901.

Annals of Surgery, February, 1901.

Gunshot Wounds in the Philippino-American War. — By E. F. Robinson. The paper is based on the records of 1,596 cases seen in the Philippines, supplemented by personal notes of 462 of the cases which came under the care of the author as operating surgeon. Two important factors militate against aseptic surgery in the tropics: the greater tendency to infection and the general poor health of the patient, whereby his reactionary powers are lowered. Conclusions are given in the following paragraphs: (1) The modern gunshot wound is generally aseptic, and should be treated on this supposition. (2) Asepsis is due chiefly to the character of the bullet, to the early application of first-aid dressing, and in a minor degree to the velocity of the projectile. (3) Primary hemorrhage from modern gunshot wounds is exceedingly rare, the blood-vessels being displaced rather than cut by the rapidly moving projectile. (4) The "explosive effect" of the modern bullet is much less common than recent military literature would indicate. This peculiar destructive effect is produced by the character of the tissue struck, as well as by the great velocity of the bullet. (5) Gunshot wounds of the chest are rarely infected. Simple antiseptic treatment, with aspiration of the pleura in cases of severe hemorrhage, is all that is necessary. (6) Gunshot wounds of the knee joint are usually aseptic, but if infected demand immediate amputation to save life. (7) Excision of the elbow is always a justifiable operation in severe shattering or infection of that joint. Resection of bones of other joints is rarely necessary, erasion or amputation being preferable. (8) Injuries of nerves from gunshot wounds can often be benefited by operative interference or resection. (9) In modern military surgery, abdominal section for gunshot wound is not justifiable; the patient's best chance of recovery lies in conservative treatment without operation.

Sarcoma of the Uterus.—By Van Buren Knott. The author has been able to collect notes of one hundred and eighteen cases from the literature of the last ten years. He reports a personal case of diffuse sarcomatous growth of the uterine wall occurring in a woman aged forty-three years. The mass consisted of several distinct spheroidal growths, and was intimately adherent anteriorly to the peritoneal investment of the bladder and posteriorly to the

broad ligament. It was shelled out without especial difficulty and with no hemorrhage, and the entire tumor or tumors removed *en masse* with the uterus, ovaries, and tubes. The case was recently operated on and cannot be considered cured, for a recurrence is greatly to be feared. The author regards the case as unique in pathology, combining as it does the features of a diffuse sarcoma of the muscular wall of the uterus with those of sarcoma of the cervix, although the bunch of small growths which closely resemble the grape-like cervical sarcomata were more solid than the latter, and did not contain the sticky gelatinous fluid common to them, making the resemblance one of conformation and appearance only.

The Improved Technique in the Operative Surgery of Carcinoma of the Stomach.—By W. G. MacDonald, M.D. The author especially commends in gastro-enterostomies von Hacker's method of attaching the jejunum to the posterior gastric wall with a re-anastomosis between the duodenum and the jejunum. During the past year he has operated eight times with seven recoveries. Anastomosis between the jejunum and stomach has generally been made by the suture method. For the secondary anastomosis he has uniformly used a Murphy button of moderate size. He claims the following advantages for the plan outlined: First, freedom from contamination of the wound by stomach contents; second, accessibility of the neighboring lymphatic nodes for extirpation; third, no subsequent danger from suture perforation; fourth, freedom from loss of blood; and, fifth, the great saving of time required for the operation. The surgeon is not embarrassed in the least by the amount of tissue which he removes, as no effort is made to bring the duodenum and the remainder of the stomach in apposition.

Cases of Compound or Complicated Fracture Illustrating the Value of Operative Interference in the Treatment of these Injuries.—By H. R. Wharton. The cases described comprise compound dislocation and fracture of the lower end of the tibia with fracture of the fibula, compound comminuted fracture of both these bones, fracture of the fibula with marked displacement of the lower fragment, fracture of the lower end of the fibula with fracture of the internal malleolus with marked and persistent deformity, comminuted fracture of the upper end of the humerus, excision of the shoulder joint with a useful arm, and extensive gunshot wound of the shoulder joint, excision of the joint with a useful arm.

I. An Improved Brace for Head Extension. II. A Hard-Rubber Spring Brace for Lateral Curvature.—By J. M. Spellisy.

A Method of Performing Anastomosis of Hollow Viscera by a New Instrument.—By M. O'Hara, Jr.

Cicatricial Stricture of Pharynx Cured by Plastic Operation.—By B. Farquhar Curtis.

Contribution to the Surgery of Multilocular Renal Cyst.—By Carl Beck.

The Journal of Tropical Medicine, Jan. 1 and 15, 1901.

Cerebro-Spinal Meningitis.—E. G. Hamilton Williams and Mary Hamilton Williams say that the epidemic of which they wrote in a previous article has not ended. Fresh cases are constantly arising, but many of them are of a mild type. The diplococci were found in over eighty cases, and in some they were found when the symptoms were slight, but a few days later became unmistakably severe. On examining the blood the first point noticed in nearly all cases was the marked polynuclear leucocytosis, and when this was found in a high degree the further investigation of other fields rarely failed to reveal the characteristic diplococci. It appears to the writers that this method of diagnosis, if confirmed by other observers, may lead to the recognition in the presence of an epidemic of many slight cases, which would otherwise be treated as "bilious attack," "febricula," etc., and arguing from the analogy of diphtheria, these slight cases may yet give rise in another patient to a severe attack. In addition, many obscure sporadic cases of the disease may be recognized, and the origin of outbreaks, which may have started from a very slight imported case, explained. Diplococci were found also in the sweat, the saliva, the nasal secretion, and the urine.

The Prevalence of Mosquitos and Malaria in Hong Kong.—J. C. Thomson has found two distinct species of Anopheles abundant in the colonies, and at least eight distinct species of Culex. The extirpation of malaria in the western part of the city must consist in the levelling and covering in of all the watercourses. The connection of malaria with disturbance of soil, an important point in Hong Kong, is by no means clear as yet. Grassi states that it depends on the creation during digging operations of puddles of water in which Anopheles breed, but this does not hold for Hong Kong, where the whole of the broken surface may show no single puddle, the sun drying the superficial layers as they are turned up, and yet where earth-cutting is invariably attended by an outbreak of fever. Culex is not known to act as a host to the malaria parasite, but it certainly does to the filaria, which causes the great group of elephantoid diseases. The author has found the larvæ of Culex in process of development in abundance in or about every house without an exception in which he has looked for them—in tea-pots, flower stands, fire buckets, hand basins, etc.

Report on a Glandular Ailment which Prevailed at Bacalar Chico, in February and March, 1900.—C. H. Eyles reports this epidemic, and says that the observation of Dr. Gann, the only medical officer who has actually seen any case in progress, bears out what has been gathered as to the nature of the cases, viz.: that after some febrile disturbance lasting for about three days, glandular enlargements, chiefly of the cervical glands, appeared. Unfortunately no material from any of the glands was forwarded for examination. The sudden appearance at the present time of a glandular ailment, with febrile phenomena, in any settlement, and attacking about twenty per cent. of the people, is strongly suggestive of plague. The disease might have been imported from Rio de Janeiro. If the disease was plague, it must have been of a mild type, and being introduced in a sparsely populated country, died out. No special mortality of rats, etc., was observed.

Striking Confirmation of Mosquito-Borne Malarial Infection in a Child Aged Three Weeks.—Dr. J. C. Graham, of Deli, Sumatra, reports that the child in question greatly alarmed its parents by suddenly developing a rise of temperature that could not be accounted for by any of the usual causes. In response to the question whether the child had suffered much from mosquito bites, the parents replied it was usually well looked after to prevent their occurrence, but that ten days previously the native servant had carelessly forgotten to close the mosquito curtains at night, with the result that the child was simply covered with mosquito bites the following morning. The irritation caused by these soon passed off, and the incident was forgotten. Acting on this information, the author examined the blood of the infant, and found the malarial parasite. The fever yielded readily to quinine inunction.

A Case of Hemiplegia; Operation; Recovery.—A. A. Bennett reports a case. The patient was trephined over the left Rolandic area. The brain bulged into the wound and there was no pulsation; the brain was explored with a needle in all directions and nothing found. The dura mater was freely incised and an induction current passed through the exposed convolutions. The patient was much collapsed after the operation, but a month later was practically well. He is now almost as intelligent as he ever was, which is not saying very much. The right arm and leg, which were the affected ones, are still weaker than the left, but apart from this they do not differ in any respect. The patient is eating very well, and has put on many pounds since the operation.

Typhus-Like, Erythematous, and Other Eruptions in Plague.—William Hossack says that in the past pandemics of plague, eruptions seem to have been not uncommon, and at times seemed to form one of the diagnostic symptoms. It is possible that the explanation of this may be found in typhus fever, particularly as in the present pandemic general eruptions have been of the rarest possible occurrence. Among those that have been noted are typhus-like, morbilliform, erythematous, urticarial, and sudaminous rashes. Partial local eruptions, though not so rare, have been uncommon—they include bullæ, pustules, petechiæ, and purpuric patches.

Case of Rhinorrhœa.—A. B. Dalgetty reports the case of a woman, a Hindu coolie, who suffered from a constant liquid discharge from the right nostril. The point of special interest consists in the fact that the fluid contained a multitude of ciliated organisms darting and turning and doubling about in all directions. The author describes the organism, which would seem to belong to the order Holotricha; genus Paramæcium; but to what species is doubtful. As to how the organism has gained a footing in the nose, there is nothing to show, nor does a rhinoscopic examination from the front discover from what part the discharge comes.

Case of Bronchocele in a Native of Perak, Malay States.—P. G. Edgar reports a case in a man born in Perak, where the disease is endemic. The swelling commenced in the patient's twentieth year, when it was the size of a marble, and it gradually enlarged to an enormous size. Both lobes of the thyroid are enlarged, and the enlargement appears to be cystic. The Malays attribute the origin of the disease to the water.

Il Policlinico, January, 1901.

A Study of the Intracellular Diplococcus of Weichselbaum and Jager, and of Epidemic Cerebro-Spinal Meningitis in Children.—A. Longo holds that the above-named diplococcus is the specific agent of epidemic cerebro-spinal menin-

gitis. This micro-organism is not one of a group, but is unique. The arguments hitherto brought forward do not in the least prove it to be a variety of the pneumococcus. The presence of the meningococcus is of less grave import than that of the pneumococcus in the cerebro-spinal meningitis of children. It is well to bear in mind that the meningococcus may be absent from the first liquid extracted by lumbar puncture, but appear in that of successive punctures. No prognostic importance is to be attached to the predominance of intra- or extracellular forms.

Injections of Gelatin.—F. Mariani gives the following conclusions as the result of his experimentation: (1) Hypodermic injections of gelatin in two-per-cent. solution are absorbed. (2) These hypodermic injections may increase the coagulability of the blood, or, within normal limits, modify its density, but physiological oscillations prevent any special results. (3) In the cases experimented upon by the author, hypodermic injections of gelatin, while they did not bring about a complete cure of aneurism, did certainly produce marked improvement. (4) These injections cause a rapid but transitory hæmostasis. (5) They are absolutely innocuous.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

QUEEN VICTORIA'S LAST ILLNESS—ROYAL COMMISSION ON ARMY HOSPITALS' REPORT—CORONER'S JURY ON THE BEER POISONING — PLAGUE — ANOTHER V.C.—DEATHS OF DRS. SYMES, MYERS, SAUNDERS.

LONDON, January 25, 1901.

A WEEK of national anxiety and grief! That is what I have to chronicle. It is summed up in the simple phrases, the Queen is ill—the Queen is dead!

You must know all about it through the cable. Through it, too, we learn of your sympathy—your joint sorrow with us. This event casts all other news into the shade. Even telegrams from the seat of war have been pressed out of the prominent columns of our newspapers by that which touches every reader with a strange personal interest.

But this is not the place to enlarge on the event. Yet for medical readers a few items may be given respecting the last illness of the Queen. It was known in some circles, indeed it could not be concealed, that for months past the Queen's health was failing. Dyspeptic symptoms and insomnia had troubled her. Transient attacks of aphasia had been observed. They were very brief, without any motor paresis, but distinct enough for her physicians to recognize as important, especially as brain fatigue had been observed for some time previously. Some of these symptoms were recognized at Balmoral and continued at Windsor, where in November and December they were more marked. The journey to Osborne on December 18th was very trying to Her Majesty, but she rallied after two or three days and improved for a time in response to more rest. But feebleness increased with recurrent transient apathy and somnolence and aphasic indications. On January 16th (Wednesday) there were signs of cerebral exhaustion. On Thursday the symptoms were more marked, and slight flattening of the right side of the face was observed. From this time the aphasia and facial paresis, although incomplete, were permanent. On Friday the Queen was a little brighter, but on Saturday there was a relapse of the graver symptoms, which, with remissions, continued until the end. The heart beat regularly to the last. Within a few minutes of death the Queen recognized members of her family.

Among many fixtures postponed until after the funeral of the Queen is that of the adjourned debate at the Royal Medical and Chirurgical Society. When the society met on Tuesday, the president, Dr. Pavy, said the sad news made known but a few hours before rendered useful discussion impossible. The meeting at once adjourned and many others will also do so.

The report of the royal commission on the South African Hospitals is out. It extends over seventy-one closely printed folio pages containing an account of the more important evidence taken in Africa and here. This important and elaborate document is another flat contradiction for the allegations of Mr. Burdett-Coutts, whose charges may now be justly called slanders. But, as if determined to abide by them, he republished them only a few days before the issue of this report. "*Quem deus vult perdere*," etc. What is the value of Mr. Coutts' assertion beside the following deliberate conclusion of the royal commissioners:

"We desire to say that in our judgment, reviewing the campaign as a whole, it has not been one where it can properly be said that the medical and hospital arrangements have broken down.

"There has been nothing in the nature of a scandal with regard to the care of the sick and wounded; no general or widespread neglect of patients, or indifference to their suffering.

"And all witnesses of experience in other wars are practically unanimous in the view that, taking it all in all, in no campaign have the sick and wounded been so well looked after as they have been in this."

These conclusions of a commission, presided over by an eminent judge, will satisfy the public that Mr. Burdett-Coutts and the screaming plague of women must not be taken at their own valuation. Their charges have been shown to be baseless and reflect discredit on their intelligence and motives. I have all along said, let the Royal Army Medical Corps patiently await the decision of the commission. They have waited and have their reward.

On the subject of the supply of necessaries for the sick and wounded the commissioners find that all requisitions were promptly met. They do not even complain that the Royal Army Medical Corps was hampered by red tape, but they think that several records and documents might be shortened in many respects.

The hospital arrangements at Bloemfontein are dealt with at considerable length, and conclude that "the extent, suddenness, and virulence of the epidemic could not have been foreseen."

With regard to certain subjects the commission suggest that a committee of experts should be formed to inquire into them. These include the establishment and equipment of the Royal Army Medical Corps on a scale to fit it to cope with its work in times of peace and during smaller wars; provisions to enable surgeons and hospital equipments to be rapidly obtained in the event of a great war; the attraction to the Royal Army Medical Corps of a sufficient supply of officers of good professional attainments; the improvement of the ambulance and nursing service. Further, they think the committee should inquire as to whether the Royal Army Medical Corps should have exclusive control over necessaries for the sick and wounded so as to avoid delay due to requisitioning upon the Army Service Corps.

These are questions that have often been before the public, and it would be well to have them thoroughly investigated.

The coroner's jury in the beer-poisoning case have given a rather contradictory verdict—an open one, it is called—but they followed it up by censuring several of the persons and firms implicated. This was hardly to be expected from the advice of the coroner, for he exhorted them, when they said they could not agree, "to remember they were a jury, not individuals called upon to coerce each other; and if they could not agree who was to blame, to leave that in the hands of the police."

As to one of the firms censured, the coroner agreed with counsel that no evidence had been given justifying the blame. The chemist at the glucose works ceased to examine the sulphuric acid at the end of 1899, and his scientific superintendent either did not know this, or made no inquiry, and took no steps to see that the acid was pure, though he admitted he should have done so. Between the makers of acid, of glucose, the brewers, and the various chemists, it seems a case of divided responsibility unknown outside the War Office.

Suspicious cases of illness with four deaths among the crew of the steamship *Friary* while discharging cargo at Hull led to an inquiry. At first the cases were said to be influenza, then plague was suspected. Bacteriological examination by Dr. Klein shows that the latter was the disease. Early precautions had been taken and no more cases have occurred.

In the report of a cottage hospital the following somewhat strange statement occurs: "Notwithstanding the large amount of money expended for medicine and medical attendance there were but few deaths during the year."

Another medical officer, Lieutenant E. T. Inkson, has received the V.C. for carrying a wounded brother officer through a hail of bullets to a place of shelter.

Dr. J. G. Symes, who died on the 14th inst., aged seventy-five years, was for thirty-three years medical superintendent of the Dorset Asylum, where he abandoned mechanical restraints at an early period. He was a son of Admiral Symes.

You will have heard that Dr. Myers, who went to Brazil with the Liverpool expedition to investigate yellow fever, has fallen a victim to the disease. He had left Cambridge but recently to take up this work. He was in his twenty-ninth year.

Dr. Sedgwick Saunders, who has filled the important post of medical officer of health to the city since 1874, died on the 18th inst. He had in early days been in the Army Medical Service, but eventually settled in the city and long held an important position there. In 1870 he was the councillor who laid the foundation stone of the Guildhall Library and Museum.

"OPIUM TAKING IN ASIATIC COUNTRIES."

To the Editor of the Medical Record.

Sir: I have never lived in India, but I have resided a long time in China, and although your editorial in the issue of January 12th had special reference to India, its heading is my excuse for sending some literature and some of my views on the use of opium in China. The enclosed is, as you see, a copy of an editorial that appeared in the *North China Daily News* last May. This paper is the leading daily in China, if not in the East, and its utterances heretofore have always led the opium interests to regard it as "sound on the opium question." Under a separate cover I send a copy of "Opinions of Over One Hundred Physicians on the Use of Opium in China." A thousand copies of this pamphlet have been bought by Mr. B. G. Tsang, a Chinese gentleman now visiting in America, for free distribution. Any one desiring a copy can get it by sending four cents to me for postage, or by applying in person at No. 3 West Eighteenth Street, New York City. Mr. Tsang hopes that when the new treaties are made, China will be allowed to place opium on the list of poisons and have its sale restricted there just as it is in England and all other self-governing countries. If, according to Kipling, as reported by Dr. Dawbarn, opium is the "friend" and "mainstay of millions" in India, in China it is more; it is the life, for skin for skin, yea, all that they have will they give for it. The great mass of opium smokers earn, or have an income of, about twenty cents per day. Their opium costs them twelve cents per day, and while the wages or income may vary or cease altogether, the outgo must be forthcoming every day of every month of every year without variation (except it is increased) and without fail. No wonder dependent mothers and wives often commit suicide on learning a son or husband has taken to the drug.

I also used to think there was a difference between races in the reaction to its habitual use, and that the "native takes it increasingly up to a certain point, and does not then, as a rule, go beyond this for the rest of his life," though I knew the "rule" had multitudes of exceptions; but the tremendous increase in the sale of morphine to old opium smokers during the last few years proves that the tendency to increase is there just the same, so that now I firmly believe that in all respects opium acts on the Chinese just as it does on the Caucasian.

When taken in poisonous doses, and I have seen opium suicides by the score (we have a thousand a year in Soochow), the main symptoms are contracted pupil, slow respiration, congested face, followed by a pale, cold skin with profuse perspiration, itching skin, pulse fast and full at first and later rapid and feeble, dizziness and confusion followed by drowsiness, then irresistible tendency to sleep, unconsciousness, stertorous breathing, coma, and death. In medicinal doses it relieves pain, stimulates, is followed by drowsiness or sleep, contracts the pupil, slows respiration, etc., and morphine hypodermically, unless guarded by atropine, often causes vomiting, especially in women. If taken daily to get a constant effect, the amount has to be increased, and after a time the habit is established. Once established, the drug cannot be withdrawn without suffering. Cut off his supply and the victim becomes weak, seems utterly miserable, and is perfectly wild for the drug. In addition to the craving, if the drug is still withheld, some of the symptoms are myalgia, coryza, yawning, insomnia, diarrhœa, and seminal pollutions.

The habitués are constipated, some going to stool only twenty-four times a year, appetite poor, and as a matter of course they gradually become emaciated. In time they acquire the opium look that an experienced eye can detect, in nine cases out of ten without trouble, in any crowd met. As to strength, they are stronger immediately after indulgence, weaker later on, but the sum total is less than normal, and without their supply they are utterly worthless. I speak from experience, not theory. I have been carried by sedan-chair coolies for years. Nearly all coolies plying for hire in Soochow smoke opium, but enough of them refrain for me to know the difference. As to the moral character, we cannot see it as we can the physical man, but it is well known that an opium smoker will lie every time, and there is no meanness to which he will not stoop to get his drug, and no one wants to employ an opium-smoking servant.

The next point is that opium strengthens its votaries for "arduous labors." It may strengthen him temporarily, but the man who has to use opium in this way is borrowing capital. How about the time when he has to return it plus the interest? In China no one who desires arduous labor done ever sends for an opium smoker.

Again, Kipling claims that opium habitués are comparatively free from malarial fever. To this I will say, if they take it for this purpose so much the worse for the habitués. The remedy is worse than the disease. I would rather hear that a friend of mine had contracted malarial fever than that he had contracted the opium habit. The former might be cured, but the latter? If opium were surely prophylactic, so far from being an argument in favor of encouraging its use among an ignorant populace, it would be the strongest possible argument against it. If it were efficacious in all or a majority of cases, all would take to it and the last state of that people would be worse than the first.

If all the natives of India ate opium to prevent fever, I would be more ready to believe in its power, but so long as the majority of them refrain, "I hae ma doots." If it is a sure thing and a good, women and children ought to be encouraged to take to it as well as the men.

In claiming on one hand that the natives, after a certain time, do not increase their allowance, and on the other that the opium they take protects them from fever, Kipling overlooks the well-known law of opium that to get a constant effect its amount must be constantly increased. In our part of China it is not prophylactic, and the natives take it with no such idea. I treat thousands of patients, and lately have kept statistics on this point and found just as much malaria among smokers as among non-smokers.

Next we come to the statement of Sir William Moore. He urges in favor of opium that it "enables people to do on less food than they would otherwise require," but since the opium user loses so much time, two hours a day (to say nothing of being weakened by the drug, he cannot do as much work as he would otherwise do, and his opium costs six times more than the food he saves, I fail to see where the force of the argument comes in. He also says that crude opium "is certainly injurious, as it lessens both the secretions and movements of the stomach," the presumption being that opium (the article prepared and sold by the British government) does not do so and is not injurious. "Opium" (the British article) is glorious, o'er all the ills of life victorious. Crude opium (that raised and consumed without British revenue) stops the secretions and movements of the stomach and is to be avoided. How any man of his pretentions can speak of a "use" of opium outside of therapeutics is beyond my ken. What use can a healthy man have for a drug that lessens his appetite, constipates his bowels, and weakens his body?

As to the use of opium in aborting or checking malarial fever, I have tried and found it good as an adjunct of quinine, provided the patient is not addicted to the drug. This is the use and not the abuse of opium.

As to life-insurance statistics, I am examiner for all the companies in Soochow and know that they take Chinese only on the ten and fifteen year endowment plans, and they have not yet been operating in China long enough to get up reliable statistics, and I know, moreover, that opium smokers do not tell the truth as to the amount they consume.

The "good results" of the opium habit I have never seen and I have never questioned a native who ever said he saw them. The matter stands about like this:

FAVORING THE OPIUM HABIT.	OPPOSED TO THE OPIUM HABIT.
1. Opium dealers.	1. The bulk of the Chinese people.
2. The majority of the Eastern press (said to be owned or subsidized by the opium interests).	2. All qualified physicians practising largely or exclusively among the Chinese.
3. All other interested parties. This includes most Britishers, for their government is engaged in the opium business; and are they not interested in the honor of their government?	3. All missionaries.
4. Many globe trotters who know less about the question than the traveller who gives his impressions after a tour of three weeks knows of America.	4. Nearly all who have carefully investigated the subject on the spot. The assistant British judge in Shanghai has written as strongly against opium as any "rabid opponent": found, I think, in the report of the Blackburn commission, published about three years ago.
	5. I might almost add every foreigner living in China, for none of them—no, not even the opium dealers—will employ an opium-smoking servant.

If it "is frequently productive of good results," why are the Japanese (an Asiatic people) so unalterably opposed to it? When Count Ito, the man who made modern Japan, was in Peking last year, he told the high officials China would never amount to anything until she restricted opium. The editor of the Shanghai *Gazette* told me that during the Chino-Japanese war a number of Japanese coolies employed in Shantung contracted the opium habit, and the Japanese commander, rather than have them return to Japan, lined them all up and had them shot.

As to the "tolerance" established "through several gen-

erations," if the report of the commission sent to Sze-Chuen and Yunnan, where opium has been used most extensively for the longest time, of the devastation, poverty, and misery seen on every hand, is to be believed, the tolerance is that of the Irishman's horse for shavings seen through green spectacles: "By the time he got used to it he died."

In ugly fevers of irregular type, opium is useful as an adjunct of quinine, provided the patient is not addicted to the opium habit, but I should hate to have a fellow-practitioner called in consultation over one of my obstinate cases if I had used nothing but opium, and surely it is not necessary to make an opium fiend of a man in order to cure him of a fever.

As to the "moderate" use of opium, I have never been able to see where moderation ends and excess begins. All habitual users, whether taking a small amount or a larger quantity, are "opium devils," *i.e.*, slaves to the drug, and the suffering when trying to break the habit seems as great in the one case as in the other. Millions use alcohol in moderation without becoming inebriates, but not one in a hundred can dally with opium without becoming an opium fiend.

The idea that opium smokers are not so prone to disease other men are, is unsound in theory and, in my experience, has no foundation in practice. According to my statistics they are just as liable to malaria, rheumatism, and other diseases as other men are, and, moreover, are less resistant to the inroads of disease, less tolerant of injury, and less amenable to treatment. Fourteen men, victims of a tea-house collapse, were once brought to our hospital. Among them were two opium smokers, and although their injuries were not so serious, they gave more trouble than all the rest combined. The same is true of gunshot wounds and other injuries. If an opium smoker receives a serious wound, he generally is a goner. And in practice, how one is handicapped in trying to treat opium smokers! If they have pain, and in our part of China they are peculiarly liable to gastralgia and other "belly aches," what can one do for them? Our sheet anchor is of no use, and one feels as helpless as a babe. I have had them writhe in agony at my feet and have given one hypodermic of morphia after another, until I was afraid to go farther, without the least relief. Enemas do not often relieve, and as to cathartics, the patients are afraid of them, for fear they might cause diarrhœa. This same dread of "opium diarrhœa" hinders one at every turn in practising among the Chinese. We all know how often we feel like prescribing opening medicine in our practice, and yet I rarely write a prescription for an opium smoker without being cautioned by his or her relatives and friends against giving cathartics, and unless I can assure them the prescription contains nothing of the kind, or very little, they will not administer the medicine.

And suppose diarrhœa does supervene, then what? To give opium you might as well give aq. fontis and ditto any other medicine that I have ever used. The relatives, however, know what to do: they buy the coffin.

This question has a financial side, too, that it behooves the nations of the world to inquire into. The report I have referred to from Sze-Chuen and Yunnan says the natives there are, owing to the use of opium, unable to buy any foreign goods except a little cloth. Among all but the well-to-do, every man added to the ranks of opium smokers is a man (if he has a family, then the whole family) taken from the list of possible buyers of foreign products. What will be the condition of trade when opium is used as extensively everywhere else in China as in these two provinces?

And now I am going to tell you something you can print or not, as you like. Dr. E. R. Jellison, of Nanking, China, spoke of it in his answer to the questions for my book, but as the book was intended for promiscuous distribution, I did not think it well to print it. The inhibiting effect of opium is taken advantage of by the *demi-monde* to increase the attractiveness of their business. Smoked at the proper time the completion of the act can be delayed and sexual congress prolonged for, some say, two hours and maybe longer. Of course, if one pipe will do to-day, it takes two to-morrow, and in a few months the victim is an opium sot. All houses of ill-fame keep the pipe, and the youths who yield to their seductions are legion.

Nor is this use of it confined to houses of ill-fame. Many men use it for the same reason in their homes, and go on increasing the amount in order to get the effect until they smoke an ounce or more every twenty-four hours, smoking all night and not rising before 4 or 5 P.M. In a few years opium gets the upper hand, sexual desire ceases, the "little wives" become a burden, mutual recriminations ensue, opium suicides are the order of the day (I was called on to treat two of one man's wives in one month for opium poisoning), and the man is lucky if his wives do not leave him, or cohabit with some male servant, causing a scandal that is the talk of the city.

WILLIAM HECTOR PARK, M.D.

McMEEKIN, FLA., January 31, 1901.

THE NEW MEDICAL BILL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In discussing the pending medical bill the RECORD seems to have assumed too broadly a rule: that unlicensed practitioners are not liable in damages for their malpractice. Any one who holds himself out as a physician incurs in his practice the same liability to which he would be subject were he what he falsely pretends to be. A clairvoyant was held to such liability in Nelson *v.* Harrington, a Wisconsin case, and a druggist in Matthei *v.* Woolsey, an Illinois case. It is true that if the non-licenciate pretends to belong to a particular "school" he will be held only to the standards of that school. Under the medical law of this State, as it now stands, many druggists have been convicted of the misdemeanor of illegal medical practice, and our statute is much more stringent than the law of England.

It is impossible to make a fool wise by legislation; and physicians—or some of them—seem at times to forget this principle, which the Cadi laid down in rendering judgment against the suitor who demanded damages of the veterinarian who had blinded him. "If you had not been an ass," said the Cadi, "you would not have gone to a horse doctor to be treated like a donkey."

May I ask in this connection a line of your space to correct a prevalent impression, growing out of my former connection with the County Medical Society, as its counsel, and what I have written of Eddyism—namely, that I am the framer of this proposed legislation. In fact, I have had nothing to do with it and have not even seen the bill. If it be a judicious measure, the credit is due to others; if it is open to criticism, the fault is not mine.

W. A. PURRINGTON.

February 4, 1901.

THE THIRD PAN-AMERICAN MEDICAL CONGRESS.

(From our Special Correspondent.)

HAVANA, February 9, 1901.

THE third Pan-American Congress, which has just concluded its sessions, greatly surpassed its predecessors in the character of the papers presented, and indeed there have been few meetings, national or international, of medical men in which so much work of a truly scientific character has been presented. The section meetings were held in the various halls of the university and of the adjoining institute for secondary instruction, while the three general sessions occurred, the first in the immense Tacón Theatre, the second and third in the Martí Theatre. The language of the congress was overwhelmingly Spanish, the only general address in English, except the opening speech of Governor Wood, being that of Dr. Wyman, of the Marine-Hospital service. In the sections, however, more English was heard, especially in the medical section, several sessions of which were devoted almost entirely to the discussion of yellow fever. The report of the convincing experiments of Drs. Reed, Carroll, and Agramonte excited the greatest interest, and there were few who heard the report but left the section persuaded that the disease is spread by the mosquito only, and that its germ must be a hæmatozoon one part of whose life cycle is passed in the body of Culex mosquito. Dr. Finlay, who presided over the section, was warmly congratulated upon the confirmation of the theory which he had enunciated many years ago. A number of the delegates made an excursion to Quemados to see the yellow-fever camp and the buildings in which the experiments were conducted. They were shown the mosquito house, the house where non-immunes had slept night after night on infected bedding without contracting the disease and without gaining immunity, as subsequent inoculation demonstrated.

Visits were also made to the Mercedes and other hospitals in Havana, and to the new bacteriological and histological laboratories of the University of Havana. These laboratories are being fitted up by Dr. Agramonte, formerly of New York, now assistant surgeon in the United States army, and also director of bacteriology in the University of Havana. This is the first time that bacteriology has been practically taught at the university, the teaching of this science having been hitherto purely didactic, owing to the absence of laboratories. An institute of bacteriology has been in existence for some years in Havana, but it was a private undertaking, and while doing excellent work was not available for the instruction of the students.

There were many interesting social events connected with the congress. On Monday afternoon General and Mrs. Wood gave a reception to the delegates and their families in the governor's palace. On Tuesday a visit was made to one of the most celebrated cigar factories.

On Wednesday the members with their wives and daughters were entertained by the Asociación Médica de Socorros Mútuos ("Medical Association of Mutual Succors," as the programme translated it) in what was formerly the Jané Theatre and is now a Baptist church. On Thursday a visit was made to the celebrated Morro Castle and the Cabaña fortress. On Friday, the congress having closed, many of the members made an excursion by rail to the sugar plantation "Rosario" at Aguacate, where they were shown all the processes of sugar-making and were entertained at breakfast by the owner, Señor Ramón Pelayo. In the evening of the same day there was a ball given at the Tacón Theatre in honor of the "Congressistas" by the city of Havana. On Saturday those of the members who had not left for their homes were entertained at breakfast by Señora Rosalía Abreu in the charming suburb Cerro.

It is rather a far call to Buenos Ayres, which has been selected as the place of meeting for the next congress, but if the congress is Pan-American the southern continent must, of course, receive recognition, and so the selection may be called a good one.

THE ORIGIN OF FIBROID GROWTHS OF THE UTERUS.

To the Editor of the Medical Record.

Sir: In the State Medical Society last week, after the paper by Dr. Charles A. L. Reed on "Infection," etc., the president of the society, Dr. A. M. Phelps, kindly invited me to speak. In my few remarks I dwelt on the anatomical and pathological changes in the tissues in consequence of infection; not only in the destruction of the normal tissue, but in the formation of new growths, malignant and otherwise. Many of these changes I had before demonstrated by a number of pathological studies, which from time to time I have had the honor of presenting to the profession.

On this occasion I should have liked to present to the State Medical Society my observations on the origin of fibroid tumors of the uterus. But to present the subject properly with its important bearings would have caused me to exceed the time limit for papers and made necessary a detailed exhibition of microscopical slides. My intention at that time was to place on record certain conclusions regarding the pathology of fibroid tumors of the uterus, preparatory to more elaborate explanations later. In a word, then, I wish to say that it is my belief that fibroid growths have their starting-points in the inflammatory products of the organ, and the different stages of development of fibroid tissue can be successfully traced on such a basis. I believe I have clearly proved this relation of cause and effect, which I trust to have an opportunity to explain more fully in the future.

Mary Dixon Jones, M.D.

RAPID CULTIVATION OF AND A DIFFERENTIAL STAIN FOR LOEFFLER'S BACILLUS.

To the Editor of the Medical Record.

Sir: In the *Wiener med. Wochenschrift*, No. 10, 1900, Prof. Luigi Concetti published his modification of the Neisser stain[1] for the bacillus of diphtheria. After questioning numerous colleagues interested in laboratory research, and finding that many had overlooked the article, I feel justified in asking you to devote this space to its publication.

Although I have not as yet accumulated enough material to warrant a report on the results of my examinations, I am convinced that it is an improvement over other methods now in vogue. The very excellent results obtained in the Pædiatric Laboratory in Rome should urge those interested in this branch of laboratory work to employ this method by which I believe the earliest possible bacteriological differential diagnosis is at present attainable. For the benefit of those who do not read Italian or German I quote in brief from Professor Concetti's article:

"A sterilized glass (or iron) rod is used, on the end of which is twisted a small piece of absorbent cotton impregnated with glucose glycerinated agar-agar. These rods are kept in sterilized test tubes. When a culture is to be made, the rod is removed, the affected part swabbed with the agar-agar end, and at once replaced in the tube. It is then deposited in a thermostat and kept at a temperature of 36° to 37°. In four or five hours enough bacilli will have developed to make a smear. It is stained with the methylene blue solution consisting of: Methylene blue, 1 gm.; alcohol, 20 c.c.; distilled water, 450 gm.; acetic acid, 50 gm. This solution must not remain on the slide for more than two or three seconds. It is then thoroughly washed with water. The smear exhibits an intense blue color. The counter-stain is now applied. It consists of vesuvin, 2 gm.; water, 1,000 gm. This solution is heated and filtered while still warm. The specimen should be exposed to the action of the vesuvin from fifteen to twenty seconds and then washed off in water. It displaces the methylene blue. If no true bacilli are present, the macroscopic appearance of the smear is altogether brown; in the presence of both true and pseudo-bacilli a blue and brown color is visible. The microscopic picture is as follows: The pseudo-bacilli are stained brown in their entirety; the bodies of the true bacilli stain brown, their polar ends, however, present characteristic blue points, the chief differential factor for diagnosis.

A. L. Goodman, Ph.G., M.D.

259 West One Hundred and Thirteenth Street, New York City.

[1] Neisser's stain is described in an article on the "General Pathology and Bacteriology of Diphtheria," by William H. Park, "Twentieth Century Practice," vol. xvii.

TRAINING-SCHOOL FOR WOMEN EMBALMERS.

To the Editor of the Medical Record.

Sir: An institution long since needed in our city has at last been established. The desirability of having women perform the last rites for deceased persons of their sex can hardly be denied. The delicacy and modesty of women must often have been wounded when the thought occurred to them that immediately after death they are given into the hands of the undertaker to be prepared for interment or cremation, and that not some of their own sex attend to these last duties.

This school proposes to relieve this condition by educating women to do all the more delicate parts of the undertaker's work — in conjunction with him but not in his presence. This must surely be satisfying for the relatives of the deceased: the consciousness that gentle hands, directed by knowledge, are doing all that is demanded both by advanced civilization and the finer feelings of our nature.

The medical profession, in favoring and approving this step in advance, will be doing a graceful act of respect not alone for womanhood, but one in harmony with its noblest aspirations and duties.

Medicus.

Society Reports.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held in Havana, Cuba, February 4, 5, 6, and 7, 1901.

(*Continued from page 232.*)

THIRD GENERAL SESSION.

Thursday, February 7th.

The third and closing general session was held in the Martí Theatre, under the presidency of Dr. Enrique José Varona.

Dr. Tomás V. Coronado, the secretary of the congress, announced that Buenos Ayres had been selected as the place of meeting of the fourth congress in 1904.

The treasurer, Dr. Acosta, then presented his report.

Dr. Curtin then read a memorial address on the late Dr. Pepper, the president of the first Pan-American Congress.

Sanitation and Quarantine.—Dr. Walter Wyman, surgeon-general of the United States Marine-Hospital service, read a paper dealing with this subject. His argument was the necessity of improving the sanitary condition of cities which, if effected with thoroughness, would enable us practically to abolish quarantine. It would be far more efficacious in the prevention of epidemics than any shotgun quarantine, or even than a concerted attack upon the focus of disease once this had become established. As it was now, the hold-up of a steamer at quarantine was almost always due to defective sanitation at the port of depart-

ure. The benefits that would result from the wiping out of all slums and other insanitary districts in any city were almost incalculable. It was recognized to-day, and to a degree acted upon, that the danger of the importation of infectious diseases came through the dwellers in the less cleanly portions of a seaport town. The marine hospital inspectors stationed in foreign ports examined the steerage passengers only, the cabin passengers undergoing no inspection. The orator then spoke of the changing views regarding the part bacteria played in the causation of disease. While essential to the production of infection, they were not in themselves sufficient to excite it. It was now recognized that the bacilli of disease often existed in healthy bodies and did no harm there. But let the individual's general condition become lowered by injurious external influences, and then the bacteria would at once begin to multiply and produce toxins, and their host present the symptoms of pneumonia, diphtheria, typhoid fever, tuberculosis, or other infection. Reverting again to the sanitation of cities, the speaker said that here was an opportunity for the wealthy to benefit their fellows by employing their capital in the tearing down of rookeries and erecting model tenements in their place. Regarding the efficacy of such operations he quoted from a paper read by Dr. S. A. Knopf, of New York, before the tenement-house commission, in which the absolute necessity of improved sanitary dwellings in the combat against tuberculosis was clearly demonstrated. One great difficulty in the way of the prevention of epidemics was, Dr. Wyman said, the foolish and criminal impulse of some municipal authorities to conceal the first cases of infectious disease, hoping that the latter would not spread, and dreading the inconveniences and losses that would follow the publication of such news and the resultant quarantine which would be established against the city. In his experience this culpable hiding of the facts was usually associated with neglect of sanitary matters. The dirtier a city was the more ready were its authorities to deny the possibility of any filth disease existing there. Regarding sanitary legislation, the speaker thought it was not peculiarly the province of the medical man, but rather the reverse. The physician was, as a rule, no better a legislator than he was a business man. After mastering the few essential elements of sanitation the lawyer, speaking generally, made the ideal sanitary legislator. Dr. Wyman was rather optimistic regarding yellow fever, believing that the time was not far distant when this disease could be made to disappear from Havana. The necessary means to this end were effective sanitation, good sewers, sanitation of the harbor, inspection of dwelling-houses, etc.

Dr. Vander Veer, of Albany, then delivered a brief address on behalf of the delegation from the United States, Dr. Charles A. L. Reed having been called home. He expressed the thanks of himself and his associates to Governor Wood for the interest he had shown in the congress and for all he had done to promote its success. He congratulated the physicians of Havana upon the sanitary condition of their city, upon the excellence of its water supply, etc. He extended thanks also to the executive committee for the nearly perfect arrangements, and to the ladies of Havana for their many kindnesses to the wives and daughters of the delegates. He had attended the two previous Pan-American congresses, and while there was evidence of good work done at both of them, he thought this was especially characterized by a vast amount of true scientific labor. These congresses had been organized for two special purposes: (1) The study of contagious, especially intertropical diseases; and (2) the study of the medicinal flora of the American continent. The first of these objects was being pursued in a thoroughly commendable manner, but the second was not. Of all the countries represented in the congress only one (Mexico) had made any appropriation for the furtherance of this object. It was not right that one country should meet the expense of a work that would benefit all, and he hoped material assistance would soon be given by the governments of the United States and other American countries.

Dr. Carlos Manuel García, of Mexico, then delivered a brief address, in which he dwelt upon the evils of alcoholism and urged concerted action by all the American governments looking toward its suppression.

Dr. Julio Lyón spoke in behalf of the profession in Santo Domingo, and Dr. Luis Debayle for Nicaragua and Honduras.

Dr. Varona then declared closed the third Pan-American Congress, in a brief address, thanking all the members for their contributions to the success of the congress. He said the Cubans looked upon them all as brothers, those of Latin America because they were of the same race, and those of the United States because of the part they had taken in giving to Cuba the inestimable boon of liberty.

SECTION ON MEDICINE.

Carlos A. Finlay, M.D., President.

At the opening of the session Dr. Finlay delivered his introductory address (see p. 201).

Prolonged Fevers of Nicaragua.—Dr. Luis H. Debayle, of Nicaragua, read an interesting paper on this subject. In his paper he went over the etiology, diagnosis, and treatment of these conditions. He stated that the principal characteristics of these fevers were that they were continuous, with variable remissions from time to time; that they were not typhoid in character; that they were prolonged for weeks and months; that they rarely presented renal, nervous, or cardiac complications; that they were nearly always accompanied by persistent constipation and loss of appetite; that they were very slightly influenced by quinine and antipyretics in general, and that in the blood the hæmatozoon of Laveran in one form or another was always found. He then went on to analyze the variations in the temperature, the character of the pulse, and the condition of the various other organs during this prolonged fever. As it was rarely followed by death, he had not had the opportunity to make post-mortem examinations. The diagnosis was at first extremely difficult, since it was necessary to differentiate it from various prolonged fevers, typhoid, bilious remittent fever, typho-malarial fever, and Malta fever. With this latter it had many points of similarity, but he did not believe that the cases he had seen could come under this category. It was true that these fevers were common in places where malaria prevailed and where typhoid was rare, but he believed that they were not cases of chronic malaria, and that the presence of the Laveran organism was only evidence of a double infection. In the treatment of these fevers antipyretics were of little avail; much less so was quinine, even when exhibited hypodermically or in large doses. What had given him the best results was the use of intestinal antiseptics and tonics. His conclusions were that this was a distinct fever, different from typhoid, bilious remittent, or other acute forms of fever.

Dr. Duplan, of Mexico, claimed to have observed in Tierres Callientes the same form of fever as that described by Dr. Debayle, and he was glad to note that other observers in another country had had the same experiences.

Dr. Martinez, of Havana, observed that the fever

described by Dr. Debayle was what was called in his country enterosepsia, and in his opinion was nothing more than Malta fever; and that some of these cases described by Dr. Debayle were light attacks of malarial fever, with an added infection of Malta fever. He claimed to have seen such cases in Havana.

Dr. Coronado believed that these fevers, as described by Dr. Debayle, were nothing more than prolonged remittent malarial fevers.

Dr. Calnek, in a practice of twenty years in Costa Rica, had observed the same forms of fever. He believed that this prolonged fever existed from Mexico to Panama.

Dr. Perna, of Cienfuegos, believed that these fevers were not confined to the tropics, and he remembered a description of a fever by Dr. Robert, of Barcelona, similar to this, and designated by him as simple infectious fever. He did not believe that they were paludic or malarial, on account of their benignity and because of the fact that they were not influenced by quinine.

Dr. Fernandez, of Puerto Rico, stated that he practised in a region where malaria was unknown, and that he had had occasion to observe many cases of this fever.

Dr. Guiteras stated that he believed he was the first to publish observations of this form of fever in the annals of the Marine-Hospital service in the United States, in the year 1881. He had described it under the name of "continuous thermic fever." He had formerly believed it was due to the disarrangement of the thermic centres, but had abandoned this theory when he noticed in Key West that this fever was transmissible; he then thought that it was an infectious fever. He had never found the hæmatozoon in the blood, and lately he was inclined to believe that they were cases of Malta fever, as he had recently seen in Philadelphia a case in an officer who had returned from Puerto Rico. In regard to secondary infections, a term so commonly used in this country, he did not believe that they were brought about by Coeligacitus, as this was a pyogenic organism, and the formation of abscesses was very rare in these cases.

Dr. Garcia Mon, of Havana, had seen many similar cases in the "Quinta de Dependientes," and had never been able to demonstrate the presence of the hæmatozoon in the blood. They never responded to quinine or intestinal antiseptics.

Dr. Debayle, in closing the discussion, said he had at first believed that these fevers were typhoid; in other cases that they were tuberculosis; in others that they might probably be cases of Malta fever. But he was convinced that Malta fever existed in Nicaragua, with its typical remission on the twenty-first day, while in these cases, which he had just described, the temperature was never remittent or reduced to normal. The symptoms were distinct from those of Malta fever. He intended to make new investigations in regard to this fever on his return to Nicaragua.

Fiebre de Borras.—Dr. Luis Perna, of Cienfuegos, read a paper on this subject. This disease, he stated, was a very grave fever. It usually attacked children, but could present itself in the aged. It was characterized by black vomit, either small in quantity or very abundant, which might come on immediately following the initial fever, or several days after. Very rarely was it accompanied by albumin, and never by epistaxis, melæna, hiccough, or icteric discoloration; it might attack the same person more than once; both whites and negroes were susceptible; it was malarial in origin, and consequently its rational treatment was by quinine. Analysis of the blood had always demonstrated the presence of the malarial parasite. It was different from yellow fever in that it was not contagious and was not accompanied by albumin, hiccough, epistaxis, or icteric discoloration.

Dr. Edelman, of Havana, was of the opinion that fiebre de Borras was a syndrome, and not a pathological entity. He had seen cases which were clearly those of yellow fever and others which were undoubtedly attacks of malaria. He had never observed cases due to typhoid fever nor profound lesions of the gastro-intestinal tract.

Dr. San Martin believed that fiebre de Borras was not a pathological entity but a symptom which might present itself in other fevers, as in yellow fever or malaria.

Dr. Dueñas was not going to discuss whether or not fiebre de Borras was what these fevers were, but would later on take up this subject in a paper which he was to read on the diagnosis of this disease in the native Cuban. But he wished to cite the fact that Kelock, Kierner, and Loupy had described the severe hemorrhages from the mouth which took place in the hæmoglobinuric bilious fever.

Dr. Moreno did not believe that fiebre de Borras was a paludic fever. He believed that fiebre de Borras was a form of yellow fever in natives. From the results of these discussions it was evident that the same difference of opinion existed now in regard to the duality of these two fevers, yellow fever and fiebre de Borras. Many native physicians were of the opinion that it was a peculiar fever which attacked children; others that it was a form of malaria, others that it was a symptom of various conditions, while the majority believed that fiebre de Borras was the yellow fever in the native.

The Etiology of Yellow Fever, an Additional Note.—Drs. Walter Reed, James Carroll, and Aristides Agramonte, United States army, presented this paper, read first in English by Major Reed and then in Spanish by Dr. Agramonte. The following is an abstract:

"In the preliminary note read before The American Public Health Association at its meeting at Indianapolis, Ind., October 22 to 26, 1900, we arrived at the conclusion, based on observations made by us, that the mosquito was the intermediate host for the parasite of yellow fever.

"In this additional note we present the results of our further investigations on this important subject, which we have continued at an experimental sanitary station (Camp Lazear) near the town of Quemados, Cuba.

"At this station, in strict quarantine, and with every source of infection absolutely excluded, we have succeeded in infecting 85.71 per cent. of those individuals who have been bitten by purposely contaminated mosquitos (Culex fasciatus). Our observations do not conform with the opinion that mosquitos carry the specific agent in their proboscis, and simply transfer it from one individual to another in a mechanical way, but appear to demonstrate that the parasite of this disease must undergo a definite cycle of development in the body of the mosquito before the latter is capable of conveying infection. This period would seem to be not less than twelve days.

"We also consider in this paper the question of house infection, and are able to show that this infection is due to the presence of mosquitos that have previously bitten yellow-fever patients; and that the danger of contracting the disease may be avoided in the case of non-immune individuals, who sleep in this building, by the use of a wire screen.

"We also demonstrate by observations made at this camp that clothing and bedding contaminated by contact with yellow-fever cases, or by the excreta of these patients, is absolutely without effect in conveying this disease.

"Conclusions: 1. The mosquito (Culex fasciatus) serves as an intermediate host for the parasite of yellow fever.

"2. Yellow fever is transmitted to the non-immune individual by a mosquito that has previously fed on the blood of those sick with this disease.

"3. An interval of about twelve days or more after contamination appears to be necessary before the mosquito is capable of conveying the infection.

"4. The bite of the mosquito at any earlier period after contamination does not appear to confer any immunity against subsequent attacks.

"5. Yellow fever can also be experimentally produced by subcutaneous injection of blood taken from the general circulation during the first and second days of this disease.

"6. An attack of yellow fever, produced by the bite of the mosquito, confers immunity against a subsequent injection of the blood of an individual suffering from the non-experimental form of this disease.

"7. The period of incubation in thirteen cases of yellow fever has averaged from forty-one hours to five days and seventeen hours.

"8. Yellow fever is not conveyed by fomites and hence disinfection of articles of clothing, bedding, and merchandise, supposedly contaminated by contact with those sick of this disease, is unnecessary.

"9. A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitos, capable of conveying the parasite of this disease.

"10. The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitos, and the protection of the sick against the bite of these insects.

"11. While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered."

Dr. Perna said we must not fall into the error of "post hoc ergo propter hoc," an error already made by Carmona, Freyie, Sanarelli, and others; we must not be too precipitate in accepting the result of statistics. The studies made of mosquitos were very old, and he stated that a French physician, who died about the year 1850, had expressed the opinion that malaria, yellow fever, and cholera were propagated by mosquitos. Dr. Perna also criticised the methods employed by the commission in making experiments on human beings, and stated that he was entirely opposed to such experiments.

Dr. San Martin defended eloquently and with strong arguments the high scientific standard of the experiments as carried out by this commission, and also brought out the point that it was not statistics but facts that this commission presented.

Dr. Holbeck, of Charleston, S. C., was particularly interested in the paper, and expressed his opinion that the problem of two hundred years was about to be solved, and that the old quarantine regulations should be greatly modified. He also described the existence of a pine belt within a short distance of the city of Charleston, in which yellow fever never developed as an epidemic, although patients with the disease would go there during the existence of an epidemic in Charleston, would die from the disease, and yet it would not spread. Mosquitos were not known in that region, and probably this was the true explanation of the above fact. He concluded by emphasizing the inestimable value of these experiments if they should prove to be true.

Dr. Martinez enforced Dr. San Martin's views. He took up the moral question and claimed that without these experiments no truth could have been found.

Dr. John Guiteras, who up to within a short time had opposed the theory of the transmission of this disease by mosquitos, now accepted as incontrovertible the results of the experiments of the commission. He had followed with interest many of the experiments, and as a member of the commission saw most of these cases which he had no hesitation in pronouncing typical cases of yellow fever. A fact which impressed him forcibly was the absolute control of the epidemic by Dr. Reed. The cases would develop or not as he wished. He did not think that the mosquito should be called the Culex fasciatus. Giles' description of the Culex tiniado mosquito agreed more closely with it than with the Culex fasciatus. He described the difference between them. He was inclined to consider the yellow-fever mosquitos as belonging to a genus apart, because they laid eggs different from the other form of Culex.

Dr. Finlay expressed his admiration for the work of the commission. He said that he believed that this session of the congress would go down in history as one of transcendent importance. He believed that the differences between his opinion and that held by the commission would disappear in the course of time. He stated that they were based upon the fact that he experimented with three varieties of mosquitos, while the commission had been restricted to one variety; that the board was placed upon a better footing for obtaining satisfactory results; that the negative result obtained by the inoculation of mosquitos of short infection should not induce the commission or the board to make such hard-and-fast rules as were evidenced in its conclusions. The mosquito theory, so far as he was able to trace it by personal efforts, might be said to have reached only its evolutive stage, awaiting the absolute confirmation of some of its essential points.

Dr. Reed, in closing the discussion, said that he was profoundly impressed with the interest and attention given to these experiments. In regard to the moral aspect of the case, he did not think that any one appreciated the position in which he found himself; the difficulties that beset his path. The first experiment was made on a member of the board, Dr. Carroll. The senior member of the board expected to take his bite in turn, but was unexpectedly called north. As no animal could be given the disease and it was useless to follow the previous indefinite experiments, it was absolutely necessary to make these experiments on human subjects, or otherwise volumes could have been written and discussed and yet we should have been no nearer the truth than at first, No progress could have been made toward an exact knowledge of the disease unless human subjects had been used. All experiments were performed upon persons who had given their free consent. In reference to the remarks of Dr. Holbeck, of Charleston, he simply stated that the disinfection of vessels should by no means be dispensed with, but only that of such articles as bedding and clothing; it was necessary to get rid of the mosquitos and this simplified the process of disinfection. In regard to the remarks of Dr. Guiteras in reference to the name of the mosquito, Dr. Howard, of Baltimore, had told the speaker that Culex fasciatus was identical with Culex tiniado as described by Giles. Theobolt separated Culex tiniado from the genus Culex and placed it in a new genus Stegamina. These laid their eggs in a peculiar way, and there was also a difference in the anterior claws of the male insect from those of the other Culex. There was also a difference in the larva of the Culex fasciatus. It was very interesting, too, to note the fact that this was the very mosquito that Dr. Finlay used in his experiments; and if this particular mosquito did not belong to the genus Culex, we found that malaria had a genus of its own (Anopheles) and yellow fever the genus Stegamina.

(To be concluded.)

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 7, 1901.

ROBERT F. WEIR, M.D., PRESIDENT.

The Late Dr. Horace Green.—DR. D. B. ST. JOHN ROOSA presented to the academy, on behalf of Mrs. Green, a bust of the late Dr. Horace Green. He said that according to laryngologists of note this man must certainly be looked upon as an eminent pioneer, one whose place in medical literature could never be effaced.

Conservative Operations upon the Uterine Appendages.—This was the subject selected for this evening's discussion, and presented to the academy under the auspices of the section on obstetrics and gynæcology.

Their Technique.—DR. J. RIDDLE GOFFE opened the discussion by the consideration of this topic. He said that one of the simplest of the operations to be considered that evening was the opening of the posterior fornix and the breaking up of adhesions. Perhaps the next simplest procedure was the opening of cysts of the ovaries. The next step would be to remove the diseased portions of the ovary and at the same time preserve the remaining portions. This was done by taking a slice from the organ. Professor Clark, of the University of Pennsylvania, had recently demonstrated to the New York County Medical Association the marvellous vascular supply of the ovary. This consisted of a system of freely anastomosing vessels, thus allowing of considerable injury to portions of the ovary without sacrificing the vitality or function of the remaining portion. Attention was called to the anatomy of the broad ligament and to the analogy between the arrangement of the blood-vessels and of the peritoneum in connection with the intestine and with the ovaries and tubes. In a case of pyosalpinx, when it was desired to resect a portion of the tube, the first step was to control the blood supply of the distal portion of the tube by quilting up the tissues by the insertion of sutures, and then an oblique section was made. To keep the mouth of the tube patulous an operation was then done on the stump of the tube, which was similar in some respects to that of circumcision. Referring to ovarian transplantation the speaker said that, of course, the chief object of all such work was to preserve to the woman the menstrual experiences, and thus save her from many of the distressing nervous disturbances that followed the removal of both ovaries.

The Significance and Importance of Such Conservative Operations.—DR. WILLIAM M. POLK discussed this subject. He said that the importance of such work was self-evident, but surgeons had been slow to adopt such methods because they were loath to leave behind in a tissue like the peritoneum any disease which might perhaps jeopardize the life of the patient. Now that the propriety of conservative surgery in this field had been demonstrated, the importance of such work increased with the extent of the new field opened up. The cases presenting themselves for this class of work naturally divided themselves into two great classes, viz.: (1) Those resulting from sepsis, and (2) those due to specific infection. The speaker said that the circulation of the ovary, like that of other glandular structures, was so jealously guarded that there was no reason why all of the ovary should be sacrificed because a part happened to be diseased. But unfortunately the surgeon did not know the kind of cysts in the ovary which would remain quiescent, and until in the position to decide this point one could not predict with certainty the results of allowing such formations to remain. In spite of this it seemed proper for the surgeon to advise conservative surgery on the ovary in women within the child-bearing period. This policy would probably give the greatest symptomatic relief in the largest proportion of cases. In his opinion, one was justified in doing a plastic operation on the ovaries for the sole purpose of promoting maternity.

The Immediate and the Remote Results in One Hundred Cases.—DR. W. L. BURRAGE, of Boston, read this paper. Three of his patients, out of one hundred and fifty-six, died as a result of operation. One of the cases was a colpotomy with secondary hemorrhage; the second was an ectopic pregnancy; the third a case of multiple operations for adherent retroversion and salpingitis in a greatly debilitated person. Some of his patients had had a good deal of pain after resection of the ovary, and many of them had also exhibited a temporary enlargement of the ovary. As these symptoms had not been observed so frequently in his more recent cases, he was inclined to attribute them to imperfect hæmostasis after free puncture of cysts. It should be borne in mind that conservative operations generally required a somewhat longer time than other operations for their performance. His general rule was not to do more than could be accomplished within two hours, the total time the patient was under ether being of great importance. An instance had been reported in literature in which an abdominal pregnancy had occurred in a case in which the uterus had been extirpated, leaving one ovary and tube. A symptomatic cure had been noted in 73 out of 100 cases, and an anatomical cure in 44 out of 69 cases in his practice. It should be noted that 34.5 per cent. of the women who had previously borne children had become pregnant after the operation. In no instance had pregnancy occurred after resection of a closed tube, both tubes being closed at the time of operation. Out of 85 cases, in only one, a syphilitic, was another operation necessary because of subsequent enlargement of an ovary from cystic disease. In 7 other cases, cystic at the operation, it had been noted that enlargement had taken place subsequently. As far as could be determined, the amount of ovarian tissue present bore no definite ratio to the amount of menstrual flow or to the degree of sexual desire retained. When the tubes were open at the time of operation pregnancy was common after operation, even though only a small fragment of ovary was allowed to remain. A case was reported in which pregnancy had occurred twice after an operation in which both tubes and one ovary had been removed. He had carefully removed both of the tubes at the operation, hence the pregnancy must have occurred without the intervention of a tube.

DR. ROBERT F. WEIR commented upon the remarkable success that had attended the efforts of the gynæcologists to unite divided Fallopian tubes, and said that this was in striking contrast with the poor results achieved by general surgeons in their attempts to unite the vas deferens and the urethra when accidentally divided.

An Experience in One Hundred and Eighty-Two Similar Cases.—DR. A. PALMER DUDLEY presented a *résumé* of his experience in these cases. He said that conservative surgery, as already presented this evening, was really much more radical and dangerous than that kind of surgery which one was wont to call radical surgery. It was conservative in the sense that it preserved certain functions to the woman. He had been working in this field for twelve years, and in all that time had felt justified in selecting only one hundred and eighty-two of his cases for this kind of surgical work. It was believed that the circulation had everything to do with the results of conservative work. Many of these women would never have come under the knife had there not been some disturbance of the

circulation of these organs. He personally preferred not to use the cautery in the treatment of ovarian cysts, for no one could tell how far the destructive action of the cautery might extend; he preferred to open the cysts and destroy the sac without injuring any other portion of the ovary. The life of the ovary depended upon its vascular supply, and that was why cystic degeneration was so much more extensive on the upper surface. In former years it had been customary to apply to the tubes a catgut ligature which actually and completely closed them for only a few days. His own belief was that the reason pregnancy could occur when there was only half a tube was that by a suction action of the pelvic floor the blood serum, which was found normally in the pelvis at each menstrual period, was carried into the uterus, and along with this the ovum was conveyed into the uterine cavity. He had records of one hundred and twenty-nine cases in which the patients had been cured of all symptoms and restored to health. Plastic work on the ovary had been done one hundred and twenty times. He had learned of twenty-seven pregnancies having occurred since operation, twenty-two of which had terminated in the birth of living children. In six cases he had done ovarian implantation—not ovarian transplantation. By implantation he meant that he had cut a V-shaped piece out of the ovary to reduce its size, and had then implanted it into the fundus of the uterus in such a manner that it protruded into the uterine cavity. In every one of these six cases the menstrual function had been re-established. Dr. Dudley said that at the International Medical Congress in Amsterdam in 1889 he had reported his first case of ovarian implantation, and had asked the world to produce any similar case, but there had been no response. In a recent article in the MEDICAL RECORD a writer had made the statement that he had, in years gone by, done this operation of ovarian implantation, but in spite of this assertion he had as yet failed to give the date of his operations of this kind.

Some Drawbacks to Conservative Surgery.—DR. H. C. COE commented upon the fact that some of the surgeons who not many years ago were removing tubes and ovaries which did not seem to show any evidence of disease, were now clamoring for conservative surgery on the uterine appendages. For about five years past he had been constantly practising conservative surgery in this field, but he had never felt that he could do this properly by the vaginal route. It was important, after such work, that the appendages should be fixed in their normal position by suture, and this necessitated abdominal section. There were some drawbacks to this conservative work. It was very simple, of course, to separate adhesions, but he did not believe it was always possible to prevent them from re-forming, as was proved by the secondary operations on cases which had had an ideal convalescence after the first operation. In former years a few cysts on the surface of an ovary had been enough to condemn it, yet we were not in a position even now to decide between harmless and harmful cystic formations. Operations on the tubes, as Dr. Dudley had said, required the exercise of good judgment, and it was probable that his bad results in this class of cases were to be explained by an absence of that good judgment and that large experience so necessary to achieve success in this particular field. In several of his cases of conservative surgery there had been a return of the symptoms, and in only one or two had pregnancy occurred and gone to term. In three cases cysts about the size of an orange had developed in the portion of ovary that had been allowed to remain. According to his experience, women were not so extremely anxious to become pregnant as they were to be rid of the symptoms for which they sought relief. It seemed, therefore, that the patient should have sufficient confidence in the surgeon to leave to him the wisdom or unwisdom of practising conservative surgery in a given case. Women were often greatly delighted to learn that a portion of ovary had been left behind, but if subsequently they experienced the old pain they were sure to think that this piece of ovary was the cause, and would bitterly upbraid the surgeon for having left it.

DR. H. J. BOLDT included among the cases in which conservative surgery might be practised cases of ovarian cystoma. The use of the cautery seemed to him a necessary supplement to puncture of small ovarian cysts.

DR. E. H. GRANDIN was doubtful if the word "conservative" was the proper term to apply to the class of surgery under discussion. In the cases in which he had tried it he had either had to operate again or the women had pestered him time and again because of symptoms which he had failed to relieve by the operation. He had been unable to follow his hospital cases, but he could recall a number of cases in private practice which had not yielded satisfactory results under this so-called conservative management. Some of these women had menstruated, it was true, but they had done so irregularly, and at times profusely, and they were disposed to ask why he had allowed it to continue. Until the gynæcologist was able to differentiate the cases upon which it was safe to practise conservative surgery he would not be in favor of such work. He hoped that that knowledge would be eventually in our possession, but certainly it was not ours at present. In many of the multiple operations reported this evening he was disposed to think that the good result had not been dependent upon the conservative surgery practised on the appendages, but rather to some of these other operations.

DR. PHILANDER A. HARRIS, of Paterson, was disposed to think there was a very happy medium between the conservatives and the radicals. Photographic records were presented to illustrate the character of his own work in this field.

DR. H. N. VINEBERG remarked that unless the gynæcologists could actually prove their ability to do conservative surgery successfully, they really had no right to exist. His experience corresponded quite closely with that given by Dr. Burrage. Many of the speaker's patients belonged to a class in which the question of child-bearing was one of very great moment; hence he had been compelled to resort to conservative methods very largely. In most of these cases the disease had extended to the appendages from the uterus, and it was the condition of the uterus itself which he thought would demand more careful consideration in the future.

The Auscultation of the Normal and Pathological Muscle Sound.—Max Herz has studied the auscultatory phenomena attending the contraction of muscles and thinks that some diagnostic value may be attached to the sounds so produced. If the ear be applied to a contracting or contracted muscle a sound will be heard resembling the first heart sound in character and intensity. It may easily be elicited by having the patient stand on tiptoe, and auscultating the calf of the leg, either directly or with the stethoscope. Another method is to let the patient pull with both hands at either end of a towel looped behind his neck. The sound is so loud that it is not necessary to lay bare the skin. While the author has not yet been able to formulate any distinct conclusions, he has observed marked variations in the nature and intensity of the sound in different pathological states, and doubtless further study will bring some interesting facts to light.—*Centralblatt f. innere Medicin*, January 5, 1901.

THE NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 9, 1901.

EUGENE HODENPYL, M.D., PRESIDENT.

Diffuse Gangrene of the Lung.—DR. LEON T. LE WALD presented several specimens. The first one was from a case of diffused gangrene of the lung. Nearly the whole of the lower lobe was found to consist of a soft greenish mass. Rupture had occurred into the pleural cavity, and the latter contained several ounces of dark greenish fluid. The patient was a man twenty-six years of age, who had been admitted to Bellevue Hospital on December 19th. On admission, a few moist râles had been found over both lungs, and his temperatures had been 103° F. A diagnosis of bronchitis was made. The urine contained a trace of albumin, had a specific gravity of 1.020, and was free from sugar. The next day the temperature was 99° but quickly rose to 104°. On the third day the man had a chill with a temperature of 105.4°. Eight hours later it had dropped to 98°, and again rose to 103° after a second chill. On the fourth day the sputum became offensive. The diagnosis of gangrene of the lung was made. Dulness was present over the upper portion of the lower lobe of the left lung. The temperature remained at about 104° for the next four days. Death occurred on December 26th. Examination of the blood at the time of admission showed a leucocyte count of 7,650. On December 20th the leucocyte count had been 22,000. Aside from the gangrene of the lung the autopsy showed evidence of septic infection. The spleen weighed two pounds two ounces, and was very soft and pale. The liver and kidneys showed parenchymatous degeneration. The lung was stained with eosin and methylene blue, but no cultures were made.

Death from Lodgment of a Plug of Tobacco in the Bronchi.—The second case was one in which death had resulted from the inhalation of a large piece of tobacco. A man, twenty-five years of age, had been found dead in a stable. The autopsy showed signs of asphyxiation. On removal of the lungs the piece of tobacco was found completely blocking both bronchi and extending up into the trachea.

A Case of Thrombosis of the Subclavian Artery.—The third case showed thrombosis of the left subclavian artery at a distance of one inch from the aorta. This had resulted in a dry gangrene of the arm extending up as far as the middle of the upper arm. The clot was formed on an isolated atheromatous patch. The patient was a man fifty-five years of age, and death had resulted from a septic broncho-pneumonia.

DR. HODENPYL remarked that the peculiar odor of this lung would lead one to suspect actinomycosis, but there was nothing else about the specimen to suggest this.

Advanced Fatty Change of the Heart.—DR. E. K. DUNHAM presented specimens from a case of advanced fatty change of the heart. The heart-muscle fibres from this case contained a great amount of fat. He had studied the case carefully to determine the relative amount of fat to the cell body. A diagram was shown, drawn to scale, of the heart-muscle fibre, the portions representing the fat drops having been cut out and weighed. It had been found in this way that about one-third of the area of the cell section consisted of fat. Measurements went to show that the area of the cell section was two and a half to three times that of the normal cardiac muscle fibre, so that the increase in the size of the cell was greater than the addition of fat. This raised the question as to whether this might not be an infiltration and not a degeneration. From these measurements there was certainly no reason for supposing that the fat was due to degeneration; on the other hand, fatty infiltration seemed quite a reasonable explanation in the light of these measurements. It was agreed that fat might be derived from proteids, because it was known that carbohydrates could be so derived. But the carbohydrates were so much more easily burned that it was probable that a large quantity of the fat in such cases represented a food-residue not readily oxidized and, in this sense, to be regarded as an infiltration. The case was one of very marked anæmia supposed, before death, to be pernicious anæmia, occurring in a person of forty years of age, but might have been one of secondary anæmia due to advanced interstitial nephritis. The accumulation of fat in these heart-muscle fibres was probably the result of a failure to burn the fat readily owing to the anæmic condition. Three sections from this case were exhibited under the microscope.

Congenital Absence of the Kidney.—DR. OTTO H. SCHULTZE presented specimens from a man about thirty years of age, of whose clinical history nothing was known. The cause of death had been clearly shown to be an acute lobar pneumonia involving the upper and lower lobe of the right lung. The point of interest was the absence of the left kidney. A little above the level of the sacro-iliac synchondrosis was a vestige which was taken to be the "anlage" of the kidney and ureter. By this term was meant not only the site but the actual tissue which should have developed into a given organ. This vestige consisted of a canal in which there was a distinct bend. The upper portion was dilated into an ampulla composed largely of connective tissue with here and there a canal. Under the microscope this canal resembled closely a well-developed ureter. Above this enlargement were three canals branching off and passing externally to the ampulla. They were about 6, 5, and 3 cm. in length respectively. On cross section a number of canals could be found, and these were lined with cuboidal epithelium. The contents consisted of dark brown material which was shown under the microscope to consist of epithelial detritus. This duct he took to be the ureter, and the division as having taken place before the formation of the kidney. Surrounding this tube a fascia or sheath, passing from the brim of the pelvis into the true pelvis and inguinal canal, apparently connected with the tunica propria of the testicle. The testicle and epididymis were present, but they did not occupy their normal relations, the epididymis being stretched out above the testis. The tunica vaginalis testis passed upward and included the tail of the epididymis. From the latter a very thin duct could be traced upward; it was apparently the vas deferens, but was lost at the bladder wall. On dissecting up the peritoneum the vas deferens and vesicula seminalis with the ejaculatory duct were seen on the right side. The seminal vesicle on the left side was not nearly so well developed. The orifice of the right ureter was quite distinct; that of the left ureter could not be found, nor could any trace of the left ureter be discovered at the bladder. This was because the left ureter passed upward upon the bend mentioned, becoming atrophic. Sections of the ureter had been made in various places, and of the right and markedly hypertrophied kidney. The size of this kidney was apparently due to compensatory hypertrophy.

DR. DUNHAM asked if the recurrent portion of this ureter had been examined microscopically.

DR. SCHULTZE said that this portion had not as yet been examined.

Cases of Primary Malignant Neoplasm of the Lung and Pleura.—DR. I. ADLER presented specimens taken from a man twenty-five years of age, who

had entered the hospital with symptoms of obstruction of the upper part of the cava. Soon afterward symptoms indicative of obstruction of the lower part of the cava also were developed. There was a large area of flatness over the right chest. The heart was displaced toward the left, and puncture showed no fluid. A diagnosis of primary malignant neoplasm of the right pleura had been made. The man had been absolutely well up to a few weeks before coming to the hospital, yet death had occurred about two weeks after admission. The autopsy had verified the diagnosis of such a tumor involving the mediastinum and causing pressure on the cava. The tumor peeled off quite readily from the sternum, leaving intact bone and fibrous tissue beneath. The tumor mass filled the anterior portion of the chest, and the lung was compressed upward and backward toward the spine. The diaphragm was displaced downward and the anterior mediastinum was filled with these masses. The upper cava was almost completely obstructed by the pressure of the growth; the lower cava was obstructed but not to the same extent. The left lung was normal. With the exception of a few secondary deposits in the liver this organ was normal.

Dr. Adler presented a specimen from a second case of this kind. It had been taken from an old man who had been admitted to the hospital with a diagnosis of pulmonary consumption. He had not seen the man during life. At the autopsy the upper portion of the left lung was found to be made up of a tumor mass of soft and friable nature, and involving the pleura. Toward the apex the lung was more or less infiltrated with tumor substance. The lower lobe was nearly free, and the right lung was completely free. On section of the lung the invading mass was shown not to be fibrous but distinctly tumor tissue.

The third case presented had come under observation only a few weeks ago. The patient was a man about sixty-seven years of age, who had been well up to two months before admission to the hospital. At that time he had begun to fail in health and strength, and complained of some pain in the right chest and of difficulty of breathing. He was extremely cachectic and feeble. There was complete dulness of the anterior portion of the right thorax; the heart was displaced to the left and its action was very feeble. There was absolute flatness over the anterior part of the chest. There was an area of tympanitic percussion note with lung resonance in the upper portion of the right thorax, and an area of well-marked dulness about half an inch wide extending across the chest, and again an area of tympanitic resonance, and again an area of absolute flatness. Here auscultation revealed no respiratory sound. The area of dulness gave diminished respiration with a few râles and considerable friction. Anteriorly there were no respiratory murmur and no vocal fremitus. It had been assumed that there was fluid in the chest, chiefly low down posteriorly, and that the area of dulness between the tympanitic areas was due to tumor infiltration originating in the pleura. In addition, it was thought that there were metastatic deposits in the lung itself and some hemorrhagic effusion. The autopsy confirmed this diagnosis. Neither the aorta nor the heart was affected by the surrounding mass of new growth. There were a few secondary deposits in the liver and in the right kidney. The left adrenal had been converted into a huge mass of tumor tissue.

The fourth specimen presented by Dr. Adler had been taken from a man whom he had seen quite frequently for a number of years in the practice of Dr. Lewengood. The man had appeared exceedingly healthy, but was annoyed by a persistent cough and by some pain in the left apex. Examination had shown absolute dulness at this apex with absence of respiratory and vocal sounds. There was also bloody expectoration, and this had been repeatedly examined microscopically but with negative result. A diagnosis of tumor had been made quite early because this dulness had crept steadily backward. Death had occurred from a sudden and profuse hemorrhage. The autopsy had revealed a very thick pleura, which the microscope showed to be due to tumor tissue. There was considerable tumor tissue around the pericardium and the latter was very much thickened. Some of the tumor tissue grew into the heart. There were a few small metastatic deposits in the liver, the kidney, and the bronchial glands.

Commenting upon these four cases, Dr. Adler said that all of them had presented the same features under the microscope. These were illustrated by several drawings. All of these tumors were really endotheliomata. There had been considerable discussion on endothelium and epithelium, and their very similar structure. Waldeyer was inclined now to call the covering of the serous membranes epithelium, but it would seem that the name endothelium should be restricted to the lining of the lymph channels, the covering of the blood-vessels, and the lining of the blood capillaries. His own studies had led him to this conclusion long ago. When he said that these tumors were endotheliomata he had meant that they originated from the pleura and from the pleura alone, and that the cellular portions had originated in every one of these cases from the lining of the lymph channels. These growths had not originated from the epithelium of the free surface of the pleura or from the tissue of the lung. Wherever the lung in these cases was seen affected the involvement was secondary. From the studies that he had been able to make and from a careful examination of the literature he was inclined to believe that primary tumors of the lung originated only from the bronchial tract, from the epithelium of the bronchial surface, and especially from the epithelium of the bronchial mucous glands. They were in every case carcinomata. All the other tumors which did not originate from the bronchial surface or from the bronchial mucous glands originated from the pleura, and were all endotheliomata in the sense already mentioned. As such they must be classed among the fibrous-tissue tumors, and in close proximity with the sarcomata. The alveolar portion of the lung had thus far not been shown to be the seat of a primary tumor.

Cerebellar Abscess; Rupture into the Fourth Ventricle.—Dr. George P. Biggs presented a specimen of cerebellar abscess taken from a man forty-one years of age, who gave a previous history of defective hearing since the age of twelve years, following an attack of scarlet fever. Discharge from both ears has occurred at intervals, the last time being two months before admission to the hospital. Eleven days before admission he had been seized with severe pain in the back of the head, with vomiting and with partial paralysis of the right side of the face. His chief complaint was headache. On admission he was apathetic and in poor general condition. There were paralysis and impaired sensation and touch on the right side of the face, and the tongue deviated to the left.. The left pupil was larger than the right, and both reacted to light. The neck was rigid and tender. There were nystagmus, and conjunctivitis of the right eye. The pain in the head continued to be severe, and was associated with delirium. Death occurred three weeks after the onset of the acute symptoms. During the last few days of life hiccough was very persistent. The temperature varied from 100° to 103.6° and the pulse between 90 and 105. At the autopsy a meningitis was found at the base, and particularly over the right lobe of the cerebellum.

Around the seventh and eighth cranial nerves on the right side was considerable purulent exudate, and these two nerves were distinctly softened. The lateral ventricles were moderately distended with sero-purulent fluid, as was also the third ventricle. In the fourth ventricle, which was considerably distended, were some offensive pus, and a pyramidal-shaped mass of necrotic material measuring 2 cm. in length and 1.5 by 1 cm. at the base. This mass of necrotic tissue had originated in an abscess in the right cerebellar lobe close to the pons. A communication had been established between the fourth ventricle and this cavity by a rounded opening measuring 1.5 by 1 cm. The abscess cavity was pyramidal in shape, with the base looking back toward the ventricle and its apex forward toward the middle peduncle. There was also a small perforation at the anterior extremity of the abscess cavity. The cavity measured 3 cm. anteroposteriorly, 2 cm. horizontally, and 1.5 cm. vertically. The floor of the fourth ventricle was covered with a thick layer of greenish and offensive pus. The petrous portion of both temporal bones was thickened, and on the right side there was a quantity of offensive pus. The smooth rounded opening between the abscess cavity and the fourth ventricle suggested a process of some duration.

Splenic Tuberculosis of Unusual Type.—Dr. Biggs also presented specimens from a case of general tuberculosis, occurring in a colored child of nine years. The interesting feature was the tuberculosis of the spleen, which was very extensive and was characterized by firm, gray tuberculous nodules of unusually large size, having the appearance on first inspection of tumors. The spleen weighed 280 gm. and the nodules were ¼ to 1¼ cm. in diameter. Microscopical examination showed extensive caseation, and but very few giant cells. In other parts of the body the tubercles also showed a tendency to grow to an unusual size, and to be the seat of extensive caseation.

A second specimen exhibited was from a colored man fifty-three years of age, with a history of tuberculosis extending over five years. The tuberculous process was quite general throughout the body. The spleen was very large and intimately adherent to the surrounding tissues. It weighed 1,010 gm. In this spleen were very large groups of miliary tubercles very closely aggregated, forming firm grayish areas ½ to 2 cm. in diameter. Microscopically these areas showed the usual structure of miliary tubercles with many giant cells, a pronounced tendency to the formation of fibrous tissue, and but slight coagulation necrosis. The same features were noted in the tuberculous lesions of other parts of the body.

Dr. Theodore C. Janeway asked if there was any record to show how long before death the enlarged spleen had existed.

Dr. Biggs replied that both cases had been in the hospital only a few days, and no record on this point had been obtained. In both cases the enlargement of the spleen had been easily made out on physical examination.

Two Cases of Bacterial Infection of the Urinary Tract.—Drs. A. W. Williams and R. J. Wilson reported these cases, which, they stated, were chiefly interesting by reason of the fact that they illustrated very forcibly how bacteriological examinations might assist the surgeon in his work. The first case was one of kidney infection and one in which no positive diagnosis had ever been made until after the bacteriological examination of the urine, although several diagnosticians had suggested a number of probable causes that included everything from cancer of the kidney to tuberculosis. Briefly the clinical picture was one in which the patient was suffering from a mental disturbance, involving the loss of memory, at times so profound as to approach loss of reason. This was not a constant condition but was periodic, and it was noticed that the period of greatest disturbance occurred at the time that the urine of the patient was clear. This led to the bacteriological examination of the urine at a time when the patient was improved and the urine was very cloudy. The results of this bacteriological examination were as follows: The hanging drop showed many quiescent leucocytes and an immense number of non-motile bacteria; these latter were principally in the form of short bacilli with rounded ends, singly and in twos, with occasional short threads and coccus forms. Poured and streaked agar plates showed only two varieties, one greatly in the minority, from which was isolated the bacillus fluorescens liquefaciens (probably a contamination). The large majority of the colonies were composed of an organism having the following characteristics (in twenty-four-hour cultures): a short, thick, non-motile, pleomorphic bacillus with rounded ends, occurring singly and in twos, with occasional short threads and coccus forms; it was decolorized by Gram; in glucose broth at twenty-four hours there was marked polar staining; no spores were seen, in twenty-four hours there was abundant production of gas, and milk was firmly coagulated; gelatin was non-liquefied; there was growth along the entire stab, the surface growth was somewhat raised. On surface agar there was an abundant porcelain-like growth. The individual colonies had entire margins. On potato there was a yellowish-white abundant growth, with formation of gas. Three cubic centimetres of a twenty-four-hour broth culture inoculated into a guinea-pig intraperitoneally caused death in twenty-four hours. It would be seen that the characteristics of this organism corresponded very closely with those of the B. aerogenes as given by Flügge. It must be placed, therefore, in the coli communis group as a variety of that organism. The mental condition of the patient was now accounted for by toxæmia resulting from the poisons produced by the activity of the organisms retained in the pelvis of the kidney by occlusion of the ureter. When there was no communication between the bladder and the kidney, due to this occlusion, the urine would become clear and the mental symptoms become progressively worse until the flow of urine was again established, with consequent free and natural drainage into the bladder. After this natural drainage the mental symptoms would clear up until there was another stoppage of the ureter. This occlusion of the ureter, with the consequent symptoms, was occurring with such frequency that the advisability of draining the kidney by operation was considered. Here the surgeon was confronted by a condition that might well make him shrink from advising such an undertaking; in fact, all of the consultants did advise or suggest the expectant plan which in this instance simply meant waiting for the patient to die. These were the conditions: the patient, a lady seventy-three years old, was suffering from frequently recurring attacks of toxæmia, and as a result thereof was in a weakened and debilitated condition which made the prognosis a matter of days only (without the added shock of operation), and the possibility that after all the operation might not relieve the symptoms. It was no wonder that the surgeons hesitated. The operation was performed, the kidney drained from the outside, and the patient made a splendid and complete recovery. A few weeks after the operation they made cultures from the open sinus and the urine from the bladder as well, with a view to determine what organisms were present; the surgeon undoubtedly having in mind the advisability of allowing the sinus to close. The cultures were interesting from the fact that they showed the same organisms present in the urine and in the lower

end of the sinus, which communicated with the pelvis of the kidney, these being identical with the principal organism found in the previous examinations. The outer end of the sinus and the pus from the drainage tubes showed mixed infection in which the staphylococcus pyogenes aureus was predominant. The second case was that of a lady who suffered with considerable pain in the loins, had a slight elevation of temperature, and whose urine was somewhat cloudy and contained pus cells. The urine was collected under favorable conditions and sent to the laboratory for bacteriological examination; there it was found to contain several million bacteria for every cubic centimetre. In the poured agar plates two varieties were found in about equal numbers. One resembled that found in the first case, except that it possessed a moderate degree of motility; the other showed less abundant growth on all the culture media, the organisms were longer, more slender, showed polar staining, and were non-motile. In all other characteristics the latter resembled the first culture. They must, therefore, be classed as varieties of the bacillus coli communis. The diagnosis of infection of the pelvis of the kidney was made and operation arranged for. It was suggested that before operation the ureters be catheterized and the urine from them examined; when this was done it was found that the urine directly from the ureters was practically free from organisms, while that from the bladder showed the same number as before. From these examinations it was evident that the main infection was of the bladder. Operation on the kidney was given up and the bladder washed out with weak boric-acid-formalin solution and the patient made a good recovery.

Dr. W. H. Park said that he had been much interested in these two cases on account of the sharp contrast between them. In the former case the surgeon had been loath to operate until encouraged by the results of the bacteriological examination; in the second the surgeon had been on the eve of operating on the kidney when restrained by the bacteriological examination. The practical value of such examination was well emphasized in these cases.

Remarks on Some Uses of Paraffin in Bacteriological Work.—Dr. Park spoke on this subject. In the growth of tetanus and other anaerobic bacteria a layer of paraffin melting at 42° C. on top of the culture media had been found to give very good results. The growth of the bacteria and the development of toxins had been as rapid as under the usual methods. The very hot sterile melted paraffin could be poured on after the inoculation of the media, or inoculation could be made through the fluid paraffin, the culture media and paraffin having been sterilized together. The method seemed to be simple and effective. The paraffin could be readily separated from the glass by gentle pressure and the culture drawn off if desired.

A Further Report on the Action of Moderate and Intense Cold on Bacteria.—Dr. Park made this report. He said that the original report had been on the effect of cold on the typhoid bacilli in water. Twenty cultures had been frozen for varying lengths of time. On an average the cultures showed 42 per cent. of the bacilli living for half a week; 14 per cent. for one week; 7.5 per cent. for two weeks; 0.4 per cent. for three weeks; 0.1 per cent. for five weeks; .09 per cent. for seven weeks; .05 per cent. for nine weeks; .005 per cent. for twelve weeks; .002 per cent. for fifteen weeks; .0001 per cent. for eighteen weeks. At twenty-two weeks all of the bacilli in the twenty cultures were dead in the water. For the first three weeks all of the cultures were alive in the water. There was evidently quite a difference in the viability of the cultures. Experiments had also been made with the bacteria exposed to liquid air for different periods. At the end of three minutes only 18 per cent. of the typhoid bacilli were living; at the end of sixty minutes only 7 per cent. The colon bacillus acted very similarly. The hay bacillus with spores showed 55 per cent. living at the end of two hours. The streptococcus and diphtheria bacillus were tested for virulence after two hours, and this was found to be unaltered. Motile bacteria were found to be but little excluded from water in the act of freezing.

Tubal Abortion.—Dr. H. J. Boldt presented a specimen showing very well the process of tubal abortion. At the uterine extremity the tube was entirely occluded, while the abdominal extremity was well open. As a rule, the embryo was expelled in the course of a few days, but from the history in this case the process of expulsion had been going on for about three weeks. It was not common to have much hemorrhage from the vaginal route, yet in this case the hemorrhage had been so profuse that the clots were as large as in an ordinary intra-uterine abortion.

Spontaneous Diastasis of the Caput Femoris.—Dr. V. P. Gibney presented several specimens. The first one was of spontaneous diastasis of the caput femoris. Two days ago he had proceeded to excise the head of the femur in a child having a mid-dorsal Pott's disease and disease of the hip joint. The presence of a fluctuating tumor above the trochanter major had led him to attempt excision. On making the incision a little pus had been evacuated, and his finger had then felt the head lying loose in the acetabulum, and as sharply separated from the acetabulum as if it had been done with a saw or chisel. The acetabulum was perfectly smooth, but within the head of the bone was softened tissue which the pathologist thought to be tuberculous. He had seen only one other similar case, and in that one the head had been found lying in Scarpa's space.

Osteomyelitis of the Femur.—The second specimen was one of osteomyelitis of the femur. The child had developed the osteomyelitis about one year ago. Three months after admission it had been found that the left knee was apparently the seat of a phlegmonous inflammation. Two weeks later thick pus had been removed by aspiration. Finally an incision had been made on either side of the knee, and the pus evacuated. Two weeks later the incision had been enlarged. The tissue was found to be tuberculous. Since that time there had been no attempt at healing, and consequently a few days ago the thigh had been amputated. The centre of the bone had been found broken down and fetid. On sawing through the bone the epiphysis was found to have disappeared, and only the shell of bone remained. The pathologist had been unable to arrive at any conclusion regarding the etiology of the osteomyelitis or of the tuberculous process.

Tabes and Diabetes Mellitus.—J. Pal calls attention to the fact that, while great care is necessary to differentiate these two diseases owing to the frequency with which diabetes presents symptoms closely simulating early stages of spinal lesion, the two may also occur concomitantly in the same person, and cites a case in point. In this patient the gravity of the condition was increased by the development of pulmonary tuberculosis, which appeared to be the most active feature in causing death. At the autopsy a well-developed aortitis, supposably syphilitic in origin, was found, and the author thinks that this affords a clew to the combined clinical picture. The specific infection may be taken as standing in some causal relation to the tabes and the endarteritis, which latter in turn predisposed to the diabetes.—*Wiener klinische Rundschau*, January 6, 1901.

Therapeutic Hints.

Cystitis.—

℞ Spir. chloroformi ..... ʒ iij.
Tr. digitalis ..... ʒ iss.
Potass. acetat..... ʒ ss.
Infus. buchu.....q.s. ad ʒ viij.
M. S. One or two tablespoonfuls t.i.d.

—KELLY.

To Hasten Expectoration in Catarrhal Pneumonia.—

℞ Potassii iodidi ..... ʒ i.
Tinct. opii camph..... ʒ i.
Spt. ammon ..... ʒ ss.
Syrupi ..... ʒ iv.
M. S. Teaspoonful a dose.

—CAILLÉ.

Acne Due to Digestive Derangement.—

℞ Creosoti ..... ♏ ss.
Cerii oxalatis..... gr. ij.
Pepsini pur..... gr. i.
Strychninæ sulph..... gr. $\frac{1}{30}$
Tr. belladonnæ ... . ♏ ij.
Podophyllotoxini ..... gr. $\frac{1}{10}$
M. et ft. capsula No. i. S. One such capsule to be taken after each meal and at bedtime, if needed.

Externally, apply:

℞ Acidi salicylici ..... gr. xx.
Ol. eucalypti..... ♏ x.
Acidi borici..... ʒ ss.
Ungt. zinci oxidi,
Ungt. aquæ rosæ .....āā ʒ ss.
M. et ft. ungt.

—SHOEMAKER.

Tonsillitis.—

℞ Tr. guaiaci ammon.,
Tr. cinchonæ comp .....āā ʒ vi.
Potass. chloratis..... ʒ ij.
Mellis..... ʒ vi.
Acaciæ ..... q.s.
Aquæ.....q.s. ad ʒ iv.
M. S. A teaspoonful used as a gargle in a little water three or four times a day. Swallow a half-drachm or one drachm three times a day; children will swallow less.

—M. J. D. DANTZLER.

Night Blindness.—Night blindness is the prominent symptom in retinitis pigmentosa, but in this form there is permanent narrowing of the field of vision and the ophthalmoscope shows the retinal pigment.—HALLES.

Impetigo Contagiosa Bullosa.—When the disease is distributed over a large area and there is much crusting, a bland oil, such as carron oil, liquid albolene, or sweet oil, to which is added two per cent. of salicylic acid, should be used. This is rubbed well over the surface, the bullæ are opened, the crusts are gently detached, then the following powder is plentifully dusted on:

℞ Ac. salicylic..... gr. xx.–ʒ ss.
Ac. boric... ..... ʒ ij.
Zinci ox..... ʒ ij.
Amyli..... ʒ ij.
M.

Baths are contraindicated. Ointments also seem irritating. A drying, mildly antiseptic, soothing dusting-powder, with a bland oil to soften the crusts and prevent the clumping of the powder when mixed with the serous oozing and contents of the bullæ, has been, with me, the most successful method of treatment.—DR. MARTIN F. ENGMAN, *St. Louis Medical Review*, November 10th.

Anthelmintic Enemata.—Thread worms and round worms are both met with in the rectum, the former more frequently. Their presence in children is not infrequently the cause of prolapse. Strong solutions of salt and water, or of quassia and water, will sometimes prove efficient. Or an enema composed of one to four drachms of spirits of turpentine mixed with the yolk of an egg, and added to four to eight ounces of water, may be given repeatedly until the worms are destroyed. Two drachms of asafœtida or aloes in water also answers equally well.—A. ERNEST MAYLARD.

Green Stools.—Stools can be considered green only when that condition is evident immediately upon their passage. They are due to a fermentation, which is doubtless the result of bacterial action. All stools become green a certain time after passage, caused by oxidation of the air.—CHAPIN.

Frequency of Perforation in Typhoid Ulceration.—In the case of children from two years to fifteen inclusive, out of twenty which were fatal in a total of two hundred and fifty-one cases of typhoid, six owed their death to perforation. In adults a similar number of investigations showed a mortality of forty-three, out of which eighteen died from perforation.—HAWKINS.

Maggots in the Ear.—Until some more efficient germicide in fluid or powder form can be found which will eventually destroy the life of the larvæ and at the same time not be injurious to the tissues in which they are involved, we must rely on the application of the forceps or curette for their removal.—M. A. GOLDSTEIN.

Chronic Appendicitis.—Paul Klemm sums up the therapy of appendical disease as follows: (1) Acute catarrhal inflammation of the appendix is to be treated on conservative lines. (2) Operation is to be performed only in cases of urgent necessity. (3) After recovery from catarrhal appendicitis extirpation should follow in the free interval. (4) Operation is also indicated in those chronic cases in which there had been no acute attacks. (5) When a perforating form has been treated by operation but the appendix left behind, it is proper to wait for relapses before removing it, since atrophy often takes place. If relapses follow, extirpation is indicated.—*St. Petersburger medicinische Wochenschrift*, December 1, 1900.

Treatment of Retro-Displacements of the Uterus.—Edward McGuire states that uterine retrodisplacements may be treated in two ways, by mechanical means and by surgical operation. The method of the reposition of the uterus will depend on the complications present. If there are adhesions, massage should be employed. The sound and repositor are both dangerous instruments except in the most skilful hands. After replacement, the uterus may be retained by a well-fitting pessary—the Hodge, Smith, or Emmet will serve all purposes. A pessary is contraindicated in marked inflammation of the uterus and appendages, and when the uterus is held out of position by adhesions and cicatricial bands. The operations preferred by the writer are suspensio uteri and shortening of the round ligaments, generally the Alexander operation. The mortality should be *nil* or almost so in either, but there is less risk in the Alexander. The operation of suspensio uteri has the great advantage of permitting inspection of the condition of the peritoneal cavity. It is preferable when there is a decided prolapse, for it lifts the uterus on a higher level than Alexander's, and thereby fulfils a most important indication. In the occurrence of pregnancy a small per cent. of cases has been followed by abortions or difficult labor, which may endanger the woman's life.—*Virginia Medical Semi-Monthly*, December 21, 1900.

Medical Items.

A Poisonous Alkaloid in Potatoes.—Potatoes contain the alkaloid solanine, "although this is not generally recognized." New potatoes contain comparatively little of this poison unless they grow above the surface of the ground and have a green skin, when they are generally known to be poisonous. It is not, however, known generally that old potatoes contain much of this poisonous principle and that many cases of serious poisoning have occurred in late summer when old potatoes were used. In 1892 and 1893 there was almost wholesale poisoning among the troops of the German army. The symptoms were frontal headache, colic, diarrhœa, vomiting, weakness, and slight stupor, and in some cases dilatation of the pupils. Meyer investigated the matter and found in old potatoes kept in a damp place and beginning to sprout twenty-four times as much solanine as in new potatoes.—*Sanitary Home.*

Gas Cysts in the Brain.—The bacillus mucosus capsulatus, which is found in the nasal secretions of man in cases of influenza, has lately been recorded as the cause of air cysts of the brain and general gaseous emphysema in the case of a patient who died eight hours after admission to the hospital. At the autopsy it was shown that there was septicæmia with special localization of the micro-organisms in the brain. The results of the investigation in rabbits with the bacillus isolated from the organs of this case showed that general gaseous emphysema ensued. The patient on admission to the hospital was comatose, exhibited Cheyne-Stokes respiration, the apnœa lasting twenty seconds, the hands and feet were cold and cyanotic, and the skin was cool and moist. The patient died without recovering consciousness and was said to have been in the habit of taking large quantities of morphine. The interest of the case lies in the fact that it is not improbable that some of the published cases of gaseous emphysema in which no bacteriological investigation was carried out may have been caused by the bacillus mucosus capsulatus.—*Medical Press.*

Statistics of Insanity.—In a report on the insane patients of the Hudson River State Hospital Dr. C. W. Pilgrim of Poughkeepsie gives the following interesting statistics: of the patients admitted during the past year 41½ per cent. presented symptoms of melancholia, 32½ per cent. presented symptoms of mania, 20 per cent. were cases of dementia, and 6 per cent. had dementia paralytica. Among those admitted 30 per cent. recovered during the year or had prospects of recovery, 12 per cent. were improved, 11 per cent. died, and 47 per cent. were chronic patients who will probably die uncured. It is noticeable that 61 per cent. of the deaths during the year occurred during the months October to April and only 39 per cent. between April and October. Twenty-six per cent. of the deaths occurred between midnight and 6 A.M., 19 per cent. between 6 A.M. and noon, 31 per cent. between noon and 6 P.M., and 24 per cent. between 6 P.M. and midnight.—*The New York Sun.*

Vital Statistics of England.—In 1801 London contained not more than 922,000 inhabitants and the next largest place, Manchester, about 91,432. There were 112 towns outside London with populations descending from that figure to 4,000 and amounting in all to 1,400,762. The remaining towns distinguished in the table ranging so low as 1,000 inhabitants contained 774,253 inhabitants, and there were populous industrial areas containing 227,593 inhabitants, besides which portions of the areas surrounding towns but not actually parts thereof, were also populous. The bulk of the country, however, was thoroughly rural, say, over 34,000,000 acres inhabited by 4,721,252 persons out of a total population of 8,892,536. At this date 36 per cent. of the people lived in towns of 1,000 inhabitants and upward, but in 1891, 64 per cent. of the people lived in towns exceeding 4,000 in population.—*Public Health.*

Sunstroke: an Accident or a Disease?—In Railway Official and Employés' Accident Association *v.* Johnson, decided by the court of appeals of Kentucky in October, 1900, it was held that although an accident policy provides that it shall extend only to injury or death from "external, violent, and accidental means," and not to injuries or death caused or contributed to by disease, the company is liable for the full amount of the policy if insured dies from sunstroke received in the line of his duty as a railroad employé, when the policy also expressly provided that the company should be liable for only one-fourth of the amount of the policy if the disability or death of insured was caused or contributed to by sunstroke while not in the line of his duty as a railroader. This raises a very nice point, and the *New York Law Journal* disagrees with the verdict rendered, holding that sunstroke is a disease and not an accident. The journal in question quotes Longmore in support of this contention and goes on to say that in all its forms, ranging from "'heat syncope and 'heat apoplexy' to 'ardent thermic fever,' it is subjected to medical treatment as a disease. With what propriety for accuracy, therefore, can this malady be termed an accident any more than cholera, smallpox, or yellow fever or apoplexy? It may be an accident that a person is exposed to it, but the conditions under which the human system may be affected by it certainly belong to natural causes, which may reasonably be anticipated, as they come not by chance. The term 'accident,' as used in the policy, is presumed to be employed in its ordinary popular sense, which means 'happening by chance,' 'unexpectedly taking place,' 'not according to the usual course of things.' So that a result ordinarily, naturally flowing from the conduct of the party cannot be said to be accidental, even when he may not have foreseen the consequences." This reasoning is plausible, but it hardly covers the whole question. The popular conception of "sunstroke," that it is absolutely a "coup de soleil" and that it affects a person instantly like a lightning stroke, no longer has universal credence. Sambon is of the opinion that "sunstroke," or siriasis, as he prefers to term it, is a disease, and that it is as often incurred in hot, badly ventilated rooms in tropical countries as under the direct influence of the sun. Nevertheless, the question is by no means wholly cleared up, and opinions differ as to whether the condition known as heat prostration is entirely identical with what is known as sunstroke. This much would appear a matter of common agreement, that in the tropics, at the time of the day when the sun's rays are the most intense, a person who has not his head, and especially the nape of his neck properly protected will, in the majority of instances, suffer from the condition denominated sunstroke.

Prehistoric Monsters.—For millions of years countless multitudes of living animals have played their little parts on earth and passed away, to be buried up in the oozy beds of old time or entombed with the leaves that sank in the waters of primeval lakes. The majority of these perished beyond all recovery, leaving not a trace behind, yet a vast number of fossilized remains have been in various ways preserved, sometimes almost as completely as if Dame Nature had

thoughtfully embalmed them for our instruction and delight. To geologists this stony record is legible, for the hieroglyphics are about as readable as those of the Egyptian monuments. A strange and wonderful earth drama is thus revealed. Shall we call it a tragedy or a comedy? Doubtless, tragic scenes occurred at times, as for instance when fierce monsters engaged one another in deadly combat. Backgrounds of scenery were not wanting. Then, as now, the surface of the earth was clothed in vegetation. Nor were the underground forces of the earth less active than they are now; volcanic eruptions often took place on a magnificent scale; volcanoes poured out fiery lava streams for leagues beneath their feet; great showers of ashes and fire dust were ejected into the air. Very little, indeed, is known about the causes of extinction; in some cases, as with the mammoth, the megatherium, or the moa, that great wingless bird of New Zealand, we can trace the hand of man as being the cause at work. But how about the dinosaurus, that remarkable order of reptiles now lost forever? Why have these died out while the lizards and crocodiles remain? Or why, again, have the winged reptiles (pterodactyls) disappeared? The most we can say at present is that these and many other orders now extinct seem to have been ousted or beaten in the struggle by types of a higher and more complex nature, and yet for all that many of the lower types remain. There must be some great law yet undiscovered. The plesiosaurus was a most strange marine monster. To the head of a lizard it united the teeth of a crocodile, a long neck like that of a serpent, the ribs of a chameleon, and the paddles of a whale. It was carnivorous and over twenty-two feet in length. The brontosaurus or "thunder lizard," so named on account of its size by the late Prof. O. C. Marsh, of America (who discovered this and scores of other new beasts), measured nearly sixty feet in length. Professor Marsh calculated that its live weight was about twenty tons. It will give the reader some idea of the size of this colossal monster when we say that in walking (or "making tracks," to use a colloquial expression) every track of the hind foot was one square yard in extent. Professor Marsh obtained casts of the brain cavity, which was but small, and therefore the beast was a stupid one. It was probably amphibious and vegetarian in diet. But larger still was the great atlantosaurus, a close relation. Unfortunately, not much about his skeleton is known, but this much we know, that a thigh bone measured six feet two inches in length. This can be verified at that vast treasure house—the Natural History Museum, London. Here in a case can be seen a cast of this very bone. The creature that owned it may have attained a length of over eighty feet, and must certainly have rather closely resembled the brontosaurus. The dinosaurus spread over a large part of the world, becoming very numerous and powerful.—*Pearson's Magazine.*

Acute Anterior Poliomyelitis among Adults on the Island of Guam.—Dr. Alfred G. Grunwell, assistant surgeon, describes in the "Report of the Surgeon-General of the United States Navy," some of the clinical features of this disease as witnessed by him when visiting the island of Guam, one of the Ladrones group. He says: "The onset of the disease was always very sudden, occasionally after a day or two of prodromes, with fever, and often with a chill; the fever lasting from three days to a week. The sensory symptoms were variable. In a few cases there was considerable pain, but in the vast majority, except some pain in the joints, there was no suffering. In a considerable proportion of the cases there was temporary anæsthesia, but in every case it soon vanished. In some instances the aching about the joints persisted for some time. The tactile sense and the heat sense in all observed cases were perfectly normal. There was no history of œdema in any case. In all the patients seen there was no weakness of the sphincters, and from all accounts of the acute stage of the epidemic the sphincters were unimpaired, except in two or three instances, when there was a very transient incontinence of urine which was troublesome. No case of impairment of the functions of any of the cranial nerves has been seen, and no psychical symptoms have been observed. It is stated, however, that in a few instances, in cases which died, loss of the power of speech was a symptom. There were no skin eruptions noted. In some instances a rigidity of the body, which developed with the fever, was described. This was probably orthotonos or opisthotonos, and was most likely due to accompanying meningitis, though this symptom was, from all accounts, by no means present in all cases. Headache as a symptom was variable, and was not emphasized by those who passed through the sickness. In some cases it was not present. The motor symptoms were the most interesting. In a certain proportion of the patients muscular twitchings were noted at the onset, and in some instances they persist, though they are at present very slight. Spasms of muscles or groups of muscles were entirely absent in many cases, and in those in which they were present they were probably identical with the above-mentioned rigidity. Paralysis, accompanied by flabby atrophy of the affected muscles, is now all that remains of the epidemic, and, so far as can be observed, the statement that every one who contracted the illness and escaped death was left with some member of his body paralyzed is borne out by facts. The paralysis is described as having come on suddenly, in some cases a week elapsing before it was fully developed. It was invariably accompanied by atrophy of the affected muscles, but there was a tendency toward later improvement. In some cases that have been under observation for three months the improvement has been marked. The paralysis is of muscular groups rather than of whole limbs, and in some cases the affected groups are so numerous and so widely distributed as to practically render the patient helpless. Ordinarily, however, the extensors of one arm or one leg or of an arm and leg are affected. In the arm the deltoid group, including the biceps and the brachialis anticus, is the one most commonly involved, though loss of power of the extensors of the forearm is often seen. In the leg the quadriceps extensor is almost invariably paralyzed and the tibialis anticus sometimes. Almost every patient examined has been able to flex the leg to a greater or less degree. The accompanying atrophy, which is invariably present, is often extreme. Unfortunately, there has been no opportunity for testing the electrical reactions of the affected muscles. The deep reflexes are invariably abolished in the affected limbs. There is a strong tendency toward improvement in the paralyzed limbs, but whether recovery will be complete in any one case it is as yet too soon to say. Again, just how much of the improvement is due to recovery of the paralyzed muscles, and how much is due to sound muscles gradually adapting themselves to some of the work of their unfortunate neighbors, is at present difficult to determine. . . . Occurring as it did at a time when epidemic cerebro-spinal meningitis was raging in so many different parts of the world, it might be well in conclusion to emphasize some of the reasons for regarding this epidemic as one of anterior poliomyelitis rather than one of cerebro-spinal meningitis. The features regarded as distinctive are as follows: The constancy and character of the paralyses and atrophy in those who took the disease and escaped death; the total absence of paralysis of any of the cranial nerves; the total absence of psychical symptoms; the absence

of petechial or other skin eruptions; the infrequency of orthotonos and opisthotonos; the comparative freedom from pain and the characteristic headache of meningitis; the complete abolition of the reflexes. Undoubtedly, meningitis was present in some cases, but in these instances it should rather be considered as a complication than the primary affection. The treatment, which has been extremely simple, has been directed solely to attempts to improve the condition of the paralyzed members, and necessarily so, since the disease in its acute stage had disappeared before the arrival of the expedition. Diet, massage, and prescribed exercise were found very useful. Large doses of the iodide of potassium were given in all cases, with strychnine and arsenic as adjuncts in some. There has been noticeable improvement in all the cases receiving treatment; in some of them the degree of improvement is gratifying."

Arsenic in Beer.—The alarming discovery was made recently in Manchester that much of the beer sold there contained arsenic in injurious quantities and that quite a large number of cases of peripheral neuritis were probably due to the consumption of beer. After a considerable amount of work the contamination was traced to a certain brand of glucose in the manufacture of which sulphuric acid made from iron pyrites containing traces of arsenic had presumably been used. The contamination was principally found in the vintage known as "fourpenny" and some of the samples contained arsenic in heavy amounts. As usual in such "scares" there have been probably many cases of "neuritis" reported in the production of which arsenic had no share whatever. In fact, the writer is inclined to the view from the result of analyses of a large number of samples of beer and from the examination of a fair number of suspected cases of arsenical neuritis, that whilst a substance of such dangerous possibilities as arsenic has no business at all in beer or any other article of food or drink, yet its part in the causation of neuritis is not so great as many would have us believe. The average amount present in twelve samples taken at the commencement of the scare was found to be about gr. $\frac{1}{40}$ per gallon of beer, the maximum being gr. $\frac{1}{19}$ and the minimum gr. $\frac{1}{100}$. The medicinal dose of arsenious acid is from gr. $\frac{1}{60}$ to $\frac{1}{12}$ given three times a day. Moreover, "arsenic is not an accumulative poison" but "is rapidly eliminated." These two things taken in conjunction make it necessary for medical men to exclude other and commoner causes of neuritis before putting the blame on any small quantity of arsenic which the beer may contain.—Dr. Meredith Young, *Medical Magazine.*

A New Method for the Sterilization of Sponges by Boiling.—C. A. Elsberg seeks to reintroduce the animal sponge into surgical technique by the elaboration of a simple yet reliable method of sterilization. The sponges are immersed for twenty-four hours in eight-per-cent. hydrochloric acid in order to remove all grit and coarser impurities, and then thoroughly rinsed in water. They are now boiled for from five to twenty minutes in an aqueous solution containing one per cent. of caustic potash and two per cent. of tannic acid, and again rinsed in sterile water, phenol, or bichloride solutions until all traces of the dark-brown tannin-potash mixture have been removed, and are to be preserved for use in two to five per cent. phenol solution. This process does not in any way impair the natural properties of the sponges which do not lose in softness, elasticity, or absorbing power, even on repeated boiling, while absolute sterility is insured. The potash mixture may be used indefinitely, the evaporated water being simply replaced as needed.—*Centralblatt für Chirurgie*, December 22, 1900.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended February 9, 1901:

		Cases.	Deaths.
Smallpox—United States.			
Florida, Jacksonville	January 26th to February 2d	1	
Illinois, Chicago	January 26th to February 2d	4	1
Kansas, Lawrence	January 26th to February 2d	2	
Leavenworth	January 1st to 31st	4	
Wichita	January 26th to February 2d	22	
Kentucky, Lexington	January 26th to February 2d	2	
Louisiana, New Orleans	January 26th to February 2d	9	2
Massachusetts, Lawrence	January 26th to February 2d	2	
Michigan, Grand Rapids	January 26th to February 2d	1	
Manistee	January 26th to February 2d	4	
Montana, Butte	December 26th to January 20th	39	
Nebraska, Omaha	January 19th to February 2d	6	
N. Hampshire, Manchester	January 26th to February 2d	32	
New York, New York	January 26th to February 2d	50	2
Utica	January 19th to 29th	2	
North Dakota, Morton Co	January 30th	10	
Ohio, Ashtabula	January 26th to February 2d	2	
Cleveland	January 26th to February 2d	49	3
Pennsylvania, Allegheny City	January 26th to February 2d	3	
Erie	January 26th to February 2d	2	
Pittsburg	January 26th to February 2d	8	
South Carolina, Greenville	January 26th to February 2d	..	1
Tennessee, Jackson	January 1st to 31st	20	2
Memphis	January 26th to February 2d	18	
Nashville	January 26th to February 2d	4	
Texas, Galveston	January 12th to 26th	37	
Utah, Ogden	January 1st to 31st	32	
Salt Lake City	January 26th to February 2d	29	
Wisconsin, Eau Claire	January 22d	12	
Washington Township	January 22d	20	
Green Bay	January 26th to February 2d	1	
Milwaukee	January 26th to February 2d	2	
Smallpox—Foreign.			
Austria, Prague	January 5th to 12th	21	
Belgium, Antwerp	January 12th to 19th	3	
Brazil, Rio de Janeiro	December 1st to 15th	..	27
England, Bradford	January 23d	4	
New Castle on Tyne	January 12th to 19th	6	
India, Calcutta	December 15th to 29th	..	72
Karachi	December 16th to 23d	5	
Japan, Korea, Seoul	December 22d	*	
Russia, Moscow	January 5th to 12th	2	1
Scotland, Glasgow	January 18th to 25th	324	3
Spain, Barcelona	November 25th to December 30th	..	71
Yellow Fever.			
Colombia, Cartagena	January 8th to 13th	..	3
Cuba, Cienfuegos	February 1st	1	
Havana	January 22d to 29th	..	1
Cholera.			
India, Calcutta	December 15th to 29th	..	87
Straits Settlements, Singapore	December 8th to 15th	..	25
Plague—United States.			
California, San Francisco	January 12th to 19th	2	2
Plague—Foreign.			
India, Calcutta	December 15th to 29th	..	46
Japan, Osaka	December 22d to January 7th	3	
Wakayama	December 22d to January 7th	1	
Turkey, Smyrna	December 30th to January 6th	..	1

* Many cases and deaths.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Introduction to the Study of Medicine. By G. H. Roger. 8vo, 545 pages. D. Appleton & Co., New York.

Physical Diagnosis in Obstetrics. By Edward A. Ayers, M.D. 8vo, 276 pages. Illustrated. E. B. Treat & Co., New York.

A System of Practical Therapeutics. By Hobart Amory Hare, M.D. 8vo, 856 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

International Clinics. By Henry C. Cattell, M.D. 8vo, 303 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

Johns Hopkins Hospital Reports. Royal octavo, 551 pages. The Johns Hopkins Press, Baltimore, Md.

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THE NECESSITY FOR A MORE CAREFUL INVESTIGATION AS TO THE CAUSE OF OUTBREAKS OF INFECTIOUS DISEASES.[1]

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IN the advance made by sanitary science during the past quarter of a century, which has wrought many needed reforms in public sanitation, the urgent necessity for a more careful and scientific investigation as to the cause of outbreaks of infectious diseases has received but little consideration. This is to be regretted, as the prevention of this class of diseases is far more important than their treatment, although the latter has been exhaustively studied. The promptness with which an outbreak of infectious disease is brought under control or suppressed depends principally upon our knowledge of the means by which it is transmitted.

The treatment of infectious disease applies more particularly to the individual affected, whereas the prevention of the disease is of public concern. A full appreciation of this marks an efficient public health officer. It is my desire in presenting this to you to stimulate a careful and scientific inquiry into the subject.

In matters relating to the public health no belief has a stronger hold on the laity and many of the medical profession than that the clothing actually worn by well persons is a usual medium of infection, whereas careful investigation shows that this occurs only in rare instances. This theory or belief is a seductive one, inasmuch as it not only furnishes an easy explanation for the appearance of infectious disease, but also furnishes an excuse for not carrying out a rigid investigation to ascertain the true cause of the outbreak. I wish it distinctly understood that in presenting this matter I refer to the clothing worn by well persons and not the clothing or effects of those who are or have been suffering from infectious disease. Reliable evidence occasionally comes to us which tends to show that infectious diseases, more particularly smallpox and scarlet fever, are transmitted by the clothing of well persons. However, we have indisputable evidence that this is very uncommon. Physicians of large experience who have given this matter careful attention can cite but one or two cases in which it seemed proven to them that disease was transmitted in this manner. This alone is evidence against the theory referred to; for, if it were true that infectious diseases were frequently communicated in this manner, there would be abundant evidence of it. In a continuous experience of over twenty years in dealing with infectious disease, I have not yet met a case in which sufficient evidence was presented to show that the disease was transmitted by the clothing actually worn by well persons. During this period, however, I have investigated many cases in which infectious diseases were alleged to have been contracted in this way and in a large percentage of them conclusive evidence was secured to prove that the persons affected had been in contact with those sick with the same disease. This, I believe, is in full harmony with the experience of other practical sanitarians who have had ample opportunity to study this subject, and I feel convinced that we must look for other ways by which we can satisfactorily and scientifically explain outbreaks of infectious disease, the cause of which is in doubt. Experience teaches me that we will find this in mild, ambulant, or convalescent cases which are unrecognized as the carriers of infection. To ignore these and to assume that outbreaks of infectious disease are frequently due to the transmission of infection by the clothing worn by well persons means that we have not accepted the teaching of modern sanitation. Besides, it is dangerous because the real cause of the outbreak may remain unrecognized and continue to act as a serious menace to the public health. We have all seen cases of diphtheria, scarlet fever, smallpox, etc., which are extremely mild, so much so that the general health is apparently not involved. Such cases may enter a community unrecognized and when other cases appear as a result of this means of infection, it is commonly believed that the disease was transmitted by the clothing of well persons. It is under these conditions that this theory receives its strongest support. During the present outbreak of smallpox in New York City, many cases have been accidentally found which were extremely mild, so much so that a number of the persons affected were apparently well, performing their ordinary duties. One of them was recently removed to the hospital at North Brother Island affected with smallpox in a very mild form. The history of the case showed that the patient was a street-car conductor and had been at work while sick. Those who may have contracted the disease by exposure to this patient without knowing that he was suffering with smallpox would willingly believe that the infection came through the clothing worn by some well person with whom they were in contact. Scarlet fever and diphtheria may exist to all appearance as only a mild sore throat, or scarlet fever may not be recognized until desquamation takes place. Yellow fever and bubonic plague sometimes appear in such a benign form that they may pass unnoticed. Such cases are constantly being brought to the notice of health officials. Two cases of bubonic plague which were removed at this quarantine station from the steamship *J. W. Taylor* on November 18, 1899, were recognized only after the removal of the clothing of those on board and a glandular examination made in conformity with the rules and regulations of this department. It was then that the initial lesions and enlarged glands were found. Both patients, one of whom was the captain of the ship, reported well on the arrival of the vessel and apparently were so. This statement would have been confirmed by an ordinary examination; a subsequent outbreak of this disease in New York City or elsewhere, as a result of this exposure, would probably have been attributed to infected cargo or clothing. Those who are not constantly dealing with infectious diseases usually expect to meet typical cases and do not, as a rule, carefully consider the probable existence of mild or ambulant ones, which really constitute a greater menace to the

[1] Read before the Pan-American Medical Congress, Havana, February 7, 1901.

public health than those well marked, inasmuch as they frequently are not recognized or looked for. The belief that infectious disease is transmitted through the medum of the clothing of well persons in a way lulls a community into a false sense of security, inasmuch as it is not appreciated that a case of infectious disease may exist unrecognized in their midst. During the prevalence of the epidemic of typhus fever in New York City in 1893, a thorough and exhaustive investigation was made in each case brought to the notice of the health department; two of the most experienced inspectors being detailed for this purpose. The investigation frequently covered a period of a week or more, but in the great majority of the cases the most satisfactory and conclusive proof was obtained that the patient had been in contact with those sick of the same disease. Typhus fever also existed in New York during the previous year (1892). During the period just referred to (1892 and 1893), an epidemic of smallpox also prevailed in New York City. The total number of cases of each disease during this time (1892 and 1893) was as follows: typhus fever, 714; smallpox, 842. The division of contagious diseases of the New York City health department then consisted of 60 to 75 officers and employees, comprising diagnosticians, vaccinators, ambulance drivers, etc., all of whom were in more or less close contact with the patients or their apartments. They went frequently and freely to and from their homes and the seat of infection, and in no instance did these officers or men transmit typhus fever or smallpox to their families or friends, although fourteen of the employees were removed to the hospital with typhus fever, seven of whom died. It may be added that the employees were kept constantly under close inspection and were removed to the observation ward whenever they became ill; some were removed while on duty. The promptness with which this was done will presumably explain why their families were not infected. The observations of Murchison, Levy, and others who have had long experience with typhus fever, show that this disease is probably not infectious during its first period. On the other hand, however, the officers and men connected with the division of contagious diseases were generally in contact with cases which had not been properly diagnosed and were in an advanced stage of the disease. The statistics which I have just given relating to the subject before us are invaluable, inasmuch as I can find no account where epidemics of two such formidable and infectious diseases have existed at the same time and where such an unusual opportunity has been given to study how far the clothing of well persons may act as a medium of infection. May I ask if these results are to receive careful and proper consideration or are they to be laid aside because they conflict with existing theories which have not the endorsement of carefully collected statistics? The rigid investigation which was instituted by the New York City health department in 1893 in regard to the cause of infection, in each case of typhus fever discovered, was, I am sure, largely responsible for the suppression of the disease, and I am equally certain that typhus fever is more or less constantly present in some European cities to-day solely because similar investigation is not carried on.

If it were true that the clothing worn by well persons frequently acted as a medium of infection, then physicians in general practice would constitute a serious menace to the public health, inasmuch as they are constantly going from infectious diseases to other patients without change of clothing or disinfection. Health departments and public health officials would also deserve censure, inasmuch as members of families in which infectious disease exists are allowed to continue their daily duties in crowded shops and elsewhere and go freely in public conveyances, etc. There can be none of us simple enough to believe that the instruction of the family doctor that the well members of the family must keep away from the case is properly complied with. It is fair to assume that there is more or less communication with the patient, particularly when a nurse is not in attendance. It is true that the municipal health authorities do not allow the children of families in which infectious diseases exist to attend public schools; but as I have said before, other members of the family go and come whenever they please. Moreover, the disinfection which is performed after the termination of the case does not include the clothing worn by the well members of the family. When we consider this matter, it may be truthfully said that if the clothing of well persons is a menace to the public health, then the action on the part of physicians and public health officials regarding the prevention of infectious disease is something of a travesty. So far as I am aware, there are no statistics to show that infectious diseases are more commonly found in the families of physicians; furthermore, the appearance here of infectious disease is not by any means conclusive evidence that the clothing of the physicians has acted as a medium of infection, inasmuch as the members of a physician's family are subjected to the same exposure that others are. In recent years bacteriological research has rendered us valuable aid in the investigation of this matter. We now know that many pathogenic organisms can exist for a short time only in the presence of sunlight and fresh air, and we have good reason to believe that an exposure of but a few minutes inhibits the activity of many of the specific organisms to such an extent that they lose their power of propagating disease unless again placed in a favorable medium. Furthermore, it is probable that we have an exaggerated idea of the number of germs which attach themselves to the garments of those entering an apartment where infectious disease exists. What I have said regarding the clothing worn by well persons also applies to the cargoes of vessels, and we must look elsewhere for the means by which infectious diseases are brought to us from foreign ports. A careful investigation will prove that the medium of infection is almost always found to be actual cases of disease which may occur in a severe, mild, or convalescent form, and which frequently pass unrecognized. This at once calls our attention to the fact that passengers and crews coming from a presumably infected port are not, as a rule, subjected to a thorough exmination. We have gotten beyond the time when the statements of the passengers and crews or a perfunctory examination can be taken in lieu of a careful inspection. It is probable that in rare instances, or when some unusual circumstances exist, the ship's cargoes may act as a medium of infection. This, however, should not receive undue consideration in the construction of rules and regulations for the treatment of foreign vessels. Neither quarantine nor municipal health regulations can insure one hundred per cent. of protection without destroying commerce or business interests, and we are justified in enforcing only such rules and regulations as are dictated by practical experience and good judgment. For years it has been held that the cargoes of vessels coming from yellow-fever ports are a menace to the public health and are responsible for many outbreaks of yellow fever. It has also been stated that the clothing worn by well persons has likewise acted as a means of transmitting this disease. Now, after this view has been firmly impressed upon the public, we are presented with the result of the careful investigation made by Dr. Walter Reed, U. S. A., as to the means of infection in yellow fever. In reference to this matter, Dr. Reed does not hesitate to state in the most positive terms that neither the clothing

worn by well persons nor cargoes of vessels can transmit yellow fever. If this is true, and I feel satisfied that it is, what is to become of the definite statements made in the past, that cargoes and clothing of well persons transmit yellow fever—statements which, it is alleged, have been based on indisputable evidence? Everything in the way of the careful investigation of this subject tends to show that infectious diseases are almost always contracted by actual contact with or in the immediate vicinity of persons suffering with these diseases. This should be the keynote upon which we base our plans of operation as public health officers. By carrying this out it insures the careful and thorough investigation which is imperatively called for. Other means of infection, such as the clothing and effects of the sick and infected apartments, should receive careful consideration, and as I have already stated, in rare instances the clothing of well persons and cargoes of vessels may transmit disease—this also should be considered. Nevertheless, we should always keep prominently before us the fact that infectious diseases are generally contracted by being in contact with cases of a like character.

It has not yet been determined how long infected materials, such as the clothing of the sick, retain their power of transmitting disease. However, bacteriological investigation has taught us that, as a rule, it is for a comparatively brief time only and falls far short of the period usually accepted. In considering this subject we must again accept facts—for instance, the health department of New York City keeps under observation second-hand clothing stores. In almost all of these places families live in the rear of the store and are constantly in contact with the clothing, yet but little evidence has ever been presented to show that these people more than others are specially victims of infectious disease, nor are there reliable statistics to show that the rags which are used in commerce often act as a medium of infection. Egyptian rags, which are used largely in this country for the manufacture of paper, are really the cast-off garments of the natives of that country and, as may be inferred, represent about the worst form of this material. If rags constitute a means whereby infection is transmitted, those from Egypt would be a most potent source of danger. As the liability of rags to transmit infection has long been under discussion, and as this port is vitally interested in the matter, inasmuch as the bulk of foreign rags enters here, I visited Egypt in the fall of 1896 for the purpose of giving this matter a careful personal investigation. Through the courtesies of the sanitary authorities at Cairo and Alexandria, who are principally Englishmen, I was given access to the statistics relating to this subject and also conferred with the owners of warehouses where the rags are picked over and stored, and in no instance was I able to secure satisfactory evidence that infectious diseases were transmitted in this manner, although the rag pickers, consisting of women and children, are continuously exposed. The time that I refer to just succeeded the period when cholera occurred in Egypt and I was informed by the sanitary inspectors that many of the natives who died of this disease were found stripped of their clothing, which was hidden to prevent its confiscation by the health authorities in order that it could be sold to the ragmen who at certain intervals visit the different sections of lower Egypt. These observations are in accord with the information which I have been able to collect in the United States regarding this subject.

During the past two years considerable apprehension has been caused by the appearance of bubonic plague at European and other ports. This has led to the fear that cargoes of vessels coming from these ports may transmit the disease. In considering the danger from this direction the fact has been lost sight of that during the past thirty years, while the plague has actively existed in the far East, both sailing-vessels and steamers from plague-infected ports, carrying all sorts of cargoes, consisting of wearing-apparel, food, etc., have been freely entering our ports without hindrance and discharging their cargoes without the slightest evidence that infection of any kind has been transmitted. With this experience and others of a similar kind before us, why should we now regard cargoes as a menace to the public health and impose restrictions which long experience has shown to be unnecessary? Again, recent experiments made by Klein, which consist of burying animals dead from inoculation of cultures of pest and other infectious diseases and afterward disinterring them at certain intervals, have shown that germs contained in the buried bodies lived but a short period: about twenty days. These facts should be carefully considered.

We are now entering upon a new era in the method of the prevention and treatment of infectious disease—an era which it is hoped will be dominated by the result of practical experience and scientific investigation. Theories which are not supported by facts must be put aside; unnecessary requirements, which, while they hamper business and commerce and add nothing to the public health, must be discontinued. We must appreciate that practical public sanitation cannot insure complete protection and that we are not justified in going beyond a certain point in the enforcement of rules and regulations for the protection of the public health. An attempt to carry into effect regulations which are neither reasonable nor necessary, and which are injurious to the business and commerce of the country, have frequently brought quarantine and municipal health ordinances into contempt, and have at times alienated the support and co-operation of the public.

Upon the discovery of a case of infectious disease it is the first and most important duty of a health official to ascertain if possible its origin. No investigation or inspection can be too rigid or far-reaching for this purpose. We should assume that the case under observation was contracted from some one sick with the same disease. If well-marked cases cannot be found we should look for mild, ambulant, or convalescent ones, and all who have been in contact with the case should be kept under careful observation. If the patient is from out of town his previous residence should be ascertained and the health authorities of that place communicated with. Such co-operation frequently leads to the most satisfactory results. A reform is also needed in the method of disinfection, which constitutes a most important means of preventing disease. This reform is needed on the part of both the family physician and the public health official. When a physician is called to a case of infectious disease, he should at once require that all of the clothing and effects of the patient be brought together; not one article should be missing. This material should be subjected to immediate and thorough disinfection; if for any reason this cannot be done at once it should be placed in the sick-room and treated at the termination of the case with the contents of the apartment. It is reasonable to assume that the patient was capable of transmitting infection before the character of the disease was known; besides, this procedure places the physician in the position of starting even with the case and to be reasonably certain that no infected material is stowed away to be brought out later. Under no circumstances should the disinfection at the termination of the case be left in the hands of the family. If the health authorities are not equipped to perform this work, then it should be done under the personal supervision of the attending physician. Modern investigation has left no excuse for superficial and imperfect work in this direction. We now

know that sulphur dioxide and formaldehyde gas cannot be depended upon for deep disinfection. Therefore, steam should be used for this purpose. It is to carry out scientific and modern disinfection that the health authorities of every city and town should be properly equipped and prepared to assume charge of all disinfection at the termination of cases of infectious diseases. Another most important means of preventing infectious disease is the prompt removal of the patient to a hospital set apart for this purpose. Any city or town which does not provide some adequate means for receiving and caring for infectious diseases is careless of the health of its people. It may be laid down as a law that a case of infectious disease cannot be properly quarantined in a dwelling-house or apartment; therefore, strictly quarantinable diseases, such as smallpox, typhus fever, plague, etc., should never be kept at home but should be removed to a building specially prepared for this purpose. If no permanent place exists, then a tent should be procured or a temporary structure erected where the patient can be isolated and kept under close observation.

In marine sanitation our effort must be to subject those coming from a presumably infected port to a most rigid examination. The statement of these people should be accepted only as corroborative evidence. Those who have had long experience in this matter know full well that even the most truthful will sometimes fail to give a satisfactory account of themselves when held in quarantine. Again, evidence of sickness is not always apparent. For the past three years I have required that all passengers and crews arriving on vessels from infected ports shall have their temperature taken before being released from quarantine. The result has shown this procedure to be of great value in the detection of mild cases, and it now constitutes a part of the regular inspection. Many cases of yellow fever and other infectious diseases have been detected in this manner. It is the practice of this department to hold for observation all persons whose temperature is 100° or over. The use of the thermometers many thousand times at this station has shown that temperature of 99° or 99½° are found in persons who are perfectly well, a temperature also of 100° is not uncommonly found in well persons and may be due to slight causes and often disappears in a few hours. Death in transit on ships arriving from infected ports without surgeons should be considered at least suspicious and treated accordingly. The captain is not competent to make a reliable diagnosis and it must always be remembered that he is anxious to reach his destination. Even if a surgeon is on board a most careful and thorough investigation should be made regarding death at sea, and in all instances the benefit of the doubt given to the public.

In conclusion, I desire to say that it has been my effort for a number of years past to give the subject of the prevention of infectious disease most careful and thorough investigation. The conclusion which I have arrived at, and present to-day, represents the result of this work. I am satisfied that the clothing of well persons and the cargoes of ships are rarely the means of transmitting disease. This statement gives no license to omit reasonable precautions to prevent the possible danger from this source; but, on the other hand, is intended to call attention to the urgent necessity of looking elsewhere for the cause of an outbreak of infectious disease the origin of which is unknown. I believe this to be mild, ambulant, or convalescent cases which pass unrecognized. An acceptance of this view certainly does not mean that we should relax our efforts to protect the public health, but tends to bring about a more careful and thorough investigation as to the means of transmission of infection, which I believe is imperatively called for.

A METHOD OF FIXATION FOR LOOSE KIDNEYS.[1]

By ROBERT T. MORRIS, M D.,
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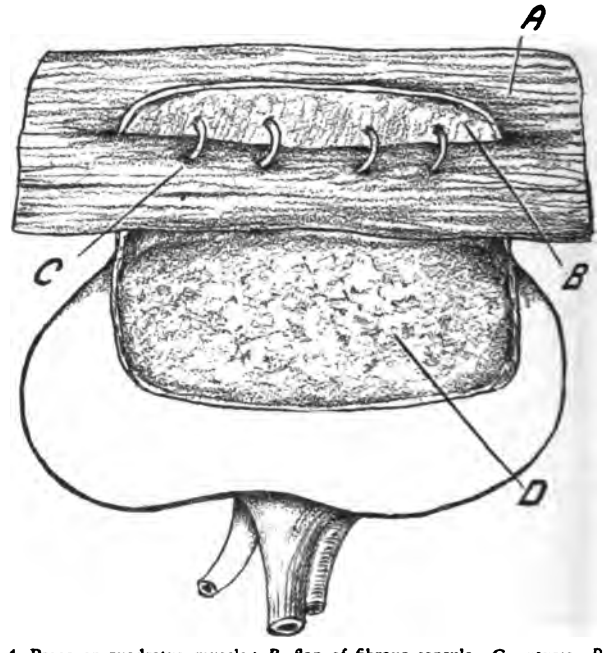
When Hahn, in 1881, first performed nephropexy he thought it sufficient to pass sutures through the fatty capsule of the kidney alone, but later he found it necessary to pass them through the fibrous capsule, and in his first report of twenty-seven cases he reported fifteen cures, four improvements, seven failures, and one death—a most unsatisfactory proportion of good results as compared with later-day experiences.

Hahn and others then carried sutures farther and through the parenchyma of the kidney, but with little better results.

Guyon first suggested the removal of part of the fibrous capsule of the kidney, believing that the lymph exudate from bare parenchyma would make a firm connective-tissue anchorage for the sutured kidney. This idea with various modifications has given most excellent results at the hands of some operators and



A, Psoas or quadratus muscle; *B*, flap of fibrous capsule; *C*, sutures; *D*, bare parenchyma.

not wholly satisfactory results with other operators. Some have removed the fatty capsule almost completely and very little of the fibrous capsule; others have removed almost all of the fibrous capsule and little of the fatty capsule; some have sutured the kidney in its normal site; others have drawn it well up into the muscle incision in the abdomen and have fastened it there; others have sutured it lower than its normal position, believing, and very correctly, that it is not the position of the kidney but the influence of its excursions that causes trouble.

Edebohls has given us what appears to be a very satisfactory operation of a class in which the parenchyma of the kidney is exposed and sutures are passed through the parenchyma, but I have a feeling that we do not all know the final result of our operations as far as the perfect comfort of the patient is concerned. The patient who has been relieved from grave distress may still have persistent local pain and tenderness, which leads the family physician to believe that the operations for floating kidney are not so satisfactory as we surgeons count upon them to be.

Senn made a radically different procedure in re-

[1] A paper read before the Section on Surgery of the New York Academy of Medicine, December 10, 1900.

moving the fatty capsule, scarifying the fibrous capsule, and then packing iodoform gauze about the kidney until granulation tissue was well formed. The gauze being removed, secondary adhesions occurred and gave a firm fibrous anchorage for the kidney. I have tried Senn's method in only two cases and had a very pretty result in both these cases, but the time required for repair was altogether too long and the scar remains too strongly in evidence. In cases in which we can suture for primary union, the scar may be hardly discernible a few months after operation. The chief advantage and intention of Senn's operation were to avoid the passing of sutures through the parenchyma of the kidney.

There is no doubt that scar tissue with fibrous replacement of a considerable part of the parenchyma does occur in some cases, as I have had occasion to observe when patients later were subjected to operation for some other trouble, or when post-mortem examinations were made years after operation.

About two years ago in reading over some foreign journals at the Academy library I found mention of a method for fastening the loose kidney by turning up a flap of the fibrous capsule and drawing it through a slit in the psoas muscle. I made a note of the method at the time without keeping the name of the author in mind, and since that time have been unable to find it. I have received letters from several physicians asking about my operation, as this is the one that I have performed in all my cases for the last two years, but I wish to state that I have no claim upon the operation except that it was adopted as one that seemed rational, and that up to the present time it seems to me to be the most desirable one.

In this operation a flap of capsule including the larger part of the mesial surface of the kidney is incised with a scalpel and the flap of capsule then stripped up from the parenchyma but remaining attached at the convex border of the kidney. The flap of capsule is drawn through a slit in the psoas muscle or in the quadratus muscle, indifferently as one chooses, and is there sutured in place. This brings bare parenchyma also in contact with the psoas or quadratus fascia, where it forms a firm connective-tissue attachment. The operation certainly avoids the necessity for passing sutures through the parenchyma of the kidney and I have had no reports of recurrence of loose kidney up to the present time. It is not possible to keep track of all of one's cases and in writing to forty or fifty patients for post-operative reports several letters are required on an average for each patient, so that it gets to be quite a serious matter, but all patients or their physicians have been asked at the time of the operation to report any recurrence.

In connection with this description of an operative method I wish to present some incidental notes briefly on the subject of loose kidney.

The frequency of occurrence of loose kidney will never be determined until we have some standard for comparison. One author, for instance, says that ten per cent. of all women who have borne children have this complication; another author tells us that twenty per cent. suffer, while a prominent pathologist, who is largely engaged in post-mortem work, recently informed me that he did not believe much in this matter of loose kidneys because he did not often find them in his post-mortem work.

As a matter of fact, loose kidneys are so common that every general practitioner presumably has a number of patients who are suffering from this cause, and the reason that more cases are not discovered in post-mortem examinations is that the kidney promptly assumes its normal position, usually while the patient is in a recumbent position, and rigor mortis fixes it quite securely in place. The cases seem to be almost as common as cases of eye-strain at sanatoriums where neurasthenics gather.

Clinically our cases can be grouped into three chief divisions: first, those of loose kidney without troublesome complications; second, cases with distressing complications; and third, cases occurring as a part of a general enteroptosis in which the kidney plays only a part.

Cases of the first sort are well represented by a young lady patient of mine, in perfect health, who rides across country to the hounds and who came to the office to find out what the "two funny little round things" were in her abdomen that appeared after any particularly hard ride. Both kidneys were very loose, but were producing no symptoms apparently. I presume that in her case the condition was congenital, that the kidneys were supplied with mesonephron and the viscera had become accustomed from childhood to the presence of the floating kidneys.

Cases of the second class suffer from three entirely separate kinds of symptoms: those due to direct pressure upon the bile duct, those of pressure upon the duodenum, and those of pressure upon the superior mesenteric vein.

I have seen several patients in consultation who were believed to have gall stones and who suffered from jaundice, but in whom loose kidney was found to be the cause of obstructive jaundice. Cases of direct pressure upon the duodenum are common enough. The duodenum cannot get out of the way because of its lack of a mesentery, and the interference at the duodenum gives rise to stomach disturbances of various degrees. In one of my cases it had resulted in such a dilatation of the stomach that the latter when distended reached to the hypogastric region, and I was obliged, in addition to fixing the kidney, to do a gastrorrhaphy, taking up most of the stomach in a large longitudinally sutured fold. The patient made an excellent recovery.

I have seen a number of cases that are not generally recognized by the profession but that have been well described by Edebohls, with symptoms due to pressure of the loose kidney upon the superior mesenteric vein, causing venous stasis and congestion in the region of the appendix and cæcum. These cases were sent to me usually for operation upon the appendix, but a loose kidney was found to be the cause of the chronic congestion.

While the direct pressure complications are common enough, reflex disturbances are still more common because of the extensive sympathetic connection between the kidney and the semilunar ganglia. Reflex disturbances of this sort are most common perhaps in the stomach, but in one of my cases the chief demonstration was in spasm of the œsophagus. The patient, an actor, had been seen by surgeons in New Orleans, Cincinnati, Philadelphia, and Boston, who had proposed various œsophageal operations. The poor fellow was so thin that the excursions of his loose kidney could be readily observed on inspection with each inspiration and he was barely able to go on with his work, living upon a skimmed-milk diet. He wished to complete an engagement before submitting to operation and I instructed him to hold his kidney in place with his hand and assume a recumbent position while eating a meal, and to remain in the recumbent position until digestion was under way. I heard from him about two months later, saying that under this treatment he had gained nearly thirty pounds in weight and was so well that he did not wish to have any operation done. I presume that the fatty capsule of the kidney had regained such a large amount of adipose tissue that the kidney ceased its extensive wanderings.

In the reflex class of disturbances we often have

symptoms referable to the heart, or pain reflected to the leg, or functional neurosis of the intestine due to disturbance of Auerbach's plexus or Meissner's plexus.

At a meeting of the Medical Section of the academy last spring, when membranous colitis was the subject for discussion, I was much surprised at the opposition met by one speaker who stated that mucous or membranous colitis cases represented a functional neurosis. I stated on that occasion that most of the cases of this sort that came to me were cases dependent upon loose kidney. Whether the loose kidney cases of membranous colitis form any important proportion of the entire number, I could not say, but simply that they formed a good proportion of the ones that came to me as a surgeon.

Shortly after this meeting, a physician, Dr. H. T. R., twenty-nine years of age, came to my office with a typical case of membranous colitis, and I asked him to give me a careful note of his symptoms before and after operation for loose kidney. His letter, under date of November 27th, gives me the following comparison. "Before operation after a walk of fifteen minutes I would be completely tired out and bowel cramps would begin. There was constant pain in the back and right side of the abdomen. I would awake every morning with colic lasting about thirty minutes, and this would end with a passage of mucus and membranous casts. I felt exhausted and mentally depressed all the time. Appetite capricious, and distress after eating. I felt that my professional work was about at an end. Present condition—I can walk all day without tiring; there has been a gain of more than ten pounds in weight; appetite fine, no distress after eating. No more mucus or casts from the bowel; the movement is apt to be lumpy at first, but otherwise normal. I feel refreshed and rested in the morning, cheerful, never depressed, and very happy over the result of the operation." Now if this is not a case in which the membranous colitis was a functional neurosis and dependent upon the loose kidney, I am at a loss to know how to classify the case. It is so similar to other cases in my experience that it would not have caused comment or even this report had I not happened to be present at the meeting of the Medical Section last spring.

The third division of loose kidney cases occur as a feature of a general enteroptosis, and operation for loose kidney is in itself not likely to be of much consequence unless we shorten the falciform ligament of the liver and the gastro-hepatic omentum at the same time. These cases need long-continued treatment by static electricity, abdominal massage, the alternate douche, and other treatment which requires the patient to be in pretty good circumstances in order to carry the case to a successful termination.

The cases of general enteroptosis, however, are very satisfactorily treated without any operation whatever in a fair proportion of the cases. The majority of cases of loose kidney perhaps, in my practice, are not subjected to operation.

Cases for operation, according to my belief, are the ones which continue to produce important symptoms after the diagnosis has been well made and abdominal support and general medical treatment have been well tried.

The method of examination that I commonly use is that described by Israel. A line is drawn parallel to the middle line of the abdomen, distant from the middle line of the abdomen as far as the point in the middle of Poupart's ligament and extending to the costal border.

In examining the right kidney the fingers of the right hand are placed on the upper extremity of this line, the left hand at the same time lifts the quadratus lumborum muscle. The fingers of the right hand are depressed more and more with each expiration of the patient until the lower pole of the kidney can be felt or at least approximated. The patient is then asked to take a deep inspiration, when the kidney, if loose, will slip out beneath the examiner's fingers very distinctly and can often be carried to a point below the navel. The loose kidney commonly falls into its normal position with the patient in a recumbent position, but often is discovered at some other point in its line of excursion. Other methods of examination I will not discuss here, as my intention has been to present only brief points on the general subject, in order to bring out certain salient ones for discussion.

8 West Fifty-sixth Street.

CONVULSIONS WITH SCARLET FEVER, AND THE REPORT OF A VERY SEVERE CASE WITH PERFECT RECOVERY, AND IMPORTANT DEDUCTIONS FROM THE TREATMENT.

By HERMAN E. HAYD, M.D., M.R.C.S. Eng.,

BUFFALO, N. Y.

Of all the complications of scarlet fever, none are more important and none are associated with more danger and have graver responsibilities than convulsions. They occur in all kinds of epidemics, whether the disease be mild or severe, whether the eruption be intense or moderate, and occasionally when it is so slight that the disease was not even suspected. Sometimes they are seen before any rash appears—in fact, the little patient is simply overwhelmed by the intensity of the poison, and the urinary suppression and convulsions are but the evidence of the intense general systemic infection. Usually they are seen at the end of the second week or the commencement of the third, when the desquamating process is fairly well advanced and the patient is well on the road to recovery. Occasionally they manifest themselves without any premonitions, when the urine is being passed freely, and of good color, and of good specific gravity, and when the patient is begging for food, and is to all intent and purpose seemingly well. They are to be feared, therefore, at all times and under all conditions, until the patient is far on to convalescence. Their approach may be sometimes anticipated by certain nervous phenomena, such as irritability of temper, restlessness, transient headaches, occasional twitchings of the muscles of the face and hands, slightly disturbed sleep, petulance upon awakening, capricious appetite, or anorexia, or vomiting, etc. The urine may be practically normal, reduced in amount simply a few ounces, of normal specific gravity, and with a small diminution of solids and urea. Perhaps a minute trace of albumin may be found, and a hyaline cast, with an occasional red blood cell. Such slight evidences of disturbance may exist for days, and make little impression upon the attendant or nurse, or only for a few hours, when a terrific explosion may take place in one or more convulsions, which may come to a fatal termination, or the little patient may remain dangerously ill for weeks or even months, and have repeated returns of the convulsions upon the slightest provocation; or these slight warnings may pass away in a few days and the patient rapidly get well.

The initial and objective signs of the nephritis, which is undoubtedly in most cases the cause of the convulsions, are slight puffiness of the eyelids and pallor of the face. These, together with faint pitting of the extremities and fulness about the ankles, may be present for days, and pass away without any further developments; or they may increase to a general dropsy, and still no convulsive seizures may occur; or

they may suddenly and without warning, while the urinary tests are satisfactory, be accompanied with one or more convulsions, and, if not fatal, are followed by a general anasarca and marked albuminuria with blood and epithelial casts in abundance. Often the urinary examination does not stand in any proportion or relationship to the condition of the patient, because we frequently see marked dropsy and accumulations of fluid in all the hollow cavities, and the urine loaded with albumin, casts, blood, and urates, and yet see no complicating convulsion; in fact, it has been my experience not to find marked urinary evidences in many cases of convulsions until the convulsion has occurred. Moreover, I believe that in many of these cases there is at first no serious kidney lesion, and that the condition might better be termed a renal insufficiency or functional inactivity, due perhaps to a paralysis of the secreting cells of the kidney tubuli, because the chemistry of the urine is not commensurate with the symptomatology. This inactivity of function is further increased by auto-infection and auto-intoxication, the result of putrefactive changes in the stomach and bowels, because these patients often in a few hours after the ingestion of certain foods have a convulsion or show convulsive twitchings of the muscles of the face and extremities, which irritability remains until such poisonous products are eliminated or their energy is spent. Some peculiarity or impressionability on the part of the subject must exist to make this complication possible, because some of these patients had been voiding in the twenty-four hours three or four pints of urine, with a specific gravity of over 1.015, and yet have convulsions.

We know that the poison of scarlet fever expends its special energy upon the brain and spinal system, and these organs suffer quickly, frequently, and seriously in many epidemics.

Again, the lymphatic and glandular apparatus is more often involved, while in other persons the poison shows its special predilection for the kidneys and lungs.

What is responsible for these peculiar phenomena in the one case and not in the other, we cannot say. Nor do we know what this vulnerability of tissue is, nor are we prepared to deny that certain toxins are developed in certain individuals in certain epidemics of specific diseases which spend their energy upon certain organs peculiarly predisposed to their irritating action. Why one person in good health, with excellent family history, and with the most careful and vigilant nursing, should have one complication and escape all others can then in a measure be understood. Many cases of convulsions are no doubt due to carelessness in nursing; to improper food, both as to amount and quality; to want of care and attention of the skin during the desquamating period; to colds, etc.

Mild cases of scarlet fever are often the subjects of nephritis and convulsions. I have been frequently called to a case of dropsy and convulsions, and upon careful inquiry it was made out that the child some weeks previous had been slightly sick, and that scarlet fever existed about that time, either in other members of the family or in the immediate neighborhood. Scarlet fever, however, was not diagnosed in that child, and the illness being so slight, the child was at once permitted to be out, perhaps in inclement weather, or after a romping, vigorous play, sat down in a draught and took cold. An acute congestion of the kidneys, or perhaps a nephritis with convulsions resulted. This class of cases is not rare, and is easily accounted for. The poison of the scarlet fever, although attenuated, left its impress upon the kidneys, and the sudden chilling of the cutaneous surface rapidly brought an influx of blood to these already sensitive organs.

Another class, which is, however, of greater clinical interest and importance, comprises those due to gastric and intestinal toxæmia. I am strongly of the opinion that there is a class of convulsions seen in scarlet fever, as well as in pregnancy, which are the result of toxic elements generated in the gastro-intestinal canal, and these toxic elements are absorbed, and exercise an inhibitory influence on renal secretion. This conviction is borne out by the experience of the case I purpose to report in this paper, as the relationship of cause and effect was seen so often and with such terrible consequences by the attending physician and nurses. Convulsions occurred when the patient was passing per diem as much as three pints of urine, of a specific gravity of 1.012 to 1.018 and of fair color, but containing only six to eight and twelve grams of urea in twenty-four hours. Specific gravity, therefore, gave but little indication (in fact, none) of the toxicity of the retained elements which caused the convulsive outbreak; in other words, mere specific gravity in itself, as represented by the index of the urinometer, is no safe guide for renal secretion. Other products can exist in urine, which are capable of making a fairly dense specific gravity, such as the chlorides, the sulphates, the alkaline and earthy phosphates, and the indoxil compounds, and still the economy can be retaining toxic elements capable of making a convulsion.

What the poison is that makes convulsions is still a debated problem—whether it be retained urea or some subtle derivative of the urea compounds, future chemistry will have to verify. One thing, however, seems reasonably certain, that *pari passu* with a diminished excretion of urea a proportionate nervous excitability results with perhaps a convulsive explosion. Repeated urea analysis, therefore, is of the greatest importance in conducting any case of scarlet fever. Daily urea calculations, or even calculations as often as every second and third hour night and day, or after the ingestion of any food or nourishment, may become necessary and of the most vital importance for the proper conduct of a serious case of scarlatinal convulsions, because by this vigilance only can we determine whether certain articles of food are not contributing to the lessened excretion of urea and its compounds and their retention in the system.

If we accept the theory that convulsions are often the result of putrefactive changes of certain food products in the bowels, then the question of the nourishment of the patient becomes a very important one. I am satisfied that too much anxiety exists in our minds, and particularly the lay mind, as to the necessity of food in the acute infectious diseases, and particularly those in which kidney complications are possibly frequent concomitants or complications of the disease. Tanner, the world-renowned faster, was more than a mere dime-museum freak who appeased and satisfied the curiosity monger. His fasting demonstrated a great physiological truth, that for weeks a person can exist without extraneous food, with a liberal supply of water, and that he can be fairly well sustained for days by his own stored-up food-generating and fuel-producing energy. That being a demonstrated fact, I maintain that food and nourishment are not matters of vital importance until emaciation and weakness prove their necessity. Sometimes the articles of our simplest diet lists are potent agents in the generation of intestinal putrefaction, and perhaps are the last straw that breaks down the weak and imperfectly functionating kidney. Although farinaceous foods, as rice and sago, are ordinarily permitted in the diet of these febrile patients, I am positive that they sometimes and perhaps often bring with them a mortality. Milk is the food *par excellence*, because it leaves but little waste and residue products in the bowels; but when it is not

borne, either from peculiar idiosyncrasy or indifference or spleen or disgust for it, nothing should be given by the mouth, and the patient should be sustained, if necessary, as well as possible by nutrient enemata, because the dangers in these trying cases are infinitely greater from intestinal toxins than from starvation, and the index of that toxæmia is a relatively diminished excretion of urea and a proportionate increase of indican and its correlatives.

With my own little patient, we were driven to the point of starvation by the terrible exigencies of the case, and we realized, after three different attacks of convulsions, that food simply consisting of chicken broth thickened with a little rice or sago brought in its trail invariably a lessened excretion of urea and an increased amount of indoxin, and with these chemical data, clinical evidences in the shape of twitchings of the muscles of the face and neck, frontal headache, and often very pronounced irritability of temper and restlessness, which ended in two and five and seven convulsions. For ten days even a little patient, exhausted by many weeks of sickness and from the first day of that illness under a most restricted diet, got nothing by the mouth excepting water and such small additions of brandy as were thought advisable, and finally, when but a living skeleton and on the brink of dissolution, as a last resort, after many sessions of anxious debate between the medical men and a very intelligent father and mother, milk three times diluted with water was again tried. It was borne now, and it was cautiously increased in strength, and in four days thirty ounces of milk, diluted in various proportions of water, were taken in twenty-four hours. In the early part of the illness, milk in any possible combination was not tolerated, not alone because the stomach rejected it, but because our otherwise obedient and dutiful patient would not take it. No bribe was great enough or persuasion powerful enough to overcome her natural aversion for milk. The stomach and bowel rest which followed as a natural consequence upon rectal alimentation only, and the gradually increasing kidney strength because no extra work was thrown upon them by reason of auto-infection from stomach and bowel fermentation, enabled her to take the diluted milk, which soon satisfied the thirst and desire for food and nourishment. The kidneys had rehabilitated themselves, and in three days the amount of urea had increased from ninety grains per diem to two hundred grains, and finally got as high as six hundred and thirty grains in twenty-four hours. Indicanuria, which was evidenced by a very dark purple reaction—in fact, as dark as port wine—practically disappeared, and the urine very soon showed simply traces of albumin. Strength rapidly came, and a surprisingly quick convalescence; in fact, in a few weeks the patient was well on to recovery. Milk and junket and various combinations of milk and somatose were taken with avidity and relish, and apparently without any waste. Everything was absorbed, properly digested, and oxidized, as was evidenced by the alvine evacuations and oft-repeated chemical and microscopical urinary examinations.

And now let me give you the history of the case more in detail, the treatment employed, and the practical deductions which resulted from a close observation of constant daily attendance for sixteen weeks, seven of which were practically devoted to her case alone.

H. M——, aged ten and one-half years; always a strong, healthy child, but not of rugged build. She never suffered from convulsions during dentition, or during an attack of measles, mumps, or chicken-pox; in fact, she never had a complication or sickness of any serious importance in her lifetime. She never was a croupy child, like her brothers, and was blessed with splendid digestive organs. She is of nervous organization, quick and impetuous, and with an exceptionally bright mind and intellect, and with a nature full of play and spirits.

On March 12, 1900, she developed scarlet fever. It was an average case, much less severe than her brother's, who was ill at the same time. The temperature never ran above 101.5° to 102° F., the rash came out nicely, and there was little associated sore throat. Instead of the temperature falling to normal after the eighth or tenth day or thereabout, she continued to have a little fever at night, say 99.5° to 100° F., and the pulse would range from 96 to 110. The stomach was weak; there was an indifference and dislike for nourishment, but she would take a fair amount of broths and milk by persuasion, and a little rice and bread and butter. No solid food was administered, excepting once a very small piece of chicken, and again a piece of fish or sweetbread. She was kept in bed continuously, and only once sat up for a short time and walked into her brother's bedroom. The urine was passed in full amount, three pints in twenty-four hours, with no albumin and no casts, and two hundred and twenty-six grains of urea, and again two hundred and fifty-six grains were eliminated. The skin was bathed regularly and anointed twice daily with vaseline. About the fourteenth day the face and forehead were noticeably pale, and the skin seemed slightly thickened, although there was no pitting of the extremities or puffiness of the eyelids. The bowels were kept soluble, and Basham's tonic diuretic mixture was administered three times daily. On the sixteenth day a little puffiness of the eyelids was seen when she awoke in the morning, and the stomach was a little more intolerant of food; there were nausea and a sense of fulness and distress after eating. This condition continued with a little increase of the puffiness of the eyelids and a little about the ankles, and the urine began to fall in amount, say to thirty ounces; the specific gravity was 1.021, and there was a slight trace of albumin. The urine was carefully examined every day, not alone at the patient's bedside, but samples were taken to the hospital and centrifugalized. No casts were found, and other than an occasional red blood cell and renal cell the urine contained nothing of importance; the albumin even disappeared, or at all events diminished to the smallest trace discernible by different tests.

A vapor bath was given on the afternoon of the twenty-second day, although the skin was soft and moist, more as an experiment to get rid of the puffiness of the face, and to give the little patient an idea how a bath felt in case a stronger necessity came for its employment. The patient for the first time was very restless that night and did not sleep well, and at eight o'clock on the following morning, April 4th, I was called by telephone, because she was in convulsions. I hurried to the house, and immediately dropped a few grains of calomel upon the tongue and began the administration of chloroform. Dr. Hopkins was sent for, and he joined me throughout the future progress of the case, and later Dr. Carpenter, who made frequent urinary examinations. Only two pronounced convulsions occurred, but it was evident that the patient was very much poisoned, because the head would be jerked over to the right side, and the eyes would be rigidly fixed with a pronounced external strabismus just as often as the anæsthesia was lessened; urinary suppression was nearly complete, because several hours after the convulsion, no urine being passed, a catheter was introduced into the bladder, but only an ounce and a half of urine was obtained. The back was dry-cupped, and poultices were applied over the lumbar region, and finally two pints of water were introduced under the skin into the

cellular tissues through four different points. Quiet and sleep were further induced by chloral gr. v., and antipyrin gr. v., injected per rectum every fourth hour, after having first washed out the bowels with a copious injection of several quarts of water through a long rectal tube. Strychnine gr. $\frac{1}{60}$, and digitalin gr. $\frac{1}{100}$, were also given every fourth hour hypodermically. The temperature ran very high, 103° to 104° F., and pulse 116 to 140, and respirations 34 to 52. She was now very much bloated, and a condition of general anasarca existed. She was sponged freely, but no effect was noticeable upon temperature and pulse, and finally cold packs were employed from 64° to 80° F., the first being 64°, with a very happy result. Tincture digitalis ♏xii. was also added to the chloral and antipyrin injection, and continued as before every fourth hour. The large bowel washes were given every sixth hour for a few days, and the temperature of the water was reduced to 78° and 80° F., which also brought down the fever, produced quiet and restful sleep, and cleaned out the bowels of any fermenting materials. During the second twenty-four hours, sixteen and one-half ounces of urine were passed, and one sample was lost. It was loaded with albumin, urates, and epithelial and blood casts and blood cells, and renal and bladder epithelium. Salines were administered, and the bowels moved four or five times, and on the third day fourteen ounces of urine were passed, and three samples lost. The stomach was quiet; the nausea and vomiting, which had been distressing, were better, so that water could be freely given, and some chicken broth. Nutrient enemata, consisting of peptonized milk ℥ iii., with somatose ʒ i., were given every fourth hour, often combined with medicines, and fifteen minutes after the chloral and antipyrin injections, which had the effect of quieting any bowel irritability.

On the 7th of April, the third day after the convulsion, she rebelled against the broth, so a little rice was added to it, more to give flavor than for any nutritive value, as so little was used. The afternoon temperature was 99.5° to 101° F. and the pulse 116 to 124; sixteen ounces of urine were passed, and two samples were lost. Less albumin and less blood were present, and epithelial and blood casts. On April 9th she complained of a good deal of pain over the left eye; the bowels were much distended with gas, and the flatus which passed was extremely offensive. The amount of urine passed was twenty-two and one-half ounces, and three samples were lost; the specific gravity was 1.023, less albumin and less blood were present, and the urine was beginning to look, in color at least, very encouraging. The patient had also been pretty comfortable, and had had a good day, other than the headache she complained of; consequently I arranged to spend the night at home. About ten o'clock that evening she had another very severe convulsion, and this was rapidly followed by four more, before they could be controlled by the chloroform. Much thought and study were given to find out a possible cause for this explosion, and although we thought it a mere coincidence that the convulsion should have occurred after the ingestion of some rice and a little bread and butter, nevertheless we noted the fact and were impressed by the possibility, because the discharges from the bowels were very offensive, and the bowels were quite tympanitic, and the return water after the bowel washes was very foul indeed. The amount of urine passed during the next twenty-four hours, of course, fell, and the dropsy and anasarca again increased, but not much, and only nine and one-fourth ounces of urine were passed and three samples lost. The blood and albumin again increased in amount. We were surprised, however, that the temperature and pulse rate did not show any increase corresponding to that of the first convulsions. The pulse on April 10th, one day after these convulsions, was only 108 to 110, and the temperature 99° to 100° F., and once 98.5°, and the respiration 26 to 34. This strengthened our belief in the possible connection in this case between stomach and bowel fermentation and lessened renal function, and the cause being temporary and quickly removed, the economy suffered but little and for a short time. Bowel antiseptics were administered, and especially the subgallate of bismuth, gr. v. every fourth hour, which corrected the very disagreeable odor, and also indirectly lessened flatus formation. Diuretin was tried but with no effect, and tablets of calomel gr. $\frac{1}{10}$, and sodium bicarbonate gr. i., were given every half-hour for ten doses, with the effect of stimulating the kidneys and acting gently upon the bowels. Three or four times in the earlier part of the sickness these small doses of calomel were given, and always with a good result; but the little one's mouth and gums were swollen and tender, so we had to move cautiously with this agent. Fluids were taken in large amounts, Poland water and Victoria water and broths, making a total of seventy-eight ounces in the twenty-four hours—yet only fourteen ounces of urine were voided. The temperature was only 99° F., yet the pulse was running very high, and oxygen was given; but after a few inhalations the patient refused to take it, so the windows were freely opened and an air bath for one-half hour twice a day was substituted. She, of course, was well covered, and the effect was good. These cold-air baths were continued twice daily for weeks. The heart was showing its great burden, and laboring with a pulse of 152 to 160, and, although regular, was very small and compressible. Citrate of caffeine was injected, gr. ii. every hour for a few doses, then every third; and the brandy, which was a very old and valuable product, was increased to ℥ ss. per diem, and diluted with water in agreeable proportions. The restlessness was controlled with the chloral injection, and when the temperature rose above 101° F. the antipyrin was added. The effect of the chloral was always very satisfactory, and proved all through the illness a grand remedy. The caffeine made little impression, so the strychnine gr. $\frac{1}{60}$, and the digitalin gr. $\frac{1}{60}$, were continued as before, and there was added nitroglycerin gr. $\frac{1}{100}$. The urine was carefully watched to see if the blood increased under the nitroglcyerin. It did not, and the pulse got stronger and fuller and fell to 136 to 150, and the temperature remained practically normal. On April 14th the amount of urine passed was eleven and one-fourth ounces and one sample lost; it contained albumin in considerable amount, a few casts with free blood cells attached, urates, blood and epithelial cells.

April 15th and 16th the temperature was elevated to 101.6° F., and it was soon discovered that localized abscesses were developing about the puncture points where the hypodermoclysis was effected. These were opened as indicated, and treated on general surgical principles. The patient was now being nourished by chicken broth, and the whites of five to eight eggs shaken up with water were taken every twenty-four hours, and the peptonized milk ℥ iii., and ʒ i. of somatose per rectum every fourth hour, and Basham's mixture, two teaspoons, was being taken three times a day.

On April 19th nine ounces of urine were passed and five samples lost. Analysis about as before. From now on the urine increased in amount, and a veritable diuresis existed. She would pass sixty ounces of urine in the twenty-four hours. On the 21st the pulse was 108 to 112, respiration 28, temperature 101.4° F., and forty-four and one-half ounces of urine were passed in twenty-four hours, with a

specific gravity of 1.012; it contained some albumin, but much less than at the previous examinations, urea 0.8 of 1 per cent. to 1.1 per cent., very light in color, but blood-tinged. The patient was now very restless, and had been begging and crying for food for hours. Again a little bread and butter was given her, only three little squares and cut very, very thin, and later a little zwieback. Headache came on in a few hours, and phenacetin was given. The bowels were distended with gas, and a great deal of pain in the belly was complained of, so much so that a rectal tube was inserted into the bowel and the gas let off, and the bowels were again copiously irrigated. Peptonized milk, diluted one to three of water, was again tried by mouth, but in twenty-five minutes this was vomited.

April 21st, in twelve hours eighteen ounces of water were taken, the whites of three eggs, and sixteen ounces of broth. Ferri somatose was substituted for the plain somatose.

April 22d, she continued to take the eggs and nourishment freely, with no headache and no bad symptoms, because no more starchy food had been taken. She passed thirty-two ounces of urine, with a specific gravity of 1.012; four samples were lost. Temperature, 100.6° F.; pulse, 120; respiration, 36–30. The wounds were discharging pus. Bread and butter and rice now being tabooed from the bill of fare, and the little one crying piteously for something to eat, two somatose wafers were given in the day and one at night, and a little zwieback.

April 23d, the report stated that she had had a very restless night, was troubled a great deal with gas and headache, so much so that phenacetin was again given and the rectal tube was introduced. At 2 o'clock A.M. she again had convulsions, and so frequent that five occurred before she could be quieted with the chloroform, and two more some hours afterward when the chloroform narcosis was temporarily suspended. It is to be observed that these convulsions came thirteen days after the last attack, and during the latter five or six days the patient had been doing fairly well. She had passed urine freely. There was some fever, which was no doubt due to the pus developing at the puncture points. A little starchy food was taken, and the headache returned and a diminution in the amount of urea excreted immediately followed, and although the amount of bread and butter and wafers was small, yet they were enough to produce headache and restlessness. Thinking the wafers less dangerous than the bread, they were given in sparing amounts, with a little zwieback, and convulsions followed. The patient was again dry-cupped and poulticed, and the bowels were freely washed out, and the temperature was high, 103.2° to 104° F. She was again put in the cold packs. The pulse was 110 to 136. She passed her urine for the first twenty-four hours involuntarily, and also her fæces.

April 22d, the urine passed for the past twelve hours and only two hours before a convulsion was thirty-two ounces. For the twenty-four hours previous, forty-two ounces; specific gravity, 1.014; trace of albumin; urea, 10 gm. or gr. cl. Indican increased; phosphates and sulphates decreased. Sediment increased—blood, bacteria, an occasional renal cell, some of which are fatty, an occasional granular epithelial and blood cast, a few fibrinous casts (Carpenter). After the convulsion the urine was of about the same character, and contained only 0.4 of 1 per cent. of urea, or about gr. lx. to one quart of water.

Frequent urinary tests were made by Dr. Carpenter for several days, and the urea calculations carefully computed every few hours by myself and assistants, and on May 8th the condition of our little patient was desperate. She was taking water freely and her chicken broth and egg albumen, and the brandy and water, which was now increased to one ounce a day, and the nutrient enemata of ʒ iii. of peptonized milk and ʒ ii. of somatose powder every fourth hour, and retaining them very well. The strychnine and digitalin and chloral had been withdrawn for several days, as there was no necessity for their employment. She was now passing a large amount of urine, pale in color, alkaline in reaction; specific gravity, 1.012; solids normal and only 0.8 of 1 per cent. to 1.1 per cent. of urea. However, in the twenty-four hours the sum total of urea was considerable, as compared with the amount of food taken. Chlorides were slightly decreased, indoxil increased. The sediment was much increased, and consisted principally of earthy and triple phosphates, a little blood, and an occasional hyaline, blood, and epithelial cast—some with red blood cells adherent to them, and an occasional renal cell slightly fatty with a little free fat on casts, a little calcium oxalate, and bacteria (Carpenter).

April 26th, three days after the convulsion, the temperature fell to normal, and the pulse was 66–82 to 90, and she passed two hundred grains of urea, the urea jumping up from ninety grains to two hundred. Nothing but chicken broth and the whites of six eggs and water and the brandy and water were being taken by mouth, and the nutrient enemata, showing conclusively that the kidneys could and would do their work if not interfered with in their function by some paralyzing or inhibiting poison. Urea calculations were now made every second hour night and day, or as often as urine was voided, and always after any additional amount of nourishment had been taken, and if a corresponding increase of urea resulted after the increased amount of food, then the food was continued or withheld for a few hours.

April 27th, P., 80 to 68; T., 98.4° to 99.6°. April 29th, P., 66 to 72; T., 98° to 98.4°. April 30th, P., 66 to 74; T., 98° to 99°. May 3d, P., 66 to 74; T., 98° to 99°. May 5th, P., 56 to 68 to 74; T., 98° to 99°. May 11th, P., 66 to 86; T., 98° to 99°. May 16th, P., 72 to 84; T., 98.6° to 99°. May 18th, P., 78 to 114; T., 98.6° to 99°. May 20th, P., 84 to 100; T., 98.4° to 99°. May 23d, P., 94 to 110; T., 98.4°.

The pulse, as you see, was abnormally slow for weeks, and I am now of the opinion that some toxin or urea derivative was retained in the system which inhibited the heart's action. We know that certain urea products make coma; others, restlessness and convulsions; and why may there not be others which depress the heart's action? There can be no other explanation for such a slow heart in a child dying from starvation. When the kidneys began to throw off a large amount of urea under the more generous diet, we see the heart went up to 94 to 110, where it remained for many weeks. The pulse now runs from 88 to 96. The patient was on the brink of dissolution, and a more wasted and emaciated body I had never seen, with a pulse of 60 to 68, and a temperature of 98°. For some days past the question of again trying milk by mouth was seriously discussed, and every one of us being satisfied that death was inevitable if more food was not given the child, the milk two or three times diluted with water, ice-cold, was again tried. The stomach and bowels had been rested for many days, and the kidneys had no doubt in a measure rehabilitated themselves, because the milk diluted with twice the amount of water was retained and enjoyed. It was cautiously increased, and on the 15th she took sixteen ounces of broth and forty-eight ounces of milk in twenty-four hours, besides the nutrient enemata. She took care of everything, and the amount of urea excreted made a jump, and before long she was passing over five hundred grains in twenty-four hours. The nutrient enemata were now stopped, because the amount of food was every day increased.

It was being digested and taken care of, because the urea calculations showed a proper equivalent, and the child rapidly grew in strength, flesh, and spirits. She was always hungry and took her food with avidity, and always begged for more, and on May 25th she passed 2,070 c.c. of urine, or four pints, and 41.4 gm. of urea (621 grains). Total solids, 101 gm. (for an adult 70 gm. is a good amount). Color, pale, alkaline; specific gravity, 1.021; slight trace of albumin; indoxil normal; chlorides normal (relatively); alkaline phosphates decreased; sulphates normal; sediment much increased in amount, principally triple phosphates, bacteria, few red blood cells, renal cells, and leucocytes. The food on this day was prodigious, and consisted of bread and butter, six soft-boiled eggs, forty-eight ounces of milk, twelve ounces of broth, two chops, and eight ounces of junket. She soon gained strength, sat up, and went downstairs for her first dinner on June 10, 1900. The improvement continued, and the chemistry of the urine was every day more encouraging, and in July she weighed seventy-six pounds, ten pounds more than ever before in her life, and to-day is a strong, handsome, well girl.

It is interesting to note how in a few days the amount of urine passed increased from twelve and sixteen ounces to sixty unces and over per diem; in fact, a veritable flushing existed. She passed on May 10th, 67¾ oz. urine, 207 gr. urea; May 15th, 91½ oz. urine, 350 gr. urea; May 19th, 80 oz. urine, 461 gr. urea; and there was taken milk 54 oz., broth 30 oz., somatose 2½ drachms; in the broth, whites of six eggs, 12 oz. water—in all, 96 oz. fluid. May 25th, 69 oz. urine, 630 gr. urea; May 26th, 66½ oz. urine, 581 gr. urea; June 10th, 51 oz. urine, 526 gr. urea, specific gravity, 1.018; June 14th, 43 oz. urine, 451 gr. urea, specific gravity 1.019; with only the slightest trace of albumin and seen only by the most careful inspection, an occasional renal cell and blood cell, and no casts. June 23d, 46 oz. of urine.

And now let me summarize and apply my deductions from this interesting and remarkable experience, and thus place the matter in a succinct manner before you for discussion.

1st. Every case of scarlet fever is a law unto itself.

2d. Convulsions may occur and do occur when least expected and every case of scarlet fever should be closely watched for many weeks.

3d. The urine should be frequently examined, not only its specific gravity taken and albumin tested for, but urea calculation should be often made.

4th. Mere specific gravity is not a sufficient indication as to the amount of urea eliminated, because the specific gravity may be fairly high, and yet urea can be retained in poisonous quantities; moreover, a large quantity of water can be voided and with a fair specific gravity, and yet convulsions may occur.

5th. Albumin need not be present, or only a trace may be found in the urine, yet convulsions may occur, but the albumin will be found perhaps in great amounts after the convulsions have occurred.

6th. Only the most digestible food and nourishment should be given, and if possible such foods as produce little gastric and intestinal putrefaction; the food par excellence being milk, because the amount of toxalbumins and putrefactive residue is reduced to a minimum.

7th. If milk cannot be digested or will not be taken, no food should be administered for days by the stomach, simply an abundance of water and the patient nourished by nutrient enemata. If broths are borne, chicken broth, made after the directions of Dr. Pryor of New York, as found in his book, is a pleasant and, I am satisfied, nutritious food.

8th. In any severe case of convulsions, only small amounts of nourishment, if given by the stomach, should be attempted at any one time, and frequent urea calculations should be made to see that the proper quota or equivalent of urea is eliminated, and if the urea is not increased after the ingestion of the food, then the food must be withheld or such food be substituted as will not interfere with the proper excretion of urea.

9th. If gastric irritability exist, give the stomach and bowels rest, because by giving them rest, a period of quiet also results for the kidneys, and that interval of time may be sufficient to permit the kidneys to rehabilitate themselves, either in function or to develop new renal secreting cells, as scarlatinal nephritis is a desquamative process, and new epithelial cells are no doubt often quickly formed.

10th. The amount of urea passed in twenty-four hours differs in different individuals, and it may roughly be stated that an excretion of 10 gm. or gr. 150 of urea for a child ten years old, weighing sixty pounds, will protect her from convulsions. My patient is to-day passing over five hundred grains of urea every twenty-four hours.

11th. Hypodermoclysis is a very valuable and safe method to introduce water into the system, and as much as two or three pints can be used, and with proper precautions no danger will result or severe abscess formation follow. The decinormal salt solution should be used, and should be first boiled, and the skin is to be thoroughly disinfected by washing it freely with soap and brush, and then washing again with bichloride solution 1:2,000, and subsequently with alcohol. The needle and fountain syringe with tube should be placed in boiling water and boiled for a few minutes to insure their perfect cleanliness.

12th. Enteroclysis, or the introduction into the bowels of a number of quarts or even gallons of water, of a temperature ranging from tepid water to water of a temperature of 80°, if much fever be present should be employed once or twice during the twenty-four hours.

13th. Strychnine, and digitalin are our most valuable heart stimulants, and brandy is our best food and diffusible stimulant.

A Case of Latent Puerperal Convulsions, Occurring Three Weeks after Delivery, and Presenting no Premonitory Symptoms of Uræmic Poisoning.—The patient of T. A. Martin was a woman of twenty-seven who passed through her seventh confinement without incident and was up and about on the twelfth day. Ten days later she suffered from severe infra-orbital neuralgia, which was cured in about a week. One week after that she was taken with clonic spasms suggestive of uræmia. The urine was found loaded with albumin. Pilocarpine, morphine, bleeding, etc., were all tried, but without definite relief. Examination of the blood showed plasmodia malariæ, and the patient was put on quinine. Under this she slowly improved, but later there was an inflammation of the veins of the leg which retarded recovery. She was finally discharged, cured, about three months after her confinement. The author calls attention to the late appearance of the convulsions after labor; to the absolute want of any premonitory or uræmic symptoms occurring before the convulsive seizure; the recurrent convulsive seizures; the obstinacy of the trifacial neuralgia; the presence of the malaria parasite in the blood after each convulsion; the occurrence of double phlegmasia alba dolens; hemiplegia lasting four days; and the ultimate complete recovery of the patient from all these unusual complications.—*St. Louis Courier of Medicine*, December, 1900.

Spontaneous Dislocation of the Hip Occurring during Typhoid Fever.—L. A. Weigel reports the

case of a girl of eight who in the sixth week of her fever complained of severe pain in both hips, but more marked in the right one. The pain gradually ceased in the left hip; the acute symptoms in the right one, however, continued. The joint became markedly swollen and tender. The acute joint symptoms, together with the position of the leg in flexion and adduction, rendered a diagnosis of coxitis justifiable. On account of the marked asthenic condition of the child at this time, however, a satisfactory examination to determine the exact nature of the trouble could not be made. The more acute joint symptoms gradually subsided and after the child had been ill for eleven or twelve weeks she recovered from the fever and subsequently was able to get about on crutches. When seen four months later the contour of the hip and posture of the leg closely simulated the appearance of a case of hip disease in the third stage. The leg was flexed, adducted, and rotated inward, and three and one-half inches shorter than its fellow. The usual limitation of joint motion and other typical symptoms of coxitis, however, were absent, and as the trochanter was well above Nélaton's line, it was evident that the femur had become dislocated upward on the dorsum of the ilium. The existence of the suspected lesion was confirmed by radiograph.—*St. Louis Courier of Medicine*, December, 1900.

Prophylactic and Curative Treatment of the Bubonic Plague in India.—A. Lustig and G. Galeotti describe the preparation and composition of the serum which they use. Their experience during the past four years has proved that it is the only serum which gives perfectly satisfactory results. It has been recommended for use by the sanitary authorities in Bombay, and is the only serum produced in a special laboratory there, being widely used in hospital and private practice, whereas other serums have been discarded.—*Lo Sperimentale*, vol. 54, No. 8.

Some Remarks on the Pathology of Gastric Ulcer.—Charles J. Nepean Longridge says that experimental evidence confirms the view that ulceration of the stomach may depend on toxic causes, for Enriquez and Hallion, by injecting diphtheritic toxin under the skin of guinea-pigs, produced undoubted gastric ulcers. Moreover, Flexner, in his researches upon toxalbumic intoxication, found small ulcers in the stomach on several occasions among other structural changes. The occurrence of such ulcers depends upon the fact that the stomach, among its other functions, includes that of an excretory organ. Exactly how the poison, in the course of its excretion by the gastric mucosa, causes death of the cells with which it comes in contact is a wide matter for discussion. Such a condition, however, exists, although it is more of pathological interest than of clinical importance.—*Treatment*, December, 1900.

A Case of Carcinoma of the Pharynx with Marked Involvement of the Cervical Glands in a Boy Fourteen Years of Age.—J. M. Elder reports a case in which the prognosis is hopeless. As regards the etiology he says that he cannot do much more than put down the questions that have occurred to him. How much has heredity to do with it? The mother showed symptoms of cancer when the child was four years old, and died from it two years later. How long has the cancer existed unnoticed in the pharynx? Was it the cause of, or was it possibly aggravated by "catarrh" noticed by his friends? And, finally, in what tissue did it begin? Cancer of the faucial tonsils is well recognized. Did this possibly begin in the pharyngeal tonsils while they were undergoing atrophic changes? One would expect to find in this region a sarcoma or an epithelioma, but carcinoma is rare, especially when the age of the patient is taken into account.—*The Montreal Medical Journal*, December, 1900.

A Rare Disease Characterized by Subcutaneous Phosphatic Concretions.—M. Jeanne describes the case of a young shepherd of twenty-five years, suffering from cutaneous and subcutaneous generalized lesions, formed of concretions, ulcerations and fistulæ, and cicatrices. The concretions would first appear as hard, painless tumors beneath the skin, irregular in shape and size, free from the epidermis and the derma. Later they invaded the skin and finally caused ulceration. Small particles of sand or stones the size of peas came out of the ulcers. There were muscular atrophy, diminished mobility of the larger joints, and certain trophic disorders. The patient died under chloroform, given for the purpose of cleansing and draining the extensive suppurations of the left thigh. At the autopsy, the only abnormalities found were intestinal ulceration and the concretions described. They were found to consist of carbonate of lime 6.8 parts, phosphate of lime 67.7, organic matter 23.4, phosphate of magnesia 2.1. The author inclines to the opinion that the trouble is of parasitic origin.—*Bulletins et Mémoires de la Société Anatomique de Paris*, November, 1900.

Concerning the Etiology of Asthma.—John Dunn believes that asthma is not a reflex of the swollen turbinates or of the ethmoiditis with its polypi, but of the intense irritation caused by the action on the mucous membrane of the metabolic products. This irritation may cause reflex asthma in a person whose nasal mucous membranes are, between the asthmatic attacks, perfectly healthy so far as can be judged by the naked eye. It may be so intense as to cause ethmoiditis and thus beget nasal polypi. Hay fever is a direct expression of this irritation. The two diseases are thus closely connected and not infrequently coexist in the same individual. The writer does not use the term uricacidæmia as a descriptive term, because he does not believe that uric acid is the only product of tissue metabolism which when retained in the tissues is capable of producing irritating effects. He believes, however, that it is the chief product in bringing about asthmatic disturbances.—*Charlotte Medical Journal*, January, 1901.

The Possibility of Cure in Progressive Paralysis.—Raffaele Pisani reports a case in which apparent recovery occurred. He says that of course it might be considered an unusually prolonged remission of symptoms, having lasted seven years with *restitutio ad integrum*. It is not usual in progressive paralysis to see certain symptoms disappear, as for instance pupillary disorders, tremor, motor disorders of speech, or even graver psychical disturbances. This fact has not unnaturally led to the conclusion that progressive paralysis is a disease of toxic origin, in which there is a possibility that the toxin might be eliminated from the nerve tissue and that anatomical lesions, if not too far advanced, might be cured.—*Giornale Internazionale delle Scienze Mediche*, December 31, 1900.

Subcutaneous Auto-Grafting of Ovaries following Salpingo-Oöphorectomy.—P. Mauclaire says that in many cases it is desirable to preserve the whole or part of an ovary, with a view to the avoidance of the local and systemic disturbances which frequently follow their removal. He has, therefore, in several cases engrafted the ovary into the abdominal wound or under the skin with fair results. Sometimes the ovary is infected, in which case it will have to be removed. This process of grafting can be done to advantage even after the menopause.—*La Gynécologie*, December 15, 1900.

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PULMONARY TUBERCULOSIS AS A CAUSE OF DEATH.

TUBERCULOSIS, especially involving the lungs, is so widespread a disease and so large a factor in the death list that any knowledge concerning its activity cannot be considered unimportant. Material reductions have been brought about in its prevalence and its fatality; and with a better and fuller comprehension of its causes, and consequently of its preventability as well as cure, the ravages of the disease should be still further restricted. Some interesting statistics bearing upon this question are analyzed by Thomas Oliver (*Lancet*, November 10, 1900, p. 1335) in a lecture on the physiology and pathology of inheritance, delivered at the opening of the course of clinical medicine at Newcastle-upon-Tyne Royal Infirmary. The fact was pointed out that between 1858 and 1860 the average number of deaths annually from pulmonary tuberculosis in England and Wales was 2,565 per million, while between 1871 and 1875 it was 2,218; between 1886 and 1890, 1,635; in 1891, 1,599, and in 1892, 1,468. This reduction in mortality from a single cause cannot but be a source of great gratification to all interested in the welfare of the race, in the prevention of disease, and in the preservation and prolongation of life. The hope seems not unjustified that a more widespread diffusion of knowledge concerning the mode of dissemination of tuberculosis, and therefrom a more intelligent appreciation of methods of prevention, must continue to result in further reduction in both the incidence and the fatality of the disease.

According to the mortality records of the Mutual Life Insurance Company of New York, dealing with 46,525 deaths between 1843 and 1898, it appears that the rate of mortality from all causes rises with advancing age, and the same diseases that affect youth carry off persons in old age. Of the whole number of deaths, tuberculosis caused 5,585, all but 133 of which were due to disease of the respiratory organs. The mortality rate from tuberculosis was high at early ages, diminishing with advancing years, although still observed in extreme old age. Of each 100 deaths from tuberculosis, 59.2 per cent. occurred before the age of forty-five; 28.94 per cent. between forty-five and sixty, and 11.85 per cent. after sixty; while tuberculosis caused 24.27 per cent., 10.88 per cent., and 4.03 per cent., respectively, of the total number of deaths during the periods named.

Further analysis shows that the greatest number of deaths from pulmonary tuberculosis occurred before the age of thirty, as well in families with as in those without a history of that disease, though larger in the former for every decennial period of life to extreme old age. On the other hand, the ratio of mortality among the total causes of death diminishes with advancing years, owing to the fact that other diseases make their influence felt. Pulmonary tuberculosis claims its victims in largest number in the early years of manhood, for after middle age degenerative diseases of the circulatory organs and the nervous system make their appearance and relegate tuberculosis to a less conspicuous position. According to the experience of the Scottish Widows Fund, the age of thirty-five years is that at which the largest number of deaths from pulmonary tuberculosis occur.

THE TREATMENT OF INSOMNIA.

IT need scarcely be said that loss of sleep is merely a symptom, arising from a multiplicity of causes, singly or in varying combination, and that the best treatment will be that which is directed to a removable cause. The symptom may at times, however, be the most conspicuous clinical manifestation, and its cause may elude the most rigorous scrutiny, while its persistence may make it a serious complication from which relief must be secured by means directed specifically to that end. In a clinical lecture on the causes and cure of insomnia, Sir James Sawyer (*British Medical Journal*, December 1 and 8, 1900) describes sleep as an appetite—that is, a craving produced by the recurring wants and necessities of bodily or organic life. Its two striking characteristics are its periodic recurrence and its organic necessity. If resisted, uneasiness, discomfort, and pain result.

It is probable that sleep is due in part to intrinsic changes in the ultimate tissue elements of the brain that are concerned in consciousness—perhaps induced by the products of tissue waste—and in part to diminished supply of blood to the brain. It is to be borne in mind, however, that not only the brain but the entire body is at rest during sleep.

Among the conditions to which derangements of sleep may be due are pain, elevation of temperature, cough, and dyspnœa, singly or in varying combination; and the treatment will have to be directed to the underlying cause, in addition to the administration of hypnotics under appropriate conditions. At other times no obvious cause for the disturbance of sleep can be discovered, but this may be inferentially sought in psychic, toxic, or senile processes. Thus, sleep will be prevented if the brain-cells, instead of entering upon a natural period of repose, continue in their usual or unusual activity. This will necessarily be associated with relative cerebral hyperæmia, and this in turn will act as an accessory cause of the inability to sleep. On the other hand, the disturbances in cerebral circulation—from whatever cause—may be

the principal factor, and these may excite increased cerebral activity, the combined influences operating to prevent sleep.

Insomnia of psychic origin occurs most commonly in individuals of a nervous temperament—namely, those with great sensitiveness and activity on the part of the nervous system—and especially in men. It may result from emotional disturbances, such as grief, or from mental strain, acute and overwhelming or moderate and prolonged. The symptom may then be attributable in large part to vasomotor paresis of the intracranial blood-vessels as a result of exhaustion, probably induced by unnatural excitation of the cerebral cells. Insomnia of toxic origin is due to the action of some noxious agent that produces cerebral hyperæmia. The most important of the poisonous substances acting in this way are alcohol, tobacco, tea, and coffee, together with the waste products of imperfect metabolism, as witnessed in the presence of gout and disease of the kidneys, and possibly also in auto-intoxication from the gastro-intestinal tract.

Insomnia of senile origin is essentially due to cardio-vascular influences, as for instance, degeneration of the small cerebral vessels. This condition results in permanent dilatation of the vessels, although the latter may be largely counteracted by the cardiac enfeeblement often also present.

In the treatment of insomnia the most important indication is to ascertain the underlying cause, and, so far as possible, to secure its relief. Hypnotics should be resorted to only as they become absolutely necessary. Of these, opium and its derivatives and chloral can be depended upon, and the use for a short time of one or another of these may quickly cure acute insomnia due to sudden mental shock or strain. Among other hypnotics are sulfonal, trional, paraldehyde, amylene hydrate, and the bromides; alcohol and cold affusions to the head may exert a similar effect. Sometimes a combination of two or more hypnotics is more efficient than any single one. It seems scarcely necessary to issue an injunction for the exercise of great care in the employment of hypnotics in order to avoid habituation and other undesirable effects; and particularly should the indiscriminate or capricious use of such drugs by patients be guarded against.

Not less in the prevention than in the relief of sleeplessness should overwork or working under improper conditions be avoided. It is, however, to be borne in mind that more often worry, rather than work, is the real cause of the inability to sleep. A suspension of work, with change of scene and activity, will, in any event, contribute to a successful result.

Potassium bromide is considered by Sawyer by far the best hypnotic for well-nourished patients and the slighter cases generally, being a direct and safe brain sedative and producing nervous calm. From gr. xxx. to gr. lx. dissolved in water should be given after the patient has gone to bed. It may advantageously be combined with tincture of ergot or tincture of digitalis, or both. In the presence of anæmia, iron or arsenic or both will be required, together with a generous diet, including fish, meat, and eggs. Under such circumstances alcohol often acts well as an hypnotic. Here also caution should be observed, to avoid habituation.

To secure good results both in health and in disease it is important for the individual to retire and to rise at a fixed and regular time. A nap of half an hour or so in the afternoon after a meal is helpful and favors rather than hinders good sleep at night. Bodily exercise in the open air daily—but always short of fatigue—is to be commended. This may take the form of driving, walking, cycling, or riding, or outdoor gardening. For those who live in cities various physical exercises and drills, fencing with foils, and the like, may be advised. Free and long daily exposure to the sun is a valuable adjuvant.

If the inability to sleep is due to the habit of thinking on getting into bed, some monotonous exercise may be practised, such as counting consecutively up to a high figure; picturing a familiar scene, and keeping the mind fixed upon it; constantly repeating the letters of the alphabet; or taking deep inspirations. The bed-clothing should be sufficient, but not excessive. The bedroom window should be open throughout the night, but draught is to be avoided. The head of the bed should be away from the wall. The best bed consists of a hair mattress covered with a sheet and blanket and supported on springs. In some cases a little food taken on retirement acts as an efficient hypnotic. Sleep may often be induced by the temporary application of cold to the head or to the general surface of the body.

THE GERMAN ARMY MEDICAL SERVICE.

The Germans have gained a world-wide reputation—which, indeed, has been fairly earned—of being thorough and painstaking in their methods of organization in business, in education, and in most other pursuits of life. Considered from this point of view, the management of their army to its minutest details stands out even in that land of system high above all other organizations, and is an object lesson to every nation. The German military scheme of arrangement is admitted on all hands to be the most perfect of modern times, and the condition of the army medical service is in keeping with this generally high state of efficiency. Much time, intelligence, and money have been expended in evolving the magnificent machine known as the German army, of which assuredly its not least important wheel is the medical corps. At a period when the need for the medical service of armies to be placed on a thoroughly stable and serviceable basis has received such ample demonstration in this and in other lands, and when the decision has been come to, to reform and enlarge the army of the United States, it is fitting that the medical journals should take up and advocate the cause of the army surgeons. Convincing proof was afforded in our Spanish war that, however willing and able the surgeons, both military and civil, serving with the colors might be, they were unable to cope successfully with the difficulties which confronted them. Presumably this state of affairs was to a large extent due to lack of proper system. In the

Albany Medical Annals of January, 1901, Dr. Andrew MacFarlane reviews the existing status of the Germany medical army corps, and draws contrasts between that body and those of other nations, by no means flattering to the latter. While we may not agree, perhaps, with all that Dr. MacFarlane advances, and consider that his eulogy of the conduct of German medical military affairs is somewhat too roseate, at the same time it cannot be denied there is a solid substratum of truth in all his remarks and criticisms; and it will be freely granted by probably the majority of American physicians that all countries could with advantage learn a useful lesson from the practical Teuton with regard to these matters. There is little or no difference in the training of the military and civil surgeons in Germany. The Kaiser Wilhelm Academie, established in Berlin and well endowed by the then emperor of that name, is the school at which the embryo army surgeons receive a part of their instruction. This academy, according to Dr. MacFarlane, at present has two hundred and seven students chosen after competitive examination, modified to some extent by family influence, from all parts of Germany except Bavaria and Saxony, which still retain the control of the organization of their armies. They receive from the State free lodging and tuition and 30 marks monthly. For medical books, preparations, and instruments the student pays one-third and the State two-thirds. After the regular medical course, which is amplified by special instruction, and quizzes by army surgeons, they have one year's service in the Charité, rotating in the different services. They are then assigned to duty as assistant surgeons. After some years' practical service in army hospitals, attached to regiments or in the colonies, they are ordered back to Berlin for post-graduate study. If they show an especial aptitude for scientific research they may be appointed assistants to the different professors. They can then resign from the army and devote themselves exclusively to medical science. The result of this training is at once seen in the professional standing of the men who have been thus developed. The roster of graduates shows the names of v. Helmholtz, Virchow, v. Winckel, v. Leyden, Nothnagel, Gaffky, Loeffler, Hueppe, Renvers, Behring, Goldscheider, Widenmann, whose reputations are international, and of a host of others who are physicians of acknowledged high repute. Every word of the foregoing statement is true, and, as remarked before, many of the German methods of military medical organization might be adopted in this country with corresponding benefits to all concerned. Nevertheless, the fact should not be lost sight of that the positions of the United States and Germany are very different. The last-mentioned country is compelled by her geographical situation to support an immense army; therefore, she is quite right to insist that so important a factor in war as her army medical corps should be kept at the highest possible state of efficiency. Here an army by comparison extremely moderate in size will suffice, as it is improbable that any land war of any considerable magnitude will be undertaken or forced upon the United States. Notwithstanding these facts, it would be an act of wisdom on the part of the government to order that the army should be complete in every detail; and that in particular so vital a part as the army medical corps should be in no respect neglected. Especially might those who have the guidance of the affairs of our nation take the German army medical system as a model regarding matters hygienic. This is a point which really directly concerns us at the present time. In the German military expedition to China the medical care of the troops will be looked after in the most sedulous manner. Officers have been ordered to instruct their men with regard to sanitary matters. Sterilizing apparatus of the most approved type have been supplied, and army medical officers well versed in bacteriology will accompany the troops for the purpose of examining food and water and of investigating any suspicious causes of disease. The medical corps, too, will not be hampered for lack of members, there being one medical officer for each one hundred and twenty-nine men. No expeditionary force has ever been sent out better equipped from a medical standpoint, and much should be learned by Americans and others from the study of mortality from disease in the armies of various nationalities now operating in China.

FRACTURES OF THE SPINE.

In the medical and surgical reports, Boston City Hospital, series xi., 1900, there is a descriptive report of five cases of fracture of the vertebræ, in two of which an operation was done. Very careful gross and microscopical examinations were made, and the cases are of great interest on that account, though they are not encouraging from the therapeutical point of view. All were fatal, and operation did not seem to have any particular effect upon the time or manner of the issue. Four of the cases showed fractures and displacements of one or more of the lower cervical vertebræ, and one the same sort of injury in the upper dorsal region. The autopsies showed that in cases of this kind, as all observers have noted, there is always considerable displacement of fragments which is the determining factor in the amount of crushing sustained by the cord. In these cases the two operations were accomplished without great technical difficulty or danger, and the pressure was removed, but both patients died, one twenty and the other twenty-five hours after operation. Both had fractures in the cervical region. In the case of the three other patients no operation was deemed advisable, on account of bad general condition in two instances, and the fact that in the third the patient was actually moribund when admitted to the hospital. These cases are interesting to both the neurologist and the surgeon. From the point of view of the neurologist, the questions of diagnosis and prognosis are those that require decision, while surgically speaking the value is in showing that, in the presence of certain evidences of injury to the cord, there is practically nothing to be gained by operating, though the operation itself is perfectly feasible. It seems to be a fact that the spinal cord is even more sensitive to a bruising force than was supposed to

be the case when the matter was first extensively studied a few years ago; and also that when the substance of the cord is actually contused and infiltrated with minute extravasations of blood over one or more complete segments, there is no hope of a real restoration of function. In this report, attention is called to the fact that abolition of the patellar reflex indicates an extreme degree of injury to the cord. This is undoubtedly the case, but many patients in whom this reflex has persisted after injury have been operated upon, and a hopeless degree of crushing has been found, so that in this fact there is no important favorable element of prognosis, but only an indication that the crushing of the cord is not absolutely complete. It seems that the structure of the spinal cord is so delicate that even a temporary serious interference with its internal circulation, not to mention actual laceration of tissue, involves the practical certainty of irreparable damage, to the nerve cells especially, from which in a few of the more favorable instances a partial recovery may take place. The least unfavorable condition which we may expect after an injury with paraplegia is hemorrhage outside the cord, either in the pia mater or between the dura and the bone, without any injury to the cord except that caused by pressure. This comparatively unusual condition is not likely to occur if there is fracture, and without fracture operative treatment would be recommended with considerable hesitation. We can, however, say with certainty that if a patient shows complete paralysis and loss of sensation in all its forms in the region innervated from the cord below the injury, and if there are no variations in the symptoms, then the cord is hopelessly injured and an operation will do no good. Cases of this kind do badly from the first, and a fatal outcome is not usually postponed many days, especially when the injury is in the upper dorsal or lower cervical region. The diagnosis in this sort of case is not difficult, and we are compelled, when confronted with such symptoms, to give an immediate but reluctant unfavorable prognosis. It is furthermore unfortunately true that in most cases of serious injury of the spine the symptoms are of this unfavorable kind, and it is only in a few rather uncommon instances that we can operate with any hope of considerable and permanent good. When there are signs that the cord has not been absolutely severed, when the patellar reflex remains, and when there are variations in the symptoms, especially sensory, and if the osseous signs of fracture or dislocation are present, we may operate with a prospect of success which is, however, only fair. Even if we are able by operation to prevent any extension of the injury, the chances are that there will be no important improvement in the general condition, though from the patient's point of view the least improvement means much. It must be remembered that some patients with spinal injuries involving paralysis improve to a certain extent without operation, and we should not be too ready to claim a great deal for our treatment when improvement after operation is only slight. The present status of these cases of spinal injury seems to be expressed by saying that nothing can be done for those patients who have the symptoms of crush of the cord at any level, while in other patients the advisability of operating must depend on the apparent requirements of the individual case, with the chances of doing much good at best but dubious. With our present instruments and technique the actual performance of the operation presents no particular difficulties. Much can be done for a patient who shows any inclination toward improvement after laminectomy, by nursing, massage, and some form of electro-therapeusis.

News of the Week.

Harlem Hospital, New York.—Dr. John J. McGrath has been appointed attending surgeon to the Harlem Hospital.

Medical Society of the Missouri Valley.—The semi-annual meeting of this society will be held in the City of Omaha, on Thursday, March 21st. A number of excellent papers have already been promised, and indications point to an interesting meeting.

Prize Essay on the Dangers from Quackery.—The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, if deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements. The competition is open to all. Essays must be typewritten in the English language, and submitted before May 15, 1901. Each essay must be designated by a motto and sent to the Literature Committee, Room 315, McPhee Building, Denver, Col.

Prospect of a State Board of Health in Texas.—The *Galveston News*, December 23d, reports the adoption of a resolution by the Democratic Convention at Waco, on December 22d, as follows: "Resolved, That we favor the creation of a State board of health with the provision for the collection of vital statistics of the State as provided for by the constitution, article 16, section 32, and the enactment of laws to distribute the expenses of improvement of quarantine equitably between the State, counties, and municipalities." The Texas State Medical Association has appointed a committee to draft a bill creating and defining the powers of a State board of health as contemplated by the resolution. Its scope is expected to enlarge and make more efficient the State Health Department than it has ever been heretofore.—*Sanitarian.*

Smallpox in Glasgow.—The extension of the smallpox epidemic, says *The Lancet's* Scotch correspondent, writing on January 29th, is assuming serious proportions. On January 27th eleven new cases were admitted to hospital, making a total of three hundred and seventy-eight under treatment. The disease for the most part is not of a severe type, but there have been over a dozen deaths. An anxious feature of the epidemic is its widespread character. Cases have been detected in nearly every quarter of the city, and the neighboring boroughs and townships are also beginning to suffer. It is feared that the disease will spread more widely.

Increase in Vienna's Population.—The official census of Vienna shows that the city numbers 1,635,647 inhabitants, an increase of 300,000 in ten years.

Grippe in North Carolina.—The damp, murky weather in North Carolina is reported to be breeding grippe rapidly, and in many cases it is followed by pneumonia.

Famine Feared in Russia.—The Ministry of the Interior announces the complete failure of crops in all parts of Russia. Relief has been organized, but private charity is needed.

Free Baths in Public Schools.—Public School No. 2, at the corner of Oliver and Henry Streets, has introduced free baths for any of its scholars who wish for or need ablutions. This innovation is worth a trial, and if successful in School No. 2 will doubtless be adopted in other schools.

Professor Pickering Honored.—The gold medal which is given annually by the Royal Astronomical Society has been awarded for the year 1900 to Prof. Edward Charles Pickering, professor of astronomy and director of Harvard College observatory since 1877, for stellar photography.

To Stop Christian Science Practice in Alabama.—The State legislature on February 8th enacted a law prohibiting Christian Scientists and faith-cure doctors from doing business in Alabama, and imposing a heavy penalty for violation of the law.

Philadelphia Pediatric Society.—At a stated meeting held February 12th, Dr. J. D. Target reported "Two Cases of Jacksonian Epilepsy." Dr. J. P. Crozer Griffith exhibited (1) "A Case of Splenomegaly with Enlarged Liver;" (2) "A Case of Probable Tuberculous Peritonitis;" (3) "A Case of Congenital Cyanosis." Dr. J. H. Jopson exhibited "A Case of Nodding Spasm with Wry-neck in a Rachitic Child." Dr. D. L. Edsall read a paper entitled "Gumma of the Liver in a Child of Fourteen Years." Dr. J. P. Crozer Griffith described "A Convenient Plan for Bedside Case-History Taking in Private Practice." Dr. Emory Marvel read a paper on "Suppurating Mastitis in the New-Born." Dr. T. S. Westcott presented "A Note on the Differential Modification of the Proteids of Milk." Dr. J. A. Scott made "Some Remarks on Intestinal Sand."

The Prevention of Tuberculosis in Germany.—United States Consul Monaghan, at Chemnitz, reports to the Department of State that the German Department of the Interior has issued a set of instructions conveying compulsory precautions to be taken against the spread of tuberculosis in the empire. The instructions consist of articles providing that doctors under all circumstances when their patients have lung or larynx tuberculosis must give written notice to the police as soon as the case in question has been diagnosed; that immediately after the death of a person from this form of disease, the room and effects of the deceased must be thoroughly disinfected; that professional women who lay out the dead must report at once in writing to the police authorities whether the disease was of the lungs or larynx; and that keepers of hotels, lodging-houses, asylums, or other public institutions shall report immediately the appearance of the disease in the establishment under their control. Non-compliance with these regulations is subject to a fine of $35.70 or six weeks' imprisonment.

Work at the German Hospital.—The thirty-first annual report of the board of trustees of the German Hospital and Dispensary was made public recently. The hospital was taxed to its utmost last year, and the frequent turning away of patients made it necessary to consider the enlargement of the hospital buildings. Work on an annex was begun in April, and the addition is now so well advanced toward completion that it is expected it will be finished in June. Last year 3,852 patients were treated in the hospital. Of these, 2,447 were free patients. In the dispensary 22,595 patients received treatment free of charge. Legacies received aggregated $10,047.50, and donations amounting to $4,963.80 came in. Among the receipts were $3,630, the proceeds of the concert given by the Arion and Liederkranz societies; $1,300, which came from the German Charity ball, and $3,461, which was sent by the Hospital Saturday and Sunday Association.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held February 11th, Dr. J. Allison Scott presented a man thirty-three years old with a history of syphilis and exhibiting physical signs of aortic obstruction and regurgitation, and a pulsatile swelling in the back between the left scapula and the vertebral column, at the level of the spine of the scapula. Dr. William G. Spiller presented "A Case of Amyotrophic Lateral Sclerosis of the Scapulo-Humeral Type." He presented also a photograph of "A Case of Facial Palsy," probably of central origin, with irritative phenomena in the form of spasm in the distribution of the superior branch of the nerve; and further, the photograph of "A Case of Extensive Peripheral Neuritis," probably due to the combined effects of alcohol and lead. Dr. Spiller exhibited also a case of almost isolated "Palsy of the Anterior Tibial Muscle," probably due to pressure. Dr. D. L. Edsall read a paper entitled "Methods of Examining the Gastric Contents." Dr. D. J. McCarthy read a paper entitled "Vascular Degeneration as a Family Disease, and its Relation to Migraine." He reported a family in which the mother presented at first symptoms of migraine, to which subsequently became added manifestations of an epileptiform character on the opposite side. Several of the woman's children presented evidences of a hemorrhagic tendency.

Army Medical Examinations.—As a result of the reorganization of the army by act of congress approved February 2, 1901, there are one hundred and twenty-nine original vacancies as assistant surgeon to be filled. The prescribed age limit of candidates will be rigidly adhered to, and it will be useless for those who are more than twenty-nine years of age to apply, unless they have had previous service as mentioned in

the army circular. The requirement of hospital experience or its equivalent in private practice will also be insisted upon. Hospital work as a student will not be regarded as fulfilling this requirement; experience as a physician after graduation is what is meant. Two years of private practice will be considered an equivalent of one year's hospital experience. Army medical boards will be convened at an early day in Washington and in San Francisco, and examinations will be begun as soon as possible. Copies of the official circular may be obtained upon application to the office of the surgeon-general of the army, Washington, D. C.

Hospital for Red Cross.—A hospital and training-school will be erected in Central Park West by the New York Red Cross Society, which has already bought the ground for $100,000. The building is estimated to cost $60,000. It will be six stories in height, and will contain one hundred beds, one for each nation represented in the Red Cross. The training-school will be four stories high, and both it and the hospital will be fitted with every modern appliance.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending February 16, 1901. February 7th.—Passed Assistant Surgeon C. P. Bagg detached from Cavite naval station and ordered to the *Culgoa*. Passed Assistant Surgeon A. R. Alfred detached from the *Culgoa* and ordered to the naval station, Cavite. February 9th.—Surgeon C. Biddle detached from the naval hospital, Norfolk, Va., and ordered home to wait orders. February 13th.—Surgeon D. O. Lewis detached from the *Iowa* and ordered to the *Philadelphia*. Surgeon W. E. Arnold detached from the naval recruiting rendezvous, Chicago, Ill., March 1st, and ordered to the *New Orleans*, sailing March 15th. Surgeon S. H. Griffith detached from the *Prairie* when put out of commission, and ordered to special duty under the Bureau of Medicine and Surgery. Surgeon F. J. B. Cordeiro detached from the *New Orleans* on reporting of relief, and home to wait orders. Surgeon A. M. Moore, retired, ordered to duty at the naval recruiting rendezvous, Chicago, Ill., March 1st.

Quaker Longevity.—In a highly interesting communication to the London *Times*, a correspondent calls attention to the uncommon longevity of members of the Society of Friends. He says: "During the year ending in 1900, there were reported the deaths of 299 members of the Society of Friends in Great Britain and Ireland. The proportions were 159 males and 140 females. The average age at death was a little over sixty-one years and seven months. A table compiled from the returns shows that there is a very limited mortality of children, and that it is chiefly in this respect that the death rate of the Society of Friends differs from that of the general population. Only 14 deaths out of the 299 were reported as those of children under five years of age; between five years and twenty years the number was 9; between twenty and thirty years the deaths were 16, and the same number was that of the deaths between thirty and forty years. From forty to fifty there were 24 deaths, and from sixty to seventy there were 62 deaths. From seventy to eighty the number was 57 and from eighty to ninety, 69. There were 8 deaths of Friends between ninety and one hundred years of age, and there were 2 deaths of persons over one hundred. One of the latter died at Croydon in her one hundred and first year, and others had passed one hundred and one years of age."

Dr. Daniel W. Marston has been appointed visiting surgeon to the Randall's Island Hospital, by the department of public charities.

Police Surgeon Retired.—The police board has just retired Dr. Benjamin F. Dexter, who is sixty-eight years old, and has been a police surgeon since 1876.

Plague Cases at Manila.—A special despatch to *The Sun*, February 11th, reports that three cases of plague and seven cases of smallpox were discovered in Manila last week. The appearance of these diseases causes no alarm to the health board, which is prepared to control their annual visitation, usually expected during the hot season.

Smallpox at Poughkeepsie.—It is reported that two cases of smallpox have been discovered in Callahan's Hotel at Fishkill Landing, Poughkeepsie. The victims are employees of the New York, New Haven and Hartford Railway. The place has been quarantined. The men are said to have been under treatment for measles for two weeks before the character of the illness was determined. There has been a general rush for vaccination by citizens.

Conduct of Civil Surgeons in South Africa.—The report of the British Royal Commission on army medical arrangements in South Africa says: "The civil surgeons employed in this campaign have, as a body, done their duty extremely well. But few complaints have been made against any of them, and such complaints as have been made are not of a grave character. As a rule, the civil surgeons worked well with the officers of the Royal Army Medical Corps. A few cases of friction occurred between them in certain hospitals. These arose from faults on both sides. Some civil surgeons not unnaturally felt a difficulty at first in becoming acquainted with the working of military hospitals, but as a rule they soon became familiar with their duties."

The Alcohol Habit and the National Woman's Christian Temperance Union.—The National Woman's Christian Temperance Union has been active for twenty-seven years in combating the evils of alcoholic liquor drinking. Among its most effective allies have been those physicians who do not prescribe alcoholic liquors, allowing alcohol a very limited sphere of usefulness or none at all. The Union has endeavored to bring the teachings of such physicians to the people. It is apparent, however, that if the evils of liquor drinking (ill health, poverty, insanity, and crime) are ever to be fully abated, the medical profession must take an active part in this much-desired reform. It,

more than any others, can disabuse the public mind of the old-time errors concerning the too free use of alcohol, either as a beverage or as a self-prescribed medicine.

Obituary Notes.—Dr. Peter Moir Barclay, a leading physician of Orange County, N. Y., died in Newburg Monday night, February 11th. He was born in Aberdeen, Scotland, in 1834, and was graduated from the medical department of the University of the City of New York in 1854. He was surgeon of the Nineteenth Regiment, New York Infantry, with the rank of captain, from 1866 until the regiment was disbanded.

Dr. Samuel C. Busey, a prominent physician of Washington, D. C., died February 12th. He had been in feeble health for several years, and had practically retired from the practice of medicine. He was identified with numerous scientific and historical societies, and contributed extensively to medical literature. He was born in Montgomery County, Md., seventy-two years ago.

Dr. E. S. Miller died at Altoona, Pa., on February 10th, at the age of forty-five years. He was a graduate of the medical department of the University of Pennsylvania.

Dr. N. B. Boileau died suddenly at Jutland, N. J., on February 12th, at the age of sixty-eight years. He was graduated from the medical department of the University of Pennsylvania in 1858.

Dr. John M. Drurro died at Wilkesbarre, Pa., on February 14th, from an attack of influenza.

Dr. Horace G. Hill, of Philadelphia, died on February 14th, at the age of forty-two years. He was a graduate of Williams College and of Jefferson Medical College.

Dr. William Rice died at Trenton, N. J., on February 13th, at the age of sixty-three years. He was mayor of Trenton in 1879 and 1880.

Dr. William Meadows Rose died on February 10th, at his residence, 8 Brewster Street, Tompkinsville.

Dr. Frank Bond died on Sunday, January 10th, at his home, 27 Schermerhorn Street, Brooklyn, in his seventy-third year. The cause of death was pneumonia. He was a graduate of Williams College and of the Medical College of Iowa. He had been in practice in Brooklyn for thirty-six years.

Dr. Walter Myers, B.Sc. Lond., M.B. Camb., who had been engaged at Para in Brazil in investigating the cause of yellow fever for the Liverpool School of Tropical Medicine, died recently.

Dr. J. H. Linsley, founder and director of the Vermont State Laboratory of Hygiene, died of cerebral meningitis at Burlington, Vt., aged forty-two years. He was educated in the public schools of his native village, Windsor, and graduated from the medical department of the University of Vermont in 1880. In 1887 he was appointed instructor in clinical microscopy in the New York Post-Graduate Medical School, and in addition did the bacteriological work for St. Luke's Hospital of New York. He twice visited Germany for bacteriological study, and ranked deservedly high in that special line of work. He was, during his residence in New York, an active member of the New York Pathological Society, of the Medical Society of the County of New York, and later became the representative bacteriologist of his State. A widow and two children survive him.

Dr. Homer O. Jewett died at Cortland, N. Y., January 29th, aged about eighty-two years. He was graduated from the University of the City of New York in 1842, and had been engaged in the practice of his profession until about three years before his decease.

Dr. Richard S. Seaman died on February 17th in Brooklyn, in his seventieth year. He was the last surviving member of the Delta Chapter of the New York University of the class of 1845. He was descended from Capt. John Seaman, who held the patent to the town of Hempstead, L. I., about the middle of the seventeenth century. Dr. Seaman had practised for over thirty years at Glencove, L. I. He leaves three sons and two daughters.

Progress of Medical Science.

New York Medical Journal, February 16, 1901.

Stethophonometry.—By Albert Abrams. The author notes that under certain clinical conditions auscultation is no trustworthy index to the force of the heart. Instruments designed to gauge the pulse are unreliable in that we must contend with the objectionable personal equation and content ourselves with the determination of the blood pressure in the systemic circulation only. The aim is to determine the exact force of the heart impulse as measured by the heart tones, but for this purpose the ordinary stethoscope will not answer. To meet this need the author has devised an instrument which he calls a "stethophonometer," which is thus described: It is constructed on the disc-valve principle, weighs about two ounces, and is composed wholly of hard-rubber. There are three perforated discs in close apposition, the middle disc being made to revolve by means of a handle attachment so that its opening may be made to approach or recede from the opening in the two other discs. The greater the encroachment on the opening by the middle disc, the greater will be the resistance offered to the transmission of the sound waves. On the face of the disc nearest the auscultator is a scale by which the intensity of the chest sounds may be measured. On one side of the discs the bell of the stethoscope is affixed, and, on the other side, a plug, the size of which may be varied to fit any stethoscope. This plug is perforated, and in the perforation may be fitted a rubber cork, if necessary, to offer still further resistance to sound. The latter expedient, however, is rarely necessary. The stethophonometric attachment can easily be removed when it is found necessary to carry out the conventional method of auscultation.

Combined Surgical Operations in Female Subjects at a Single Seance.—By R. S. Sutton. Years ago, says the author, it was customary, when a female patient presented herself with lacerations of the cervix and perineum, to repair the former first and then to wait a while before repairing the latter. The consequence was that, in case there were several abnormalities requiring attention, the patient was confined a long time to bed. The experience of recent years has shown that if aseptic methods and reasonable speed in operating are followed, it is possible to combine several operations at one sitting. It is a fact gained by experience that, in a patient in fairly good condition, a long wound will heal with about as much safety and expedition as a short one, provided asepsis has been maintained with reference to both wounds. A multiplicity of short wounds is equivalent to a long wound, provided they involve similar tissues, but in multiple operations dissimilar tissues are involved. Yet it has been found that the long wound composed of dissimilar tissues heals quite as readily. Sutton gives a summary of the histories of fifteen cases illustrating modern views as to combining operations. Thus, in one case, the following operations were done at the same séance: Curettage, trachelorrhaphy, perineorrhaphy, divulsion of sphincter ani muscle, laparotomy with removal of appendages, and anterior fixation of fundus. Time, forty-five minutes; result, recovery.

A Study of Buboes and their Treatment.—By F. Griffiths. Pathology and diagnosis are discussed at some length, and treatment is then considered. Special attention must be paid to the chancroid. For cleansing, the author recommends peroxide of hydrogen, followed by the use of black wash. As soon as a bubo has formed, applications should be made of icebags or hot fomentations in an endeavor to abort pus formation. Applications are recommended of equal parts of the ointments of mercury, belladonna, and ichthyol. If pus forms, the bubo is to be punctured with a small blade, and a blunt probe or grooved director swept around the cavity and through the honeycombed tissues, thus opening up channels of exit. In cases in which puncture is made for relief of pain, and the infected gland will not discharge, five or ten drops of pure carbolic acid are to be injected through a hypodermic syringe into the centre of the hardened tissue. Should the action be too great, alcohol (ninety-five per cent.) may be used to neutralize the effect of the acid. Under this plan, the author claims that it is not necessary to confine patients to bed. Results are prompt and permanent.

Septicæmia in Young Chickens.—By L. F. Rettger. The article is a continuation of previous studies on the same subject.

The Normal Declinations of the Retinal Meridians.—By G. T. Stevens. A continued article.

Hysterical Anæsthesia and Analgæsia.—Report of a case by B. C. Loveland.

A New Portable and Inexpensive Ophthalmometer.—By W. F. Aiken.

Journal of the American Medical Ass'n, Feb. 16, 1901.

The Etiology of Yellow Fever.—Walter Reed, James Carroll, and Aristides Agramonte offer the following conclusions: (1) The mosquito—C. fasciatus—serves as the intermediate host for the parasite of yellow fever. (2) Yellow fever is transmitted to the non-immune individual by means of the bite of the mosquito that has previously fed on the blood of those sick with this disease. (3) An interval of about twelve days or more after contamination appears to be necessary before the mosquito is capable of conveying the infection. (4) The bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack. (5) Yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease. (6) An attack of yellow fever produced by the bite of the mosquito, confers immunity against the subsequent injection of the blood of an individual suffering from the non-experimental form of this disease. (7) The period of incubation in thirteen cases of experimental yellow fever has varied from forty-one hours to five days and seventeen hours. (8) Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease, is unnecessary. (9) A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitos capable of conveying the parasite of this disease. (10) The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitos, and the protection of the sick against the bites of these insects. (11) While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered.

The Major Obstetrical Operations.—Edward Reynolds believes that: (1) When the conditions are such that the child can be delivered with anything like reasonable ease by forceps or version, one of these operations is preferable to any cutting operation. (2) When the mechanical relations would render forceps or version unusually difficult, forcible and prolonged, and when the mother is in the favorable class, the equally low maternal mortality and the far lower fetal mortality of the Cæsarean section render it the operation of choice. (3) When the mechanical conditions make the intrapelvic delivery of an intact child at term, impossible or unduly difficult, the great superiority of the Cæsarean section over the induction of premature labor in fetal mortality, and its extremely low maternal mortality, render it again the preferable operation. (4) When the ordinary operations fail, and the woman is in the unfavorable class, symphysiotomy is the operation of choice, and may be expected to lead to a favorable result for both mother and child, in the great majority of cases, provided always that the degree of mechanical difficulty permits of its application. (5) When in the unfavorable class of cases, the degree of relative disproportion between head and pelvis is too great to admit of a safe symphysiotomy, craniotomy to the living child should be unhesitatingly chosen, since the maternal mortality of either form of the section is so enormous, and since undoubtedly the life of the potential mother of many children is of more value than that of any unborn fœtus.

Possibilities of Liquid Air to the Physician.—A. Campbell White states that liquid air applied to the healthy living tissues causes a temporary local anæmia accompanied by anæsthesia, or a slough, depending upon the amount used. In many cases this anæsthesia is preferable to any other, *e.g.*, in the opening of an abscess where there is always an element of some danger in the use of cocaine. It is ideal as a cold application to allay or abort an acute inflammation. It is successful in the treatment of lupus. It is of great utility in the treatment of chronic ulcers, as a stimulant. It is an excellent cauterizer. In cancer it has done great good in the relief of pain and in the destruction of bad odor.

New Methods for the Application of Old Principles in the Treatment of Fractures and Deformities of Limbs.—By James G. Hughes.

Evolutional and Involutional Types of Mental and Nervous Disease.—By Edward E. Mayer.

Treatment of Sessile and Certain Other Ovarian Cysts.—By H. B. Stehman.

Anastomosis of the Ureters with the Intestine.—By Reuben Petersen.

Paralysis Agitans without Tremor.—By Augustus A. Eshner.

Movements of the Intestines.—By Albert Bernheim.

The Metric System.—By Frank G. Wheatley.

Boston Medical and Surgical Journal, Feb. 14, 1901.

A Case of Complete Placenta Prævia.—Frederick Coggeshall reports a case in which the patient was apparently in extremis. He at once started the subcutaneous injection of decinormal salt solution under both breasts and underneath the loose skin of the back, at the same time, by means of a three-way tube. The foot of the bed was raised, and a gr. $\frac{1}{16}$ strychnine nitrate was given subcutaneously. Version and delivery were rapidly accomplished. The patient had stopped breathing, and artificial respiration, including the Laborde method, was applied. The uterus received a hot douche of 1:1,000 bichloride solution as soon as it was empty, and was packed with gauze on which had been emptied a two-ounce bottle of liqor ferri chloridi. It contracted at once and the hemorrhage was all over in about two minutes. The mother slowly recovered.

Disinfection within or without the Body, in Diphtheria.—M. A. Veeder says that there are three forms of disease formerly confounded as diphtheria, *i.e.*, diphtheroid, characterized by staphylococci mostly; true diphtheria, by the Klebs-Loeffler bacillus; and septicæmic sore throat, by the streptococci. Diphtheroid predisposes to both the other forms. Physicians may be infected without knowing it, and carry infection to other patients. To protect himself, the writer wets his face with a sublimate solution before and after the examination of a case, and holds a square of antiseptic gauze over his mouth and nostrils, with his left hand. This, together with frequent spraying and cleansing of the mouth and throat and nostrils, and bacteriological testing, affords very complete security against either giving or receiving infection.

A Case of Cæsarean Section for Complete Placenta Prævia.—C. H. Hare reports the case of a woman who refused her physician's advice to go to a hospital, until she had lost so much blood from the uterus as to be nearly in collapse. Cæsarean section was done as a choice of evils; the mother died eleven hours after the operation, and the child lived thirteen days. The author believes that, in most cases of placenta prævia, Cæsarean section is fully as safe for the mother as delivery by the older methods, and that it will save far more babies. For cases where the mother is already collapsed from loss of blood, the statistics are certainly not good.

The Woollen-Yarn Truss in Infantile Inguinal Hernia.—E. S. Boland says that (1) the use of some retentive apparatus will hasten and assure the natural tendency toward cure in infantile hernia; (2) the worsted-yarn truss is easily made to measure, at the bedside; it is cheap, comfortable, and can be worn by frail or delicate infants, for whom the ordinary truss is useless or too irritating; (3) with this or any other truss, vigilance and intelligence must counteract the underlying or associated causes of the hernia.

A Case of Idiopathic Dilatation of the Colon.—Maurice H. Richardson reports a case in which extensive resections brought relief for some months. The dilatation then returned. In another operation the presenting coil was reduced by numerous transverse infoldings, but the tumor remained, and the pain and the discomfort persisted. In a third operation the dilated bowel was completely excised. The latest report is that the patient's general condition is good, but the local trouble has returned, and there is severe abdominal pain.

Philadelphia Medical Journal, February 16, 1901.

Periodical Insanity.—A. R. Defendorf presents the following conclusions on this subject: (1) Periodical insanity is a mental disease characterized by a definite symptomatology, course, and outcome. (2) In point of numbers, it is one of the most prominent psychoses. (3) The symptoms are sufficiently characterized to permit a differentiation, in the first attack, from other forms of mental disease, (4) and allow the forecast of the whole course of the disease, *i.e.*, (5) recurrence of attacks throughout the life of the individual, mostly of the character of the first, (6) with lucid intervals of varying length from weeks to years, except in a very small percentage of cases, (7) without a tendency to mental deterioration, except in cases in which the attacks have been long, frequent, and severe, and even then the deterioration is of a light grade.

The Treatment of Erysipelas.—N. G. Keirle, Jr., reports this treatment which has met with great success in his hands: The affected area is first enclosed in a painted ring of tincture of iodine. This ring is not to be started at the margin of the reddened area, but from two to three inches from it, and enough coats should be given to cause a slight desquamation of the upper layers of the skin. The whole surface within the ring is to be covered with ichthyol ointment, about 1 drachm to 1 to 2 ounces of vaseline. This is covered with a piece of gauze and a hot stupe applied and changed about every four hours. At the end of twelve hours the ointment is washed off and a fresh coat applied. If necessary, more iodine may be used. Internal treatment may or may not be given.

Perforating Ulcer of the Stomach; Operation; Recovery.—By John H. Musser and Henry R. Wharton.

Adhesion of the Soft Palate to the Posterior Wall of the Pharynx.—By August Koenig.

Recent Progress in the Treatment of Acute Lobar Pneumonia.—By James K. Crook.

Tetanus following Clean Operation Wounds.—By Joseph B. Bissell.

Medical Examination of School Children.—By Edward M. Greene.

Medical News, February 16, 1901.

A Hair-Cast of the Stomach; its Successful Removal by Laparotomy.—Nathan Jacobson reports this case of a girl aged eleven years. One year before the child was referred to the writer, a swelling was noticed in the abdomen. She vomited a great deal of frothy mucus. Later she began to suffer from colicky pains, which were frequently relieved by friction or medicine. She suffered especially at night. Most of the pain was located to the left of the umbilicus. Her bowels had been constipated for a year. Ordinary food was so disturbing that she lived chiefly on milk. She was quite nervous. The urine was normal. As a rule, the temperature remained normal. As a diagnosis could not be agreed upon, laparotomy was performed and the tumor mass found to consist of black hair. After the operation the patient admitted that from her earliest years she had bitten off the ends of her hair. The tumor is a perfect cast of the stomach in a state of contraction. It is six inches in its long diameter.

Treatment of Lupus.—H. Rockwell Varney states that in the treatment of cutaneous tuberculosis there has as yet been no specific serum discovered that can neutralize the virus and produce absorption of the tubercle. External treatment may be divided into surgical and mechanical. Excision has been used with good results. The writer has had success in the use of the curette. When cases are new and not broken down, linear scarification may be used. Electrolysis is advocated by some, especially in recurrent lesions. Mechanical treatment consists in the use of escharotics and caustic pastes, which will most rapidly destroy the tubercle. Nitrate of silver stands first. Arsenical pastes are more rapid in their action, but they cannot be used on large areas because of absorption. Acids have been used. The writer then praises the *x*-ray treatment. It is painless and has given good results.

A Report of Some Cases of Abdominal Surgery, with Remarks on the Diagnosis of Carcinoma of the Cæcum and the Surgical Treatment of Carcinoma of the Liver and the Gall-Bladder.—By Charles Greene Cumston.

The Relation of Tuberculosis to the Tenement-House Problem.—By Arthur R. Guerard.

Scurvy and Rickets in Young Children.—By H. A. Hare.

French Journals.

A Nail Embedded in the Right Bronchus for Two Months; Diagnosis by Radiography; Removal by the Electro-Magnet; Cure.—J. Garel reports the case of a child aged eighteen months, who had swallowed a nail. It was two months later when the writer was consulted. Before seeing the patient, the writer, after hearing the history of the case, thought that it was possible that the nail had passed the larynx and trachea and had lodged in the right bronchus. The persistent cough, he considered, might well be provoked by the permanent irritation of the bronchus by a foreign body. He suggested a radiograph in order to obtain the diagnosis. This measure accordingly was undertaken, the result showing a long nail lying obliquely in the thorax, in the direction of the right bronchus, the point below and the head above. The child was etherized and tracheotomy performed. The cannula was introduced and the child respired normally. As the child made no effort to expel the nail, and an attempt to extract it could not well be made with the cannula in place, it was withdrawn and another instrument with two branches substituted, which made intervention easier. Before making use of the forceps to remove the nail, an electro-magnet was brought near the open wound, at which the nail quickly jumped from its hiding-place and clung closely to the magnet. The operation was really terminated to the astonishment of all. The cannula was replaced for a few days. The nail was 53 mm. in length. The child made a happy recovery and shows no trace of respiratory or laryngeal trouble, now several months after operation.—*Lyon Médical*, January 6, 1901.

Purpura Hæmorrhagica from Auto-Intoxication.—J. A. Lesage reports a case and then speaks of the three varieties of this affection: (1) Apyretic purpura or sickness of Werlhof. This occurs in apparently perfect health or after an emotion or traumatism which is inconsiderable, and it is attended by no fever. The hemorrhages cease after eight or ten days, and the normal condition returns without the slightest complication. (2) Rheumatoid purpura. This type occurs chiefly in the springtime, in young patients with an arthritic or neuropathic tendency. Sometimes œdema is present. After a time all the troubles disappear without leaving a trace behind. There is fever and the affection lasts for weeks, sometimes for months. (3) Infectious purpura, properly so called. Generally, in spite of complications, the termination is favorable, after a length of time which varies according to the nature of the affection and the gravity of the attack. As to the treatment, it is considered in relation to three principal symptoms which chiefly attract the attention: (1) Hemorrhage, the most alarming symptom, demands complete rest in bed, subcutaneous injection of gelatinized serum, and a gargle of potassium chlorate every half-hour for disinfection of the mouth. (2) In order to combat the infectious pseudo-occlusion of the intestine, calomel and scammony, followed by sulphate of magnesium, are administered. An absolute milk diet is ordered—boiled milk, Vichy, and lime-water. Benzo-naphthol may also be given. (3) For the blood changes, protoxalate of iron and phosphate of sodium are administered.—*L' Union Médicale du Canada*, January, 1901.

Berliner klinische Wochenschrift, No. 3, Jan. 21, 1901.

Affections of the Hip Joint.—Koenig considers two special conditions, gonorrhœal coxitis and coxitis due to arthritis deformans. The first form occurs by preference between the twentieth and the fortieth year. Out of twenty cases studied by him, eleven were in women and nine in men. The affection is more common during the acute stage of the urethritis, but may also occur during the chronic stage. In five instances a trauma of the general hip region preceded the joint symptoms proper. Pregnancy seems to invite the onset of this form of joint affection. Two groups of clinical cases present themselves: first, those with gradual onset of pain and restriction of joint movement. These increase in intensity, the most marked feature being the excruciating pain. The second group commences with severe disturbances of motion, severe pain, and an evident tumor.

Two Cases of Rupture of the Ductus Arteriosus Botalli.—By H. Roeder.

On Mania with Depression.—By W. Weygandt.

On Gall-Stones.—By Professor Riedel.

Deutsche med. Wochenschrift, Jan. 24 and 31, 1901.

A Further Contribution to the Surgery of the Heart: Ligation of the Injured Coronary Artery.—Pagenstecher reports a highly interesting case in which ligation of the descending branch of the left coronary artery was performed at a point over two inches from the apex, and though the patient succumbed five days later, the fatal termination was apparently due to complications rather than to any damage to the heart resulting from the interference with its blood supply. The patient had sustained a self-inflicted wound of the pericardium piercing the fourth costal interspace and about three-quarters of an inch long. In view of the rapidly progressing symptoms of collapse and general weakness, two and a half hours after the injury the heart was exposed by the raising of an osteoplastic flap consisting of the sternal ends of the fourth and fifth ribs. The

pericardium was found filled with blood which on the free admission of air was churned into foam which could be removed only with difficulty. The source of the bleeding could then be located as the wounded coronary artery, which was ligated and the operative wound closed except for a small distance at its lower angle to allow the passage of a drain. The patient bore the operation well, but five days later died of sepsis.

A Fatal Case of Scalding of the Pharynx and Larynx.—E. Schmidt reports a case of this injury, which is comparatively frequent in England, where tea-drinking is so widespread a custom, but is said to be very rare in Germany. The patient was a three-year-old child, who received the injury in the usual way by attempting to drink from the spout of a boiling kettle. The most remarkable feature of the case was the slight amount of local damage visible and the absence of general symptoms, for several days after the accident. This was explained by the very deepseatedness of the injury, for at the autopsy it was found that tissue destruction had taken place only within the larynx itself, and at the junction of the pharynx and the œsophagus. One day after the scalding there were present slight dyspnœa and dysphagia and slightly increased respiration, but a few hours later the condition was complicated by the appearance of extensive cutaneous emphysema of the neck. A little later dyspnœa became extreme and was not relieved by tracheotomy, and on the following day death ensued from pneumonia. A review of the literature of such cases justifies the belief that, in spite of the very great risk of pneumonic infection, tracheotomy is nevertheless usually indicated.

A Method for the Simultaneous Staining of Blood Smears with Eosin and Methylene Blue.—E. A. Willebrand describes a new stain which gives more clearly differentiated pictures than Ehrlich's triacid mixture, Gollash's eosin-hæmatoxylin, etc. If dried blood smears be stained with a simple mixture of eosin and methylene blue the results are unsatisfactory, for one stain usually preponderates over the other according to the proportions of the mixture, and it is difficult to find a formula in which the two stains balance. If acid is added to such a mixture, however, the staining-powers of the eosin are accentuated, while the addition of alkali makes the blue the stronger element, and this fact renders an accurate regulation of the result possible. The author's formula is equal parts of 0.5-per-cent. alcoholic eosin and concentrated watery solution of methylene blue. To 50 c.c. of this mixture ten to fifteen drops of one-per-cent. acetic acid are added (the exact amount being determined by experiment), when the erythrocytes will be found stained red, the nuclei blue, the neutrophile granules violet, the eosinophile granules red, and those of the mast cells an intense blue.

Mastitis Adolescentium.—Richard Adler describes under this term a painful affection of the mammary glands, most often seen about puberty and in both sexes. It is characterized by a slow swelling of one or both glands, which become very sensitive to the touch and slightly reddened. Frequently a drop of clear fluid may be expressed, but, contrary to the writings of some authors, suppuration never occurs. Adler agrees with Langer in considering the process one of true physiological hypertrophy and not of inflammatory nature. The therapy consists mainly in the application of placebos, for which iodine and blue ointment are suitable, and the guarding of the affected part against irritation, by the use of some protective dressing. In extreme cases extirpation of the gland may have to be resorted to, in which case the nipple should always be left intact for cosmetic reasons.

Basophile Granulations in the Red Blood Cells.—O. Moritz says that while some authorities maintain that the presence of basophilic degeneration of the erythrocytes is of true diagnostic value, others explain the manifestation as due to artefacts or post-mortem changes. In order to test the significance of the phenomenon in lead poisoning he gave rabbits small amounts of lead acetate with the result that in a few days the granulations were always to be found. This experimental evidence is further corroborated by the finding of typical granules in the blood of six workmen employed in a lead factory, although only one gave symptoms of intoxication at the time of examination. The conclusion is that the finding of such degenerated cells is diagnostic of lead poisoning, though they have also been found in five other cases, viz., in two of leukæmia, in malaria, sepsis, and carcinosis.

Investigations on the Bactericidal Action of High-Tension Light, Together with a Method for the Better Application of the Bactericidal Power of the Arc Light.—By H. Strebel.

A Case of the Excretion of the Bence-Jones Body in the Urine in Myeloma of the Ribs.—By S. Kalischer.

Instruction in the History of Medicine and the New Proposal for Medical Examinations.—By E. Braatz.

The Development of Lactic-Acid Bacilli from Granules.—By A. P. Fokker.

A New Form of Hæmoglobinuria.—By L. Michaelis.

Hand Disinfection.—By G. J. Müller.

Woodeny Cellulitis.—By R. Mühsam.

Münchener med. Wochenschrift, Jan. 22 and 29, 1901.

Clitoris Crisis.—G. Köster describes a tabetic manifestation in women, which is occasionally to be found mentioned in the literature of the disease, but so sparingly as to attest its rarity. The case reported, which, in addition to the condition about to be described, was interesting in also presenting laryngeal crises, obstinate erythromelalgia, and fragilitas ossium, was that of a woman aged forty-nine years. The first symptoms of tabes were observed in 1880, and six years later the ataxia had progressed so far that locomotion was possible only by daylight and with the aid of a cane. Since 1890 the patient experiences every four weeks, at about the time of the menstrual period, a peculiar access of sexual feeling which comes on wholly independently of her volition or desire, and usually appears at night when she is awake or only half asleep in bed. A sensation of pleasurable tickling begins in the vagina, travels down to the clitoris and vulva, and finally culminates in a true orgasm of erotic feeling. All efforts of the patient are powerless to prevent this result, and immediately after the voluptuous sensation ceases sharp, darting pains, originating in the vagina and uterus and shooting into the back, set in and last for several hours. At the same time attacks of the ordinary lancinating pains in the extremities frequently come on.

The Diagnosis and Prognosis of Gonorrhœa in Men.—A. Köppen cites two cases which emphasize the fact that in this disease certainty in diagnosis can be reached only through bacteriological examination of the discharge. A young man presented himself, suffering from a urethral discharge which, from the history and the patient's general character, seemed almost as a foregone conclusion to be gonorrhœal. The microscope did not reveal gonococci, however, and further search brought the real cause of the trouble, the tubercle bacillus, to light. The clinical diagnosis of genito-urinary tuberculosis was corroborated by the course of the disease, which finally terminated abruptly in an acute general miliary process. In the other case the patient's age, sixty years, and other considerations seemed to justify the assumption that his discharge was tuberculous, but on investigation gonococci were found in abundance.

A Case of Acute Leukæmia Without Macroscopic Pathological Changes in the Blood-Forming Organs.—A. Dennig reports the case of a young woman who came under observation with the subjective symptoms and history of chlorosis, but did not improve under the treatment appropriate to this condition. A blood count was then made, which revealed only 800,000 red cells to the cubic millimetre, and the leucocytes in a ratio of 1:40 to the red cells. A few normoblasts were present and the leucocytosis was composed mainly of large and small lymphocytes. Under rapidly progressive symptoms of general somatic deterioration the patient died a month later, having had retinal and gingival hemorrhages several days previously, and bleeding from the intestine on the day of death. On autopsy it was found that there was no enlargement of the spleen or lymph glands, and that the bone marrow, which before has always been found altered, was macroscopically wholly unchanged.

The Disinfecting Properties of Alcohol and Alcohol Vapor.—G. Frank is of the opinion that the modern tendency to ascribe to this agent only a secondary rôle in the various disinfecting procedures in vogue is not borne out by the facts, and his experiments with anthrax spores seem to justify his views. These very resistant organisms perish in a few minutes after exposure to alcohol or its vapor, and it is worthy of note that the intensity of action is not dependent on the concentration of the chemical. Most micro-organisms are surrounded by an envelope which, on contact with the strongly hygroscopic absolute alcohol, loses water and shrivelling up becomes more resistant, while if a certain amount of water is present this action does not take place, and the disinfectant more easily gains access to the germ within and its destruction is assured.

The Opening of Perityphitic Abscesses in Douglas' Sac by Parasacral Section.—K. Port warmly advocates a somewhat difficult technique for the drainage of appendicular accumulations which have gravitated into the recto-vesical pouch. The incision encircles the anus and is then carried upward along the side of the sacrum. After the pelvic fascia is reached it is possible to approach the mass by blunt dissection through the loose cellular tissue, and the abscess once opened drains completely and freely. The advantages claimed are the freedom from risk of infection, which is great if the operation be done through the rectum as has

been advised, and the perfect drainage secured by the very free incision.

A Case of Ischiopagus.—By L. Sternberg. **Dystocia through a Double Monster.**—By A. Palmedo. Almost similar monstrosities are reported by these two authors. In the first both bodies were joined at the pelvis, two legs being perfectly formed, while a third, springing from the sacrum, was very rudimentary. The heads and four upper extremities were separate and normally developed. In the second case the union was apparently not a true fusion, for the connecting segment between the two thoraces admitted free motion. In both instances delivery was effected without great difficulty, the advancing head being extracted with forceps and the hand then introduced into the uterus and version performed. Both mothers recovered fully.

The Effect of High Temperature on the Casein of Milk.—H. Conradi publishes some experiments which lead to conclusions not differing markedly from what has already been known. Heating milk above a temperature of 80° C. lowers its coagulating point in the presence of calcium salts 8° to 12° C., while its susceptibility to the lab ferment is lessened. Heating to temperatures below 70° C. for half an hour does not change the coagulating characteristics appreciably.

Does the Composition of Anæmic Blood Give Any Indication of the Condition of the Blood-Forming Organs?—By C. S. Engel.

The Significance of an Accurate Definition of "Character" in the Judging of the Insane.—By Tesdorpf.

The Removal of a Set of Artificial Teeth from the Œsophagus by Gastrotomy.—By Quadflieg.

Six Cases of Ecchinococcus of the Liver with Rupture into the Lungs.—By Scevos Zervos.

A Case of Chronic Pemphigus of the Skin and Mucous Membranes.—By Mertens.

A New Contribution to Formalin Disinfection, especially in Urology.—By R. Loeb.

The Combating of Venereal Disease Among Students.—By W. Scholtz.

A Contribution to the Pathology of the Tear Gland.—By Stoewer.

Chronic Anterior Poliomyelitis following Trauma.—By E. Meyer.

The Treatment of Tuberculosis.—By E. Klebs.

Rivista Critica di Clinica Medica, Jan. 12 and 19, 1901.

The Bacteriology of Typhus Levis.—M. Biffi and P. Galli state that the diagnosis of typhus levis is to be based upon the presence of Eberth's bacillus in the spleen and Widal's reaction, or upon Widal's reaction and the existence of an epidemic of typhoid. The authors emphasize the fact that a case of slight gravity is as likely to carry infection as a severe one, and urge the necessity for sanitary precautions and great vigilance in these cases. They also describe a simple instrument which they have devised and use for determining Widal's reaction.

The Bacteriological Study of Some of the Complications of Influenza.—Aldo and Castellani assert as the result of their researches: (1) That Pfeiffer's bacillus, while it is capable of directly causing the complications of influenza, does not as a rule penetrate to the circulation and give rise to secondary localizations. (2) Many of the complications of influenza are due to secondary infection, and in these Fraenkel's diplococcus plays a great part.

Bulletin of the Johns Hopkins Hospital, January, 1901.

The Removal of Pelvic Inflammatory Masses by the Abdomen after Bisection of the Uterus.—Howard A. Kelly recapitulates the advantages of a bisection and enucleation of the uterus as a preliminary to a complete enucleation of uterine tubes and ovaries for pelvic inflammatory and other diseases by the abdominal route: (1) Additional space for handling adherent adnexa, afforded by the removal of the uterus. (2) Great increase in facility for dealing with intestinal complications. (3) Better access by new avenues from below and in front to adherent lateral structures. (4) Elevation of structures to or above the pelvic brim or even out into the abdomen, bringing them within easy reach of manipulation and dissection. (5) The same advantage in approaching both uterine vessels by cutting from the cervix out toward the broad ligaments as is secured in approaching one of them in the continuous transverse incision method. In general, the time of operation is shortened; its steps are conducted with greater precision; surrounding structures are far less liable to be injured. In this way there are fewer troubles and sequelæ and the mortality is lessened. The writer believes that in intraligamentary tumors of both sides this procedure will prove of the utmost advantage in exposing the tumors at a point low down in the loose cellular tissue of the broad ligament.

The Intrinsic Blood-Vessels of the Kidney and their Significance in Nephrotomy.—Max Brödel concludes his excellent article by describing the method of suturing an incised kidney: (1) The pelvis is approximated with fine catgut sutures. These ought to be placed between the calices and take in only the fat, the outer fibrous coat, and the muscular layers. The mucous membrane should not be included. (2) The second system of sutures should also be of catgut and should unite the region of the papillæ. They should be mattress sutures and are best placed by means of a long straight three-cornered needle with a blunt point, so that no injury to the large vessels results. A possible oozing would only serve to tighten the grip of these sutures and thus to render them more effective. (3) The third system of catgut sutures should also be mattress sutures and should be placed parallel to the second, through the cortex near the bases of the pyramids. Occasionally the third system of sutures is superfluous. (4) The capsule is then closed in the usual manner.

Abstract: The Bacteriology of Cystitis, Pyelitis, and Pyelonephritis in Women.—By Thomas R. Brown.

Notes on Aerobic Spore-Bearing Bacilli.—By W. W. Ford.

The Cleveland Medical Gazette, February, 1901.

Acute Nephritis; Symptomatology.—Orin E. George says that an attack begins in one of two general types. The one is ushered in by a chill, severe pain in the back, pain in the course of the ureter with retraction of the testicle. The nervous phenomena present are severe headache, delirium, convulsions, sometimes blindness in one or both eyes, and coma. In the second type, the attack comes on slowly, beginning with slight headache, nausea, vomiting, white-coated tongue, loss of appetite, malaise, dark spots before the eyes, occasionally pain in the loins, and constipation; sometimes diarrhœa, increase in pulse rate and tension, œdema of lower eyelids gradually extending to all parts of the body. In some cases the acute symptoms persist when the nephritis may pass to a chronic form.

Laboratory Diagnosis of Nephritis.—Martin Friedrich says that all three tests for albumin, namely, heat, nitric acid, and acetic acid plus ferrocyanide of potassium, have to be employed in every case in order to avoid errors. The most important factors, after albumin, are casts. They are subdivided into blood casts, epithelial, granular, waxy, and hyaline. The author gives the significance of each, and full directions for the diagnosis of parenchymatous nephritis. All the morbid changes of the urine taken together, viz., turbidity, less amount with higher specific gravity than normal, the presence of a rather high percentage of albumin, with red blood corpuscles, epithelial cells, and casts in the sediment, are pathognomonic of parenchymatous nephritis, and we can safely say, of an acute attack.

Nephritis, Treatment.—John Perrier says that two important points should be kept in view, viz., the relief of the vascular engorgement of the kidneys, and the elimination of the toxins retained in the blood as a consequence of interference with the renal function. The patient should be put to bed between woollen blankets, given hot drinks freely, the bowels moved with saline cathartics in hot concentrated solutions, and a light diet given, mainly composed of bland nutritious liquids. In severe cases a hot-air bath should be given under the bed clothing. If the urine is scanty or suppressed, a linseed-meal poultices with a tablespoonful of mustard should be applied over the loins, and changed every four hours. In the uræmia of acute nephritis, resort should be had to the subcutaneous injection of normal salt solution.

Acute Hemorrhagic Nephritis in Children.—Edward Perkins Carter says that it is extremely difficult to account for the occurrence of this disease here, or for its absence there. In every case there is present anatomically more or less degeneration of the renal epithelium, and the hemorrhage is found chiefly in the capsules or the glomeruli, in the tubules and beneath the capsule. The fact of its occurrence associated with parenchymatous hemorrhages elsewhere suggests some close affiliation with purpuric processes generally; but when of infective origin, whether it depends upon some peculiar susceptibility of the blood-vessel walls, or is due to the character, virulence, or duration of the infecting toxin circulating in the blood, remains an open question.

Acute Alcoholic Nephritis.—H. B. Ormsby prefers to call this subject acute exacerbation of chronic alcoholic nephritis, for he believes that a true acute nephritis following an alcoholic debauch in previously normal kidneys is extremely rare, if ever found at all. Acute alcoholic nephritis itself is very much overlooked by physicians, on account of the many constitutional symptoms of acute alcoholism, such as cerebral congestion, cardiac failure, gastritis, etc. We have many deaths from apparent acute alcoholism; cases in which, were the patient put to bed and his urine examined, such measures as active purgation, diuresis, diaphoresis, and active cupping might result in saving life.

Acute Nephritis from Chemical Toxic Agents.—John G. Spenzer says that practically the following poisons alone are of importance: sulphuric and oxalic acids in large doses; inhalations of ether and chloroform; poisoning with mercury, glycerin, turpentine, copaiba, sandal, cubebs, etc.; the internal administration of creosote, salicylic acid, sulfonal, trional, tetronal, nitrate of potassium, and urotropin will probably be in evidence before long; externally applied antiseptics, as carbolic acid and iodoform; or local irritants, such as vesicants or ointments containing croton oil, volatile oil of mustard, tar, naphthol, or the like.

The Treatment of Nausea and Vomiting following Anæsthesia after Abdominal Operations.—Hunter Robb says that during the first six to twelve hours the administration of toast water or hot water, one to ten teaspoonfuls every twenty minutes, is comforting to the patient and relieves the thirst sometimes complained of. If vomiting continues after the third day, the possibility of a peritonitis should be borne in mind. Persistent nausea can sometimes be relieved by two or three tablespoonfuls of very hot water containing ten grains of sodium bicarbonate. Washing out the stomach may be necessary.

Nephritis, Progress.—F. A. Payne says that the tendency in acute Bright's disease is toward recovery. Complete recovery is the rule in acute cases accompanying diphtheria, typhoid, and other infectious fevers, except scarlatina, in which the prognosis is not so good. In acute productive or diffuse nephritis many of the cases end unfavorably. A fatal termination of this disease is indicated by a very scanty flow of urine, frequent and distressing vomiting, extreme anasarca, severe and persistent headache, convulsions, coma, and the occurrence of complications.

Nephritis, Diagnosis.—A. J. Skeel gives detailed directions for the diagnosis of this disease. The obtaining of an accurate history of the case is of considerable importance. In a patient presenting such a typical combination of symptoms as headache, backache, nausea and vomiting, muscular twitchings, pallor of the skin, and œdema of the eyelids and extremities, all coming on rapidly, a urinary examination will suffice to make the diagnosis certain.

Acute Syphilitic Nephritis.—Charles J. Aldrich reports two cases. The disease is always serious, however mild the syphilitic infection. The author, after considerable examination of the literature, is convinced that but few of these cases are fatal. The treatment should be that of acute nephritis from any cause, to which is added a vigorous but judicious course of specific treatment with mercury.

The Sanitary School-Room.—L. K. Baker describes the location of the ideal school-room, its dimensions, walls, contents, and the cloak-rooms. He suggests that each medical man, as he may find time to consider this matter, compare the school-rooms of his acquaintance with the suggestions in this article.

The Edinburgh Medical Journal, February, 1901.

On Bad Positions of the Pelvis, Productive of Spinal Curvature.—Richard Barwell says that the pelvic malpostures with which we have to do are three in number: pelvic obliquity, in which one side of the pelvis lies higher than the other, and which is dependent on a difference in the length of the lower limbs; amesiality of the pelvis, a term indicating that the patient in standing erect habitually places the pelvis to one side of what should be the central mesial line of his figure; and version of the pelvis. The author gives directions for ascertaining these malpostures by means of the camera or of a tape. He says that while he will not affirm that no spine standing on a straight pelvis is ever affected with lateral deviation and rotation, yet it may be written with certainty that since he detected two malpostures of the pelvis about thirty years ago, he has seen no case of scoliosis in which, either while standing, sitting, or both, the pelvis was normally and properly placed. The object of his article is largely prophylactic.

The Borderland.—G. W. Balfour, in a second lecture on the subject, discusses choreomania, table turning, thought reading, mesmeric mania, spiritism, etc. One lesson to be learned, he says, is that insanity is a disease of which no one need be ashamed, as some of the finest minds in all ages have suffered from it. The second lesson is that, as the great object of all education is to enable us to control the emotions and passions, and to regulate the imagination by the cultivation of the faculties of judgment, comparison, and attention; and as whatever tends to emancipate the lower powers of our nature from the wholesome control of our judgment and our will is injurious to our intellectual well-being—we ought to shun all forms of mental excitement, under whatever names they present themselves, which tend to enfeeble our will, or to rouse the emotions and kindle the passions at the expense of those powers which have been given us for their regulation and control. He is assured that no form of even a minor mania has ever passed over the surface of society without leaving behind it many sad traces of its injurious action.

The Bacterial Treatment of London Crude Sewage at Barking and Crossness.—A. C. Houston describes at length the investigations made by him, which occupied two years. His general conclusions are that when an effluent is turned into a stream to be used for drinking-purposes, the bacteriological results are manifestly of more importance than the chemical; but when, as in the present case, the river is not a potable one, and is already polluted, the converse probably holds good. In the first case the chief object is to guard against disease, and in the second case the main consideration is to avoid fouling the river with putrescible matters to such an extent as to constitute a grave public nuisance.

Cholesteatoma of the Temporal Bone and its Treatment.—H. J. Waring reports two cases. He defines the affection as a tumor composed of a large mass of epithelial cells, squamous in character. The swelling is localized and usually has the form of an oval-shaped growth situated in the interior of the temporal bone, in connection with either the mastoid cells, or the mastoid antrum, or the tympanic attic. He has had good results from operation. The chief difficulty is rendering the cavity aseptic after the tumor formation has been removed. He uses irrigation with a solution of bichloride of mercury, but thinks that a solution of formalin is perhaps better, the active antiseptic being volatile.

On Intra-Peritoneal Rupture of Simple Ovarian Cysts, with Special Reference to Operative Treatment.—F. W. N. Haultain reports three cases in which the cyst wall was torn and the contents were evacuated into the peritoneal cavity, and three others in which a distinct history of previous rupture was elicited. He believes that ruptured cysts should in all cases be removed as soon as possible.

Medico-Legal Notes.—Harvey Littlejohn reports a case of extensive atelectasis of the lungs, in a child which lived twenty-four hours, and also a case of finger-nail abrasions on the neck of a newly born child, with reasoning to prove that the latter were probably the result of homicidal strangulation rather than of an attempt at self-delivery.

The Scottish Medical and Surgical Journal, Feb., 1901.

The Relation of Dentistry to Medical Education.—W. H. Williamson, president of the Aberdeen Medico-Chirurgical Society, urges physicians to acquire more dental knowledge than they at prosent possess, the mouth being so important a part of the body in regard to the general health, both as to the use of the organs of mastication, and because it is so fine an incubating-box for hosts of bacteria, pathogenic and non-pathogenic, aerobic and non-aerobic, the last-named being found in the deeper layers of carious dentine. The author instances cases of mistakes on the part of practising physicians, who in seeking the cause of facial neuralgia either neglected an examination of the teeth, or if they made it, did not recognize existing conditions. Many young practitioners scarcely know how to answer the questions of young mothers in regard to their infant's first and second dentition.

Eclampsia at the Sixth Month; Recovery; Successful Labor at Full Time.—Michael Dewar reports a case which he decides was eclampsia, although there was no albuminuria during a first series of convulsions, only a trace in a second, and none during a third. Epilepsy he excludes for sufficient reasons. He believes that in cases of this nature, chloroform is injurious, as is morphine, and that a little more of the expectant treatment, after attending to the bowels and bladder, with the administration of the bromides and chloral, is perhaps the best method. If there be no signs of nature having commenced premature labor, he would wait for a day or two at any rate before practising fœticide, but if the os is opening up, and uterine contraction taking place, the sooner the uterus is emptied the better.

A Curious Case of Disordered Cerebral Circulation.—Philip G. Borrowman reports the case of a boy aged nine years, who in playing with other boys used to stand on his head, being held by the legs, and who outdid the other boys in this performance. The result was an illness marked by headache at first, then continuous sleep. Tincture of digitalis, ♏ x. three times a day, brought about recovery. The author considers that all the symptoms can be accounted for on the theory of passive congestion. The prolonged inversion of the boy's body would throw the weight of a column of blood, equal practically to the boy's height, on the cerebral veins, causing great engorgement, which of course would cause compression of the brain substance and capillaries, with the result that the arterial circulation would be impeded, and a condition of practical anæmia of the brain induced.

A Short Note on Bilharzia Hæmatobia.—David Wallace gives three cases of this affection, which is due to a para-

site which belongs to the nematode group of worms. Its habitat in the human subject is chiefly the portal vein and its branches, but it is found in other veins, notably the vesical. The ova are mainly found in the urine, but have been found in different tissues, especially in the walls of the bladder and rectum. Hæmaturia is the salient symptom, and the condition is commonly named in South Africa 'blood-water, or blood-gravel, the sufferers not infrequently passing small calculi. The mode of infection is not known, although some believe that the parasite gains entrance through individuals drinking impure water, or by bathing. Salol has been found of benefit in the treatment.

The Bacillus Coli Communis in Relation to Cystitis.—Kenneth M. Douglas, as a result of experimentation and clinical investigation, concludes that this bacillus is met with in the great bulk of cases of cystitis, and in many is apparently the determining cause of the disease. It is sometimes present during long periods in the bladder, under favoring conditions, but without causing cystitis. Certain of the facts lend support to the view that the bacillus is a supplanter of other forms rather than the initiating cause of the disease. The marked polymorphism and varying pathogenicity of the organism would account for the conflicting opinions held regarding its identity and its rôle in cystitis and the confusion of nomenclature until recently prevailing.

A Case of Pseudo-Hypertrophic Muscular Paralysis.—George Rose reports a case in a boy aged nine years, in which the salient features were great muscular weakness, enlargement of certain muscles and wasting of others, loss of knee jerk, and diminution of other reflexes, and hyperæsthesia to pain. The microscopic appearance of pieces of the biceps and gastrocnemius is given, and the article is illustrated by photographs of the patient in various positions.

Clinical Lecture on Pulmonary Phthisis and its Treatment.—By Alexander James. A continued article.

Zeit. f. Tuberkulose u. Heilstättenwesen, vol. i., No. 6.

On the Treatment of Tuberculosis by Sodium Cinnamate.—A. Mann describes his results with intravenous injection of betol or the sodium salt of cinnamic acid, the active constituent of balsam Peru, with some reports of cases that seem so encouraging as to fully justify the favorable conclusions drawn. The method employed is essentially that of Landerer, and consists in the use of gr. $\frac{1}{100}$ to $\frac{1}{50}$ as a beginning dose, which is gradually increased to gr. $\frac{1}{4}$ or $\frac{1}{3}$. The injections are repeated every other day, and made into the median basilic or cephalic vein. The object is to produce at the site of local injury an acute inflammatory reaction which shall produce a healthy cicatrization of the tuberculous area. No untoward effects have been noted except slight drowsiness following the use of unnecessarily large doses.

Aneurism of the Abdominal Aorta in Connection with a Tuberculous Perityphlitic Abscess.—Henssen reports a case of moderately acute pulmonary disease in which indefinite pains in the appendicular region were accompanied by a slowly increasing doughy tumor in the same locality. This increased for nearly a month, in spite of palliative treatment, when a second tumor developed, which gave all the typical physical signs of an aneurism of the abdominal aorta. Four days later, after several copious movements of the bowels, the cæcal tumor disappeared and there was left in its place only a rounded cord-like structure. The supposition is that the appendicular abscess ruptured into the intestine, while the aneurism was due to pressure on the aorta either from inflammatory infiltration of the tissues or from enlarged mesenteric lymph glands.

The Rest Cure in Phthisis.—S. Bernheim believes that rest, absolute and complete, is the most important element in the treatment of the tuberculous patient. Even the pulmonary gymnastics advocated by many authorities he considers ill-advised and apt to cause progression of the disease, while a state of entire bodily and mental inactivity gives the natural forces the best opportunity to make a stand against the advance of the morbid process. The risks of auto-intoxication are diminished, organic waste is lessened, the functions of the lung and heart are regulated, the febrile movement is controlled, and every possible aid is given to those most important adjuncts in the treatment, viz., food and fresh air.

The "N" and "O" Therapy in Pulmonary Tuberculosis in Reference to the Resort Lippspringe.—B. Rohden describes the peculiar conditions prevailing at this resort where, owing to gaseous emanations from the ground, the amount of nitrogen present in the air is considerably higher than the normal percentage. As a result of the ensuing diminished quantity of oxygen available for respiration a reduction of metabolic activity and oxidation processes takes place, which is of great benefit in many forms of phthisis. It is particularly the so-called arterial types of the disease in which there is increased tissue consumption that are favorably affected, while in asthenic cases treatment in this atmosphere is contraindicated.

Some Observations on the Treatment of Pulmonary Tuberculosis.—H. Naumann ascribes great value to plentiful feeding, and believes that in a large number of cases the predisposition to the disease rests on a condition of chronic malnutrition. In some individuals, however, no amount of increase in the food consumption produces any effect, and rest cures are equally unsatisfactory, while graded exercise by stimulating tissue change produces a gradual alteration in constitution which leads to marked improvement. Patients should be sent to climates as different as possible from those in which they were taken with the disease, while still more important is the stimulating effect of frequent changes of climate.

A Contribution to the Knowledge of the Cultivation and Staining of the Tubercle Bacillus.—A. Marmorek says that the first organisms to develop after a culture medium has been inoculated with tubercle bacilli are deficient in the thick fatty or waxy protecting sheath which surrounds more mature individuals. The result is that the entrance of aqueous staining solutions into the interior of the cell is not impeded and the organism stains very readily, while on the other hand the decolorizing action of alcohol and acid solutions is not so strongly resisted as usual and the color is easily discharged.

The Significance of Pulmonary Tuberculosis for Life Insurance Companies.—P. Croner, as the result of a very exhaustive study of the statistics of the subject, considers that sex, occupation, age, family history, previous association with tuberculous patients, previous pulmonary diseases, conformation of the thorax, etc., are all of greatest importance in estimating the liability to the development of tuberculosis, and that all persons in whom there is reason to suspect the slightest tendency to predisposition should be rated as distinctly poor risks.

A Protective Mask for Polyclinical Use.—S. Cohn describes an easily manufactured paper mask intended to be applied to each dispensary patient on entering the examining-room, thereby preventing the risk of infection through exhaled particles of mucus or expectoration. When the room is left the mask is removed and thrown away.

Institutional Treatment of Phthisis.—By J. Gabrilowitch.

Tuberculosis, Congestion, and Blood.—By H. W. Blöte.

La Pratica del Medico, December, 1900.

Rectal Feeding in Typhoid Fever.—Giovanni Stefanile cautions against too quick resorting to rectal feeding, a milk diet being well tolerated by many patients. Should it, however, cause uncoercible nausea and vomiting, rectal feeding should certainly be tried. The author prefers Boas' formula, which, leaving out the starch, is as follows: Coffee, 250 gm.; well-beaten yolk of two eggs; chloride of sodium, 2.6 gm.; red wine, 15 gm. Patients, as a rule, are inclined to rebel against this method of feeding, and must be soothed and reassured by careful explanations of the value of allowing the stomach to rest.

Morbid Blushing.—Gaspare Basile describes several cases. He believes that this disorder should be regarded as a manifestation of neurasthenia and hysteria. He mentions the two affections together, considering neurasthenia to be hysteria as developed in man, and hysteria as neurasthenia developed in woman. He considers hypnotic suggestion the best treatment.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LATE QUEEN, PROFESSIONAL REGRETS—SOCIETIES—PLAGUE—JACOB MEMORIAL—THORNE MEMORIAL—INDISPOSITION OF DUKE OF YORK—PUBLIC HEALTH—A NOTABLE WILL—DEATH OF MR. VERNON.

LONDON, February 1, 1901.

THE death of the Queen and its consequences; the demise of the crown; the accession of Edward VII.; the preparations for the great funeral to take place to-morrow; the numerous, and often unanticipated, changes necessitated by the commencement of a new reign: these and allied subjects have almost excluded medical matters from attention all the week. Even in our societies, colleges, and other institutions more or less connected with the profession, the first business has often been to pass resolutions of condolence with the royal family and of loyalty to the new sovereign; or if not formal resolutions, expressions of those sentiments in other forms.

I told you in my last that the Medico-Chirurgical Society, meeting on the day of the late Queen's death, after a

few words by the president on the sense of loss felt by the whole nation, at once adjourned. The society will meet on Tuesday next, when a loyal address to the King will be moved by Lord Lister and seconded by Sir W. S. Church, P.R.C.P. At the Medical Society on Monday last the president, Mr. J. Morgan, opened the meeting by referring to the irreparable loss of the nation, and proposed that the humble expression of their grief and their extreme admiration of her late Majesty should be forwarded through the proper channels, together with the tender of their deep sympathy and loyalty toward his Majesty King Edward VII. Other societies, as I have said, followed in similar terms. In fact the stream of expressions of regret, condolence, admiration, and loyalty is swelling day by day, and will doubtless continue even after to-morrow's sad pageant and day of mourning. Those already received from strictly professional bodies are too numerous to quote, so with one more sample I must pass on to other topics.

The Clinical Society met on January 25th, when Mr. Gould took the chair. He said he had been asked to do so by the president, Sir Douglas Powell, who felt unable to take his place after the important part he had played in the late sad event of which all were cognizant. As the society is a scientific one, the Council did not think it necessary to postpone the proceedings, which consisted at this meeting in the exhibition of cases for which all arrangements had been made. Nevertheless Mr. Gould said they could not meet without giving expression to the sense of personal loss which they shared with the whole empire in the death of the greatest monarch of modern times. During her reign of more than sixty years great advances had been made in scientific medicine. The late Queen gave her implicit confidence to her medical advisers; she was the first British monarch to submit to vaccination, and the first to be submitted to anæsthesia at a time when prejudice withheld this boon from women in their hour of nature's need; on antiseptic surgery she set her seal by granting to Lister the highest dignity ever conferred on a medical man as such; in sanitary science her interest was shown, when cholera threatened, by her keen interest in the precautions taken under the superintendence of the late Sir R. Thorne. Mr. Gould closed with an expression of the great loss sustained by the death of the late Queen, and an assurance that all would join with him in looking forward with a devout prayer of "God save the King." A number of interesting cases were then exhibited, among which I may name: generalized scleroderma with Raynaud's disease; myasthenia gravis; aortic regurgitation, apparently due to rupture of a healthy valve, in a man aged twenty-one years; a case of dextrocardia, probably congenital, in a woman aged forty-six years; unusually great cardiac dilatation in a man aged twenty-two years; multiple fibro-neuromata or Recklinghausen's disease.

Nurses are by no means always such as novelists speak of them. Householders who have had to employ them are apt to describe them as nuisances, and some of them have never learned to keep their proper place. Lately a district nurse refused to attend the patients of one of the doctors in the district, and her local committee upheld her conduct. When the association decided that it was the nurse's duty to obey the medical man without commenting on his mode of treatment, the committee resigned. It is time that all nurses were subjected to a more sensible discipline.

The matrons and superintendents are indeed exacting enough. In fact, just now there is an outcry against their severity and alleged cruelty. Certainly a woman can oppress her own sex in a way that a man cannot, and there is no doubt that matrons insist on obedience to themselves more than to the doctors—their own superior officers. Some, indeed, seem not to recognize that they have superiors, hence those trained under them assume airs which are intolerable. Last year Mr. Gant brought out a little book on "Mock Nurses," in which he exposed the conduct of some of the black sheep and reaped for his pains a good deal of odium. He is, however, a warm friend of the good nurse, and said nothing to shame any one who followed the calling uprightly. But even he did not touch upon the matron, with whom much responsibility rests and of whom committees often seem afraid. Hence there is too much despotism in nurse training, and it is often said that women are particularly unfit to be entrusted with absolute power. Perhaps the present outcry against tyranny may lead to committees asserting their authority.

No fresh cases of plague have occurred at Hull, and the steamer *Friary* has been released. An infected steamer put in at Bristol, but none of the crew exhibited any symptoms and the vessel was disinfected and released. The sanitary officers at Hull deserve credit for the prompt manner in which they successfully met the emergency.

A "Jacob Memorial Fund" has been started. The committee includes the presidents of both the Irish colleges and all the leading physicians and surgeons in Dublin. Dr. Jacob, whose death I have previously mentioned, left but a slender provision for his widow and daughters, and the fund will be for them. Jacob was an earnest reformer, and medical reform does not pay. It hindered him in practice, absorbing too much attention. The Irish profession owes him an enormous debt of gratitude for his efforts and achievements. If he had stuck closely to his practice and avoided public work he would have made a large fortune, for as an ophthalmologist few could equal him.

A memorial tablet to Sir Richard Thorne Thorne has been placed, by the members of the medical department of the local government board, in St. John's Church, Woking, where he of late years attended.

The indisposition of the Duke of York, in the excited condition of the public mind, caused some anxiety at first; but it speedily subsided on the assurance that it was a mild attack of German measles, and that this disease was not dangerous, merely requiring simple regimen and rest in bed or indoors.

The mortality returns continue favorable. The death rate in London for the last four weeks has been 17.9, 19.6, 18.7, and 17.6 successively. Croydon and Derby have had the lowest rates for the first month of the year—the former's average being 12.8, the latter's 13.5.

Quite a number of hospitals and other charities benefit under the will of Mr. Samuel Lewis, a money lender, who amassed a large fortune and died recently.

The death of Mr. Bowater Vernon, ophthalmic surgeon to St. Bartholomew's Hospital, is announced. He had been in ill health for a long time, and died on the 28th ult.

A FAMILY HISTORY OF ANÆMIA.

To the Editor of the Medical Record.

Sir: After reading Dr. Dana's article on pernicious anæmia in its relations to heredity, in your issue of December 1st of last year, I was led to look over my brief notes of a case which I saw some years ago with a friend whose name I withhold, as he thinks it desirable to avoid the chance of identification.

The patient was a woman in late middle life. Her sister thought she had been losing color for three or four years. She had been under the care of my friend for about a year with gradually increasing anæmia. She had been taking a fair amount of food, mostly milk, seldom vomiting, but the quantity had been growing gradually less until, at the time of my visit, it was about one and a half quarts per diem.

I think I was asked to see her more with a view to some change in, or addition to, the diet than because any doubt was felt about the diagnosis.

There was looseness of the bowels without much pain. Menstruation was regular until about eight weeks before, with no trouble. She herself attributed the severity of her sickness to a shock. She was extremely white, not yellow, and emaciated. There was no œdema and the urine was normal (not examined quantitatively). The pupils were wide, there was a blowing first sound of the heart, and nothing was to be found by careful palpation of the abdomen. No blood examination was made, for reasons given below. The white color and the emaciation differentiated this case from the typical "idiopathic anæmia," but the gradual appearance and long duration of the symptoms, together with the small amount of nourishment taken, might have accounted for this, so that in the entire absence of decisive symptoms pointing in any other direction we fixed upon this condition as our diagnosis. She died a few days later. My notes speak of similar cases in a brother and sister, and also in the father with an interrogation mark. Upon writing to my colleague for further information, I received the following reply:

Cambridge, February 5, 1901.

"Dear Dr. Edes: The reason we did not have the blood examined was because the patient and her sister did not wish to have it done. Besides, the diagnosis was perfectly evident, and I could not urge the examination of the blood on the ground that it would help clear up the cause of her sickness.

"In answer to your second question; a brother died about six years before she did, in the same way, from the same cause, and at about the same age.

"An older sister had a sickness before our patient was ill with what seemed to be the same trouble, but in two years she got better. About two years ago the same sister had another attack, which lasted somewhat more than a year, from which she has recovered fairly well.

"I think the father died of heart disease.

"You ask how authentic is the history of her father's and brother's cases. I never saw her father, but I saw her

brother twice in consultation with Dr. ——. It was long before examinations of the blood were made to assist in the diagnosis, but it was as clear a case of pernicious anæmia as I ever saw, and the post-mortem examination confirmed it. There were no lesions of the body except excessive anæmia." ROBERT T. EDES, M.D.

BOSTON, MASS., February 12, 1901.

THE NEW MEDICAL BILL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: We have had a bill introduced in the legislature of this State which is of vital importance to the medical profession, medical colleges and medical institutions, and to the public generally. This bill, if enacted into law, will compel every person who treats disease, regardless of the method he employs, to comply with the medical laws.

The necessity for the enactment of this bill seems very plain. Under an old decision of the supreme court of this State, in the case of Smith vs. Lane, it was held that unless one gave medicine he did not practise medicine.

The result of this decision has been that people who desired to evade the law have adopted some cunningly devised name, as "osteopath," "hydropath," etc., and, refusing to give medicine, have set themselves up as being competent to treat disease, and the authorities are not able successfully to prosecute them.

The existing medical laws, as they are at present enforced, are incentives to ignorant and unscrupulous people to adopt some peculiar name or title, and so avoid the necessity of that careful preparation the law says a person should have before being allowed to practise medicine. The law places obstacles in the path only of those who desire to perfect themselves so as to be able to practise intelligently.

About three years ago the osteopaths had a bill introduced in the legislature which sought to legalize their practice, but the measure failed. They have this year attempted the same thing, and their bill, which has been introduced, is stronger and has greater backing than before. It will seek to give the people who have not perfected themselves as physicians are perfected, the right to treat any and all disease by the method known as "osteopathy." If they gain this privilege, it cannot be expected that other practitioners will be content to comply with the requirements of medical colleges when they can obtain the same standing in the community by studying at some osteopathic college. This latter course may not give them the same standing professionally, but it will enable them to rank as well with the community as the person who has received a thorough medical education.

Another bill has been introduced compelling the regents to endorse the diploma of any physician who has passed the State Board of Medical Examiners of any other State. If this applied only to States where the requirements are similar, although inferior to our own, it would be bad enough; but it goes further and applies to all States. Should this bill become a law, students can then go to some State where the requirements are almost nothing, and having received the right to practise there, come to New York and be allowed to practise here. This will be an unfair discrimination against the medical colleges of this State, will make a farce of our medical laws, and will certainly not be of advantage to the community.

It seems to the writer that these are matters which should interest every person, physician or otherwise, who believes in upholding the present high standard of medical requirements in the State of New York, and who has the interest of the community at heart. We trust that they may interest you, and that you will use every honorable means at your command, first, to assist in the enactment of the bill known as the Bell bill, compelling every person who treats disease, whether with or without drugs and medicines, to comply with the medical laws; second, to assist in the defeat of the Seymour bill, which would give a legal standing to a class of incompetent practitioners known as "osteopaths"; and third, to assist in the defeat of the Adler bill, which seeks to let down the bars so that medical men of possibly inferior education and ability may be allowed to run the State of New York.

The writer is engaged in what he hopes will be considered a commendable effort to retain for the medical profession of the State of New York the proud position it holds in the eyes of the world to-day, and to insist that the legislature will continue to protect the community from incompetent medical practitioners by compelling compliance with the medical laws as a prerequisite to practice.

FRANK VAN FLEET, M.D.

Chairman of the Committee on Legislation of the Medical Society of the State of New York.

Surgical Suggestions.

Vesical Hyperæmia, of mild degree, is best treated by irrigation with a one-per-cent. solution of boric acid, followed by a one-fourth-per-cent. solution of nitrate of silver.—BIERHOFF.

Objects of Drainage in Abdominal Surgery.—The chief purposes for which drainage is employed are as follows: 1. To drain away existing septic material. 2. To afford an exit for the sepsis when the operator fears he has possibly infected his patient. 3. To provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents. 4. To keep the peritoneal cavity free of blood and other fluids. 5. To allow of a more certain knowledge of the conditions present in the abdomen. (6) Gauze drains are sometimes employed as tampons to control hemorrhage.—DR. J. W. LONG, *Annals of Gynæcology and Pediatry*, December, 1900.

Hints.—SURGICAL NEEDLES. It is a good thing to remember that surgical needles require sharpening about as often as scalpels, and that the use of a hone and a little emery powder will restore to usefulness many needles in an apparently hopeless condition.—DRAINAGE TUBE. It is well to remember that a drainage tube is a foreign body, and hence an evil. Clean surgery and proper attention to hæmostasis reduce considerably the number of cases in which drainage is indicated, and it seems to be the tendency of the best surgeons to do the least draining.—A POULTICE is an excellent thing in its place, but there is no earthly reason for ever making it out of dirty vegetable matter. Gauze and absorbent cotton soaked in weak, warm antiseptic solutions, and covered with protective, are the only poultices allowable in modern clean surgery. —IN CASES OF SEVERE HEMORRHAGE FROM THE LUNGS, due to external wounds, the chest should be immediately opened, and a good-sized drainage tube inserted. This causes pneumo-thorax, and the pressure of air upon the lungs will greatly help in controlling the bleeding. The intravenous injection of saline solution must also be immediately employed.—IN CRUSHING ACCIDENTS in which the limbs have been caught in machinery it is very difficult to cleanse the wound properly, owing to the fact that the parts are much covered with grease due to lubricating substances. Ordinary gasolene is an excellent thing wherewith to remove this grease; it causes no pain, dissolves away the grease, and leaves a clean surface upon which watery solutions of antiseptics can exert their full power.—CHILDREN who are prepared for operation must not be kept as long without food, prior to anæsthesia, as is proper in adults. Children weaken rapidly from hunger, and it is best to give them easily digested food up to three or four hours before the operation. As in the majority of instances they need not know that an operation is contemplated, there is none of the inhibitory effect upon digestion, caused by fear, that is so often observed in adults.—IT IS IMPORTANT to remember that children, especially in crowded, poor districts, sometimes have empyema without even complaining of chills or showing a rise of temperature, and that the disease is often so insidious as to lead simply to general ill-health long before the parents become alarmed at the child's condition. Any child that has become gradually run down in health should be stripped and carefully examined for empyema, when no other cause is evident. —*International Journal of Surgery*, December, 1900.

Extemporized Dressings.—Cheesecloth cut into strips or squares is rendered alkaline by boiling for twenty minutes in a solution of washing soda (two

ounces to a quart), then wrung out and boiled again in clear water, previously boiled and allowed to settle. It is then passed through a bichloride solution (1 : 200). Just before using it is wrung out in bichloride solution (1 : 2,000).—*The Clinical Review.*

Rodent Ulcer.—Rub in resorcin powder each night, after removing crusts.—BLOMFIELD.

Infantile Eczema (dry, vesicular, and papular).—

℞ Zinci oxidi,
Amyli,
Adipis lanæ.....āā 5.
Petrolati ..... 10.
Hydrarg. oxid. flav..... 0.25–0.50
M. ft. pasta.

—LEISTIKOW.

Gelatin in Aneurism.—Gelatin injections should be kept sterile. When large quantities are injected, great pain may be produced. Aneurismal pain is usually lessened; the tumor becomes firmer by large organized clots forming.—NIETERT.

Rectal Operations require such profound anæsthesia that they are very favorable for the spinal anæsthesia method, the moment there is the least fear of general anæsthesia. Opiates may be given early enough by the mouth to obtain an effect before the cocaine analgesia has ceased, so that the patient is saved not only operative but post-operative pain.—CHASSAIGNAC.

Treatment of Burns of Second Degree.—Probably the best local application for burns of the second degree is the solution of picric acid. This is non-toxic in the strength in which it is usually employed and is antiseptic and analgesic. It also possesses the advantage of coagulating the albumin, and thereby diminishes the serous discharge and hastens the reparative process. It has been employed for several years in the Charity Hospital of Paris. It may be used in aqueous or hydro-alcoholic solution. It is soluble in water in about five per cent. It is readily soluble in alcohol. The addition of five to eight per cent. of alcohol not only makes a stronger solution of the acid possible, but seems to impart its own properties, which renders it more effective. The picric-acid solution also seems to produce a smoother and better cicatrix.—S. R. MILLER.

Surgical Intervention in Gastric Ulcer.—A. Heydenreich (*Wiener med. Blätter*, 43, 1900) says that the first indication for surgical intervention in gastric ulcer is the perforation of the stomach wall. This perforation is almost always followed by a fatal peritonitis; in this case intervention is absolutely necessary and must be accomplished at once. The laceration must be sutured and the peritoneum carefully looked after. Excision of the ulcer does not appear necessary. If the situation of the perforation opening or the infiltration of the surrounding tissue renders the technique of suturing difficult or impossible, an attempt might be made to close the opening with omentum, or iodoform-gauze drainage may be used. A second indication is the contraction and narrowing of the pylorus. Food stuffs are not passed from the stomach into the duodenum, the patient becomes poorly nourished, and is in danger of death by inanition. Still another indication lies in the cicatricial adhesions of the ulcer region with the surrounding organs or the abdominal walls; purulent accumulation in the neighborhood of the ulcer is another indication. In the determination of hæmatemesis as an indication for surgical operation, a distinction must be drawn between the severe hemorrhages and the smaller, oft recurring ones. In the very severe hemorrhages surgical intervention is not recommended. In instances of milder hemorrhages, however, which recur weekly and monthly, and which lead to marked anæmia and perhaps to death, surgical intervention may be efficacious provided it be undertaken early enough. Excision of the ulcer is no longer practised, but pyloroplasty and gastro-enterostomy. In conclusion, surgical interventon is indicated not only in complicated cases, but also in those in which without previous complications a methodical, rational, and long-continued treatment has been useless.

Society Reports.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held in Havana, Cuba, February 4, 5, 6, and 7, 1901.

SECTION ON MEDICINE.

(*Continued from page 270.*)

An Epidemic of Yellow Fever.—DR. PEDRO ALBARRÁN, of Havana, described an epidemic of yellow fever occurring in San Diego del Valle twenty years ago. Out of a population of three hundred, sixty-one were attacked and forty-eight died. The interesting point about this epidemic was that the native Cubans, both blacks and whites, suffered the most. The disease was traced to a Spanish soldier who died in the outskirts of the town three days after his arrival. The Cuban who nursed and buried him developed the disease five days later. The epidemic lasted all summer, and was stopped by the advent of cool weather. Two cases occurred the following spring, but none developed from these.

Prophylaxis of Yellow Fever.—DR. JOSÉ A. TRÉMOLS, of Havana, presented a communication in which he stated that there was an antagonism between phosphorus and yellow fever. He had observed that unacclimated foreigners working in factories where phosphorus was used, never suffered from yellow fever. After a brief study of phosphorus and its compounds formed upon contact with the air, he presented a comparison of the lesions of yellow fever and those observed in cases of phosphorus poisoning. He urged further study of this subject, as it seemed to him it might lead to discoveries of great moment in the way of the prevention and treatment of yellow fever.

Need of a Department of Public Health in the United States Government.—DR. LISTON H. MONTGOMERY, of Chicago, read a paper in which he urged the creation of a new secretaryship of public health in the United States government, the secretary to have a seat in the President's cabinet, and to hold equal rank with the other secretaries.

The Necessity for a More Careful Investigation as to the Cause of Outbreaks of Infectious Diseases.—DR. ALVAH H. DOTY, health officer of the port of New York, sent a communication which was read by Dr. Ramón Guiteras, of New York (see page 281).

DR. MORENO said that he was convinced yellow fever was often spread by relapsing cases, these relapses often occurring as late as the fifteenth day. He thought the doctrine that clothing would not carry the germs of disease was a dangerous one, for clothing certainly could convey diphtheria and scarlet fever.

DR. PIQUERO, of Havana, thought Dr. Doty's paper was a most important one, and hoped it would be translated into Spanish for the benefit of those members of the congress who were not familiar with English.

DR. JOHN GUITERAS said that this paper contained the first clear expression of modern quarantine views

which had come under his notice. Since 1881 the speaker had always maintained that the first case of yellow fever reported was never the first case in the epidemic, and he had frequently not only demonstrated the previous existence of mild cases, but had even found evidence of fatal cases occurring before the first recorded case. The occurrence of mild cases was of very great importance in connection with yellow fever. Such cases in the negro were often unrecognized, and in native-born children also mild cases by which the disease was spread frequently occurred. Scarlet fever was similarly spread by unrecognized cases in negroes, and the speaker cited an epidemic of this disease in Savannah which had originated in this way.

Dr. Hodgson mentioned a case, told him by Dr. Carter, of a vessel sixty-two days out from Rio, on which a case of yellow fever appeared three days after arrival in New York.

Major Gorgas, chief sanitary officer in Havana, said that this question of mild cases of yellow fever was a very practical one in Havana. The large majority of yellow-fever cases were now recognized and reported, yet some of the mild ones were overlooked, and the problem was what to do in regard to these mild cases.

Dr. John Guiteras said that physicians practising in Havana and other tropical regions must be educated up to the point of admitting the existence of these mild cases in negroes and native children. The mild cases would then be reported, and so in winter the chain that kept up the endemicity of the disease would be broken. The case of yellow fever occurring on board a vessel sixty-two days out from Rio, just mentioned by Dr. Hodgson, was readily explicable on the mosquito theory.

Dr. Porter, of Key West, cited an instance in which, out of a crew of fourteen, eleven died of yellow fever before reaching Rio. The captain, on being questioned subsequently, said that there were no mosquitos on board the ship. The question raised by Dr. Doty regarding the non-transmission of infectious disease by clothing was not new. The speaker had long believed that sunlight and air were nature's disinfectants, and very powerful ones.

Dr. Marcour, of the United States Marine-Hospital service, cited the case of the U.S.S. *Plymouth* on which yellow fever broke out each time she returned to the tropics before she had touched at an infected port.

Dr. Dámaso T. Lainé, of Havana, surgeon U. S. A., referring to the case cited by Dr. Porter, said that not much stress should be laid on the captain's statement regarding the freedom of the vessel from mosquitos. Not long since, he said, he boarded the *Mexico* in Havana harbor in company with Dr. Guiteras to look for mosquitos. They were told by the officers and passengers that there were no mosquitos on the ship, yet on going into several of the cabins they found great numbers, even in the rooms of passengers who said they had not seen one.

Dr. Porter said he did not wish to be understood as rejecting the mosquito theory of the transmission of yellow fever. He only counselled caution and a repetition of the experiments by an international commission of bacteriologists.

Dr. Holbeck, of Charleston, S. C., said it was evident the entire history of yellow fever must be rewritten, and he urged each one present to use his influence with his own government to further the appointment of a Pan-American yellow-fever commission.

Madura Foot.—Dr. C. M. Desvernine and A. Diaz Albertini, of Havana, reported two cases of madura foot occurring in Cuba. One of the patients and the amputated foot of the other were shown to the section. The parasite (Streptothrix maduræ) was described and preparations of the same were exhibited.

Dr. Thomas N. Calnek, of San José, Costa Rica, said that he had seen many cases of this disease in Costa Rica, where it was generally confounded with elephantiasis. He believed the disease was curable in the early stages when the nodules were small. Elephantiasis was rare, but madura foot quite common in that country.

Dr. Debayle, of León, Nicaragua, had seen many cases, the disease being not at all rare in that country.

Dr. Moreno, of Havana, did not think that the absence of filaria in suspicious cases should be held to negative the diagnosis of elephantiasis.

Affections Noted in Smokers.—Dr. Ramón García Mon, of Havana, read a paper on this subject. In Cuba, where smoking was carried to such an excess, he said, one had many opportunities for studying the symptoms of tobacco poisoning. He first described the effects of tobacco smoke on the mucous membranes of the mouth, pharynx, and larynx, and spoke of the nicotine and other products of combustion of tobacco. He compared alcoholic inebriety with tobacco poisoning, and explained that the latter depended not only upon the quantity and quality of the tobacco smoke, but also upon the peculiar susceptibility of the smoker. Tobacco intoxication might be either acute or chronic, and its effects might be divided into two great groups according as the nervous or the circulatory system was chiefly influenced. The main symptoms on the part of the nervous system were vertigo, tremor, insomnia, amnesia, and amblyopia. Those on the part of the circulatory system were cardiac palpitation and tachycardia and arteriosclerosis.

Borras Fever.—Dr. Francisco Müller, of Havana, presented a communication in which he held that there was no distinct pathological entity called "borras fever," as held by many Cuban physicians, but that what was called by this name might be either yellow fever or malaria or typhoid fever. He described these three types, and showed that they could not be classed as one disease, but that their symptoms corresponded to those of the three fevers mentioned.

Dr. J. R. Avellanal, of Bejucal, Cuba, said that he fully accepted in the solution of the problem of borras fever the action of the three great pyrexias, malaria, yellow fever, and typhoid fever. He did not consider of much importance the arguments brought forward in support of the theory that borras fever was a disease *sui generis*, and indeed a careful study of the symptoms of the various types led to the conviction that this theory was incorrect. The absence of the malarial parasite in certain cases did not prove that it might not be present in others, and it was not always possible to obtain Widal's reaction in the typhoid form, since this was an aborted typhoid which ran its course in less time than was needed to obtain this reaction. Whatever doubts there might be as regarded diagnosis, the treatment of borras fever, so called, was simple enough, consisting in the administration of quinine together with antiseptics and evacuants.

Malta Fever in Havana.—Dr. Emilio Martinez, of Havana, described two cases under his care, one of a fever with five distinct attacks resembling closely Malta fever of the undulating type, the other of a continued fever of long duration. The diagnosis in these cases was difficult, as they fortunately seldom came to autopsy, and the author urged the importance of obtaining blood reaction with cultures of the micrococcus melitensis. He was quite confident that many cases of so-called urban fever, infectious fever, enterosepsis, etc., occurring in Havana were really cases of Malta fever.

Malaria.—Dr. Ernesto Edelmann, of Havana,

presented a communication in which he advocated a return to the older theories of malaria, maintaining that the germ lived and multiplied in marshes and infected all living things—many birds, reptiles, and quadrupeds—that might be exposed to its influence. The germ was the same whatever species of living thing it might infest. If the mosquito could spread the disease, so could all external parasites deriving nutriment from human blood.

Appendicitis.—Drs. Gustavo Duplessis, Gregorio Perez Piquero, and Joaquin L. Jacobson, of Havana, presented a communication containing observations derived from their experience with appendicitis. The disease had seemingly been more frequent in Havana during the past year than previously, which they attributed in great part to the influence of influenza. In the paper were discussed the symptomatology, diagnosis, prognosis, and pathological anatomy of the disease, together with the indications for operative treatment.

Rabies in Havana.—Dr. E. Acosta, of Havana, presented a report of the cases of rabies treated by the Pasteur method at the bacteriological laboratory of the *Crónica Médico-Quirúrgica* of Havana, during the past fourteen years. The statistics of recoveries differed but little from the general average.

Treatment of Yellow Fever.—Dr. José Vila, of Havana, detailed his plan of treatment of yellow fever, consisting in the use of evacuants combined with intestinal irrigation. The earlier these measures were instituted the more favorable were the results. The diet and other accessories of treatment must vary according to the special indications in each case, but the capital indication was for the rapid elimination of the specific poison.

Dr. Francisco Portela, of Havana, reported a very sévere epidémic of yellow fever occurring in Guanajay, Cuba, in 1889. He had tried various modes of treatment without success. Sternberg's method had been tried with no definite results, but on combining the internal administration of corrosive sublimate and an alkali (Sternberg's method) with Vila's evacuant treatment his success had been very marked. He had used this combination during the past twelve years with great satisfaction.

Intestinal Complications of Malaria.—Dr. Rudesindo García Rijo, of Sancti Spiritus, Cuba, presented a communication on this subject. Intestinal complications were frequently observed, he said, in the subjects of malaria, but they were not always directly traceable to the action of Laveran's hæmatozoon. They might be the result of manifold influences, not all of them of an infectious nature, and were often due to individual idiosyncrasy. It was very important in these cases to search carefully for the underlying predisposing causes, as upon their discovery and correction depended in very great part the success of our therapeutic measures.

The following papers were also presented by their authors or read by title: "Clinical Notes on Malarial Hæmoglobinuria as Observed on the Atlantic Coast," by Dr. Leonard John Stegall, of Costa Rica; "Contribution to the Study of the Influence which the Ascarides Exercise in the Organism, Especially in the Pyrexias," by Dr. Luis H. Debayle, of León, Nicaragua; "Historical Review of Medicine in the Nineteenth Century," by Dr. Eduardo F. Pla, of Havana; "Yellow Fever," by Dr. J. W. V. R. Plummer, of Key West, Fla.; "Impure Drinking-Water the Paramount Cause of Malarial Fevers," by Dr. John W. Ross, of Clarkesville, Tenn.; "Diagnosis of Yellow Fever in the Native," by Dr. J. L. Dueñas, of Havana; "Senile Athrepsia," by Dr. Ernesto Edelmann, of Havana; "Yellow Fever," by Dr. Adrian Hava, of New Orleans, La.; "Contribution to the Study of Yellow Fever," by Dr. Ernesto Edelmann, of Havana; "Detection of Sugar in the Urine," by Dr. Francisco G. de Vildósola, of Havana; "Yellow Fever," by Dr. Ramón Garganta, of Havana; "Tetanus," by Dr. Florencio Villuendas, of Guantánamo, Cuba; "Bilious Remittent Malarial Fever," by Dr. Florencio Villuendas, of Guantánamo, Cuba; "Demonstration of the Electro-Arc-Chromolume," by Dr. J. Mount Bleyer, of New York; "Diagnosis of Yellow Fever," by Dr. L. Dueñas, of Havana; "Tuberculosis in Man and Beast," by Dr. John A. Kelly, of Brooklyn, N. Y.; "Etiology," by Dr. Elmer Lee, of New York; "Physical Diagnosis," by Dr. W. H. Vandenburg, of New York; "Remarks on Tuberculosis," by Dr. Liston H. Montgomery, of Chicago, Ill.; "The Animal Body as a Secreting Gland, and the Relation of the Pathology of this Type of Structure to Disease," by Dr. J. S. Foote, of Omaha, Neb.; "On the Responsibility of Drug Takers, Particularly in Alcohol and Opium Inebriates," by Dr. T. D. Crothers, of Hartford, Conn.; "The Clinical Significance of Indicanuria," by Dr. Judson Daland, of Philadelphia.

SECTION ON HYGIENE AND QUARANTINE.

Because of the comparatively small number of papers presented in each section, and also because of the similarity and overlapping of the subjects, it was deemed best to consolidate the several sections of bacteriology, general hygiene and demography, marine hygiene and quarantine, and veterinary surgery.

A Bacteriological Commission for the Study of Quarantinable Diseases.—Dr. Henry B. Holbeck, of Charleston, presented a paper in which he urged the necessity of the organization of bacteriological commissions for the study and investigation of quarantinable diseases, under the formation and control of the governing authorities of the countries interested. The means of betterment of maritime hygiene and quarantine, he said, presented one of the greatest problems confronting civilization, the solution of which was essential to the removal of dangers confronting commerce and humanity. Already science had done much in this direction in the determination of the pathogenesis, mode of transmission, and incubation of various diseases. We knew now how malaria was transmitted and had learned that in its prevention we must turn our arms against Anopheles. There remained the problem of yellow fever which would be solved by scientific study and investigation, but never by the promulgation of theories. Tons of paper and gallons of ink had been wasted in writing of yellow fever, but without advancing one step nearer the true solution of the mystery. Concerted action by a scientific commission working under authority of the various governments was what would remove the uncertainty now existing regarding the majority of quarantinable diseases.

The paper was discussed by Drs. Wilson, of Havana; Glennan, of the United States Marine-Hospital service, and Porter, of Key West, all the speakers being in favor of Dr. Holbeck's proposition.

Micro-organisms in the Air of Havana.—Drs. Nicolás Carvallo and Julio Cisneros, of Havana, presented a paper on this subject. They had made cultures from plates exposed to the air in various parts of Havana, finding microbes of the greatest variety—staphylococci, bacilli of diphtheria, Sanarelli's bacilli, micrococci, saccharomycetes, aspergilli, etc. They also found in one locality conidia resembling Bra's alleged parasite of cancer.

The Sanitation of Havana.—Dr. Erastus Wilson, of Havana, read a paper detailing the defects in the municipal sanitation of the Cuban capital and suggesting measures for its betterment. He compared

the city of Havana to an individual who consumed too much food and drink while the functions of the excretory organs were deficient. The water supply of the city was most plentiful, but the drainage being inefficient the water, carrying with it organic impurities, was absorbed into the soil and was thus an important factor in the unsanitary condition of the city. There were radical defects also in the building-laws. The speaker urged the reorganization of the board of health with sufficient discretionary powers to deal summarily with common nuisances, and believed much good would result from the establishment of a corps of women sanitary inspectors to make domiciliary visits.

The Work of the Marine-Hospital Service in Havana.—Dr. Glennan read a paper describing the work of the United States Marine-Hospital service in Havana, which consisted not only in the defence of Cuba against various infections which might be introduced in vessels from abroad, but also in the protection of the United States against yellow fever introduced from the port of Havana. This second object was effected by the disinfection of all ships, baggage, and mail, and also in the granting of health certificates to yellow-fever immunes.

Dr. Torralbas spoke of the great benefit that Cuba had derived from the service of the Marine-Hospital officials and the carrying out of the methods introduced by them. Under the lax methods of former days the Spanish steamships had been fertile sources of infection to the city, but now all the conditions were changed for the better.

On the Agency of Parasitic Vermin and Other Insect Pests in the Spread of Disease.—Dr. George Homan, of St. Louis, sent a paper with this title, which was read by Dr. Torralbas. He said that the trend of science in seeking the causes of disease was to scrutinize more narrowly the personal sphere of man, his domiciliary environment, and his relations to domestic animals—renouncing all speculative vagaries as unprofitable. The initial success was the discovery of the itch-mite, followed by the identification of trichina spiralis as a verminous parasite of potent morbific influence. The different capacities in which insects appeared as carrier, host, or progenitor of organisms or virus must be considered, the genus musca illustrating at least four ways of conveying disease. He spoke of the rôle of the mosquito as the asserted host of the malarial organism and its alleged agency in the genesis of yellow fever, but he thought that while this insect might be able to transmit both of these diseases, it was possible that malaria and yellow fever might be spread by other means as well. He next referred to boophilus bovis in its relation to Texas fever and the possible incrimination of other varieties of ticks in the propagation of disease in sheep, of rabies in dogs, wolves, etc., and to pulex in its probable relation to bubonic plague, and suggested its complicity in communicating the exanthemata. Other points considered were the influence of pediculi in disease, their prompt abandonment of bodies of the dead and dying being suggestive of ability to convey infection, and that of the bed-bug, which was deemed capable of spreading tuberculosis, syphilis, leprosy, carcinoma, and possibly bubonic plague. He thought that the aim of disinfection should be the destruction of vermin found in clothing, bedding, etc., for with their elimination danger from spores and germs would practically vanish. The necessity for the closest scrutiny of these insects and knowledge of all phases of their existence, he said, was obligatory on sanitarians.

The Tongue as a Breeding-Place for Bacteria.—Dr. M. H. Fletcher, of Cincinnati, read a paper on this subject, illustrated with a number of micro-photographs of sections of the tongue. He said that of the seven nutritive media for bacteria in the mouth, noted by Müller, there were always present on the tongue saliva, mucus, buccal epithelium, and particles of food. He noted the various conditions in which a coated tongue was present, and said he was in accord with Van Valzah and Nisbet in denying that "the tongue is a mirror of the stomach," as the older writers asserted, but held with the authors mentioned that it was solely an indicator of what processes were going on beneath and on its surface. He said that the micro-organisms in a dirty mouth, independent of those which might be introduced with the food, were sufficient in themselves to give rise to intense fermentation processes in the stomach, chronic dyspepsia, etc. He concluded with the statement that there was probably no means of estimating the degree of immunity that might be obtained by strict buccal cleanliness, but as a prophylactic measure no physician could afford to neglect it either for himself or for his patients.

The Benign Effects of the Climate of Cuba on Foreigners.—Dr. Enrique B. Barnet, acting assistant surgeon, U. S. A., read a paper with this title. He said his work was based on experience derived from the care of more than two hundred men, composing batteries H and N of the Second Artillery, and the Santa Clara battery. These men had been under his care for two entire years, and in that time he had had but two cases of pernicious malaria, eight of catarrhal dysentery, and four of yellow fever, none of these cases terminating fatally. He had had only two deaths during the two years, one in a soldier of rather advanced age who had heart disease, the other in a soldier who already had malarial cachexia and cirrhosis of the liver (possibly alcoholic) on his arrival in Cuba. This would seem to demonstrate that the stranger in Cuba, living under rational hygienic conditions, was no more exposed to the dangers of disease than he would be in the most healthful regions of the temperate zone.

Maritime Quarantine and Hygiene.—Dr. Rhett Goode, of Mobile, Ala., presented a paper dealing with the true function of quarantine together with the plan of enforcing it. His subject was divided into first, ships and cargoes; second, human beings and baggage. As regarded ship and cargoes, they should, he said, when from infected ports, be disinfected at either the port of departure or the port of arrival, and then be allowed to proceed to destination; human beings should be held at quarantine for five days, and their baggage should be disinfected, then if all was well they should be allowed to proceed. Special rules might be made to prevent a ship becoming infected at the port of departure, and when the ship obeyed those rules, she might be allowed to proceed. He thought a reclassification of the Latin-American ports, as regards their sanitary condition, was necessary, and in order that this might be done with justice to all rights concerned a competent commission should be appointed to do the work.

Period of Incubation of Yellow Fever.—Dr. Henry R. Carter, United States Marine-Hospital service, read a paper with this title.

Prevalence of Glanders in Havana among Horses and People.—Dr. Honoré E. Lainé, of Havana, said that during the last thirty years more persons had died of glanders in Havana than in all the large capitals of the world combined. The causes of this prevalence had been the ignorance of the people who, as a rule, did not fear the disease. This absence of fear was due to the erroneous teachings of the former Spanish veterinarians, who believed in the non-contagiousness of farcy. The prevalence of the disease was also the fault of the authorities, who had not exercised a scientific, rigorous, and honest inspection of the stables of

the city, in which to-day ten per cent. of the horses were suffering from glanders in its chronic form. Because of the mild climate of Cuba the chronic was the most prevalent and also the most dangerous form of the disease, as, that condition being compatible with life, the animals were made to work and in that manner spread the disease through all parts of the city and infected human beings as well.

The Service of Disinfection of Havana.—Dr. José Antonio López, of Havana, gave a history of the service under his charge. On April 1, 1899, when he was given the direction of the above-mentioned service, he found that it existed only in name, as neither its small force (five men) nor the apparatus at its disposal (ten pans and two worthless pumps) met the needs of the service. Under the authority of the chief sanitary officer, Dr. López proceeded to reorganize the sanitary corps, dividing it into a department of disinfection, and a department of sanitation. The department of disinfection had charge of the disinfection of houses where contagious disease had occurred, and the sanitary police was charged with the isolation of persons sick with such disease. The department of sanitation was charged with the cleaning of houses whose state of filthiness menaced the public health. The service at present consisted of more than two hundred and fifty employees, and had the necessary apparatus and instruments for the disinfection of houses in conformity with the teaching of modern science. Irrigation with a bichloride-of-mercury solution of a strength of 1 : 1,000 was used, also vaporizations of formol. There was also an oven for the disinfection of clothing. The speaker also detailed the methods employed in cases of yellow fever, typhoid fever, diphtheria, smallpox, and tuberculosis.

An International Commission for the Study of Yellow Fever.—Dr. Eduardo Wilde, minister of the Argentine Republic in Washington, presented a communication reviewing the arguments detailed in his address before the second general session, calling for the appointment of an international commission for the study of yellow fever and the devising of measures looking toward its extermination in all American seaports. At the close of his remarks he offered for the consideration of those present a resolution calling for (1) the convocation of an American international congress of hygiene, to be composed of delegates representing the various governments of America which might agree to this convention, the mission of which should be to draw up a plan for a general treaty in which should be noted the measures necessary and effectual for suppressing yellow fever in its endemic foci, or where it may have been imported and where the necessary measures of protection against this and other infectious diseases were not properly enforced; (2) to authorize the president of this third Pan-American Medical Congress to communicate with the several governments of the American nations, asking them to agree to those conventions and to nominate delegates to the congress of hygiene.

Dr. Porter, of Key West, said that he did not understand the language of Dr. Wilde's resolution sufficiently well to enable him to discuss it. But he would recall the paper presented at a previous session, at the conclusion of which he had presented a resolution which he would here repeat. He was greatly interested in the question of quarantine, especially as regarded yellow fever. For some years, he said, many had been groping blindly after a solution of this problem, and several commissions had been appointed from time to time to study the question, but they had been temporary commissions only. He now proposed the establishment of a permanent commission, the labors of which should be continuous, and which could establish the necessary laboratories and pursue the investigation in a careful and thoroughly scientific fashion. The following was his resolution: (1) That this section of maritime hygiene and quarantine recommends to the Pan-American Medical Congress now assembled in Havana the creation of an international commission of bacteriologists and quarantine officials of extended experience to study the question of yellow fever, its etiology, and mode of transmission; said commission to be appointed by the countries chiefly interested in the subject, its equipment and maintenance to be defrayed by the countries from which its members were appointed. (2) That this commission should report the detailed results of its labors to the next meeting of the Pan-American Medical Congress.

Dr. Holbeck, of Charleston, S. C., said that all present were interested in this subject. Everything possible had been done in the way of quarantine and disinfection, but yet almost nothing had been accomplished. Steam and other disinfectants were employed blindly, those using it being ignorant of what they were contending against. He thought this association should insist that only those most competent should occupy themselves with this subject. It was not solely a commercial but also a humanitarian question. He thought that all the interested countries should unite in this task; the work thus far done was praiseworthy, but it had led to no practical results; what was needed was the combined wisdom of many. All remembered the many years passed in ignorance of the true nature and mode of transmission of malaria, but now we could attack it scientifically—and this would be eventually the case with yellow fever. He criticised the present methods of disinfection, and thought a scientific body such as this congress should not hesitate to initiate a work of the kind proposed, and hoped that a commission would be established which might have something of practical value to report at the next congress.

Dr. Debayle, of Nicaragua, thought that the resolution of Dr. Wilde covered very nearly that of Dr. Porter. It was known that commissions of this sort took a long time in convening and beginning their labors, and in view of the work lately realized by the United States army commission, the wisdom of forming an international commission might be doubtful.

Dr. Santos Fernandez, of Havana, president of the congress, said that the propositions of Drs. Wilde and Porter were worthy of consideration, but he questioned their opportuneness, as no doubt the work of the proposed commission would, to a certain extent, be fully carried out by laborers already in the field before the commission could get together.

After some further discussion by Dr. Tamayo and others, it was decided to suggest to the various governments interested the formation of a commission after the plan and for the object noted in the two resolutions of Drs. Wilde and Porter.

The following papers were read by title: "Yellow-Fever Statistics of the Paula Hospital for Women from 1876 to 1900," by Dr. Jorge Le-Roy y Cassá, of Havana; "Public Turkish Baths," by Dr. Charles H. Shepard, of Brooklyn, N. Y.; "Restrictions on Typhoid Fever," by Dr. H. B. Baker, of Lansing, Mich.; "The Problem of Infected Well Persons," by Dr. C. V. Chapin, of Providence, R. I.; "Universal Vaccination in Porto Rico and its Results," by Dr. J. Van R. Hoff, U. S. Army; "Quarantine of Yellow Fever," by Dr. Narciso del Río, of Mexico; "Bovine Malaria," by Dr. Francisco Etchegoyham, of Havana; "The Present State of the Bacteriological Problem of Yellow Fever," by Dr. Antonio Matienzo, of Tampico, Mexico; "A Study of the Vegetable Parasitical Origin of Carcinoma, Confirming the Investigation of Dr. Brá," by Dr. Nicolas Carvallo and Frederico Torralbas, of Havana.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, held February 11, 1901.

ROBERT F. WEIR, M.D., IN THE CHAIR.

Uterine Hemorrhage: its Cause and Significance.—The entire evening was devoted to a discussion of this subject.

Menorrhagia in Young Girls.—DR. W. GILL WYLIE said he had given this subject much study for a long time. Hemorrhage was one of the first symptoms calling attention to disturbances of the generative organs in young women. Frequently, especially among the better class of people, young girls had an interruption in the development of the genital organs through overwork, through brain-work, through social and school duties, which interfered with normal menstruation and later led to abnormal menstruation. The lives of young girls differed much from those of boys, and the generative organs of the former were much more important than those of the latter; particularly should girls be in as complete health as possible at those periods when troubles were more likely to arise. One of the chief points in the consideration of the significance of hemorrhage, he thought, had been overlooked. Frequently the general health of a young girl was badly affected and there was no menstruation; that was normal; an anæmic, weak girl should not be submitted to this drain. Again, it was a fact that if a girl was weak, anæmic, and imperfectly developed, and she menstruated, it was not a normal menstruation. Menstruation was really hemorrhage, so much so that it was often necessary to stop a normal flow. This point he brought out in a manual many years ago; before that time it had hardly been mentioned in literature. If a woman was weak and anæmic she should not menstruate. In anæmic women, especially in virgins, there was imperfect development; then the weak, anæmic, and feeble organs became a prey to disease; the endometrium became abnormal from catarrhal affections, resulting in excessive menstruation. A strong, vigorous girl might menstruate six or eight days and yet this might be a normal menstruation; in a weak girl this would not be true. Small fibroid tumors might exist for a long time without causing any hemorrhage; but when the growth impinged upon the endometrium it caused an increased vascularity, and so hemorrhage.

Metrorrhagia due to Neoplasms.—Dr. W. Gill Wylie also considered this topic. Among the interesting neoplasms found in young girls were fibroid tumors and, under twenty years of age, sarcomas. Malignant growths, such as carcinoma and epithelioma, as found in older women, were comparatively rare. The most important of all was a consideration of neoplasms occurring after the age of forty, when degenerative processes took place. Hemorrhage and the other abnormal symptoms occurring at the menopause were believed by many men and women to be normal manifestations of this period. He believed that many of these abnormal conditions would be discovered if these patients were to undergo an examination. Cancer of the uterus, if discovered in the early stages, offered better hope for cure from surgical intervention than cancer in any other organ of the body. Hemorrhage was one of the earliest symptoms. After the menopause the hemorrhage might occur so late that the disease had advanced to a great extent and intervention was too late to be curative. Almost always, if a woman menstruated after the age of fifty, it meant that there was present a fibroid, a polypus, or cancer. If she menstruated between the ages of fifty-two and fifty-four cancer should be suspected. If a woman ceased to menstruate and began again after a period of six months, one should be suspicious of some neoplasm. Early in life there might be a fibroid or polypoid form of tumor which was latent; as the patient grew older the discharge caused an irritation; the irritation caused a slight erosion that produced external bleeding which was frequently mistaken for one due to cancer. Any excessive hemorrhage occurring at or about the menopause was often attributed to this change and so these patients were not examined. If a woman flowed after the age of fifty the probabilities were that she had a malignant growth. This was the reason why so many cases of cancer of the uterus were brought to the gynæcologist in such hopeless condition. Another mistake made by many men was that they attempted to check the hemorrhage by tamponing, or else they cut out a piece to be sent for examination. It was a well-known fact that malignant growths should not be irritated. No pieces should be cut out unless the case was a very doubtful one. Such irritation caused congestion, and the pressure tended undoubtedly to cause the lymphatics or other vessels to carry cancerous material outside the field of practical surgery. In all cases of neoplasms with indications of malignancy, especially in the degenerated organs after fifty years of age, he advised a complete radical operation as early as possible.

Metrorrhagia due to Inflammatory Processes within the Pelvis.—DR. EDWIN B. CRAGIN continued the discussion. In treating metrorrhagia due to inflammatory processes within the pelvis, three factors must be considered: 1. The endometrium. 2. The muscular wall of the uterus. 3. The blood-vessels of the uterus.

1. The endometrium. The general rule held that, given a metrorrhagia, an endometritis should be expected. While it was generally recognized that endometritis might be either acute or chronic, and its origin either bacterial or non-bacterial, frequent bacteriological examinations of a uterine cavity the seat of a chronic endometritis had proved it sterile, and the endometritis of non-bacterial origin, in a very large number if not the majority of cases. It was acute endometritis, whose causation was assigned to pathogenic bacteria, introduced at various times and in various ways, at full-term parturition or the puerperium, at abortion or operation, by dirty fingers, dirty instruments, retained secundines, etc. While it was admitted that during an acute endometritis there might be at different times a muco-purulent discharge streaked with blood, an acute endometritis was of such short duration, and the metrorrhagia if present was so slight in amount, that we might practically dismiss acute endometritis as a common cause of metrorrhagia. With chronic endometritis, however, metrorrhagia was a common associate. A uterus with a normal muscle wall, normal uterine vessels, and a smooth endometrium usually implied normal menstruation and no metrorrhagia. A rough, hypertrophied endometrium implied menorrhagia, or metrorrhagia, or both. For the usual origin then of metrorrhagia we must look to a chronic endometritis and its causes. Although chronic endometritis might be the result of an acute endometritis of bacterial origin, certainly in a large number of cases it arose as a result of a chronic congestion in the same way that chronic inflammation followed chronic congestion in any other mucous membrane. As the uterus was situated between two viscera, one of which at least—the rectum—was often in a condition of distention, and as the uterus was prone to displacements from relaxation of its supports and increased weight, chronic congestion of the organ in general and of the endometrium in particular was easy to understand as a result of obstructed venous return. When we considered the situation of the uterus, in juxtaposition to Fallopian tubes, ovaries,

peritoneum, and cellular tissue often the seat of inflammation, chronic congestion of the endometrium, as a result of increased flow of blood to the part, was also easily understood. Chronic congestion of the uterus the result of disease of distant organs was to be discussed by other speakers. In his opinion the usual order of source and sequence was, chronic congestion of the endometrium, chronic inflammation of the endometrium, menorrhagia, and metrorrhagia.

2. The muscular wall of the uterus. No one who observed carefully, during parturition, the action of the uterus in controlling hemorrhage, could fail to realize that on the contraction of the irregularly arranged fibres of the muscular wall depended the amount of blood flowing through and from the uterus. If this contraction was normal and unimpeded, the circulation of the uterus and the loss of blood from the uterus were normal. If the contraction of the muscular wall was in any way interfered with, the amount of blood flowing through and from the uterus was abnormally increased. This same relation of muscular contraction and blood flow held, in the opinion of the writer, in the non-pregnant uterus, and anything interfering with the normal contraction of the uterine muscle, other things being equal, favored an excess of blood flow through the uterus, with menorrhagia and metrorrhagia. The two conditions most commonly interfering with normal contractions of the uterine muscle in the non-pregnant state were (1) tumors of the uterine wall and (2) chronic interstitial inflammation of the uterine wall, in which there were atrophy of the muscular tissue and an increase of new connective tissue. Although both of these conditions most often produced metrorrhagia through the medium of a chronic endometritis, occasionally one met with cases in which the endometrium seemed but slightly involved and the bleeding seemed to be caused by a lack of sufficient elasticity in the uterine muscle, due to interference with the normal muscular contraction.

3. The blood-vessels of the uterus. In the same way that interference with the normal muscular contraction of the uterine wall favored an excess of blood in and passing from the uterus, so interference with the normal contraction of the arteries themselves favored the same results. Occasionally, especially in the later part of menstrual life, and often associated with the two conditions just discussed, viz., tumors of the uterine wall and chronic interstitial inflammation, the vessels of the uterus were found in a condition of arteriosclerosis, with insufficient elasticity either to maintain the normal balance of uterine circulation or to check the flow beginning at a menstrual period. Here again, although this inflammation of the arterial wall usually produced metrorrhagia through the medium of a chronic endometritis, occasionally cases were met with in which the endometritis was slight, or did not respond to the use of the curette, and the hemorrhage seemed due to the lack of contractile power in the arterial wall.

The question of the treatment of metrorrhagia depended very largely on its etiology. As the most usual immediate cause was a chronic hypertrophic endometritis, curettage followed by endeavors to relieve the chronic congestion was usually the best treatment. When due to acute endometritis, cleanliness, drainage, and rest usually gave the best results. The treatment of metrorrhagia due to interference with the muscular contraction of either the uterine wall or the uterine vessels depended upon the presence or absence of an hypertrophied endometrium. The presence of the latter indicated curettage, perhaps several times repeated. Metrorrhagia, with an absence of hypertrophied endometrium, or persistent after repeated curettage, might justify hysterectomy.

The Causes and Significance of the Obstetric Hemorrhages.—Dr. J. Clifton Edgar divided this subject into three divisions:

I. The metrorrhagia of pregnancy: ante-partum hemorrhages.

Uterine hemorrhage, moderate or severe, occurring during the forty weeks of pregnancy naturally suggested to our minds the six queries: 1. Was it a simple abortion or miscarriage? 2. Was it a case of placenta prævia? 3. Was it a premature separation of a normally situated placenta (accidental hemorrhage)? 4. Was it one of ectopic gestation? 5. Was it a traumatic or spontaneous rupture of the uterus? 6. Was it menstruation occurring during gestation? These were the principal etiological factors in ante-partum hemorrhage; still it should always be remembered that the diagnosis must be confirmed by a careful consideration of the symptoms and signs present, since we observed, although less frequently, ante-partum hemorrhage due (1) to the fever and local hyperæmia of the exanthemata, as variola, scarlatina, and measles; (2) to conditions of the heart, liver, and abdominal viscera producing obstructed venous return; (3) to hæmatosalpinx; (4) to sarcoma, fiboma, and polypus of the uterine body; and (5) to polypus and epithelioma of the cervix. Less frequently ante-partum hemorrhage, local in character but non-uterine in origin, had been mistaken for one of the six main causes stated. These hemorrhages, usually slight in amount, came (*a*) from the urethra, due to cause in the urinary tract; (*b*) from rupture of vaginal or vulval varicose veins; (*c*) from cancer of the vagina or vulva; (*d*) from anomalies of the intestines or anus, a common one being hemorrhoids. Most frequent and most important of the ante-partum hemorrhages was the bleeding indicative of a threatened or inevitable abortion which was due to a partial separation of the fœtal structures before the complete formation of the placenta. All the manifold and varied causes of abortion and miscarriage had to do with this variety of hemorrhage. The possibility of menstruation continuing into pregnancy must also be granted. While it was true that menstruation was nearly always suspended during the whole period of gestation, recurring again six or eight weeks after the birth of the child, still exceptions to the condition of suspended menstruation in pregnancy occurred now and then during the early months, and were explained by the fact that the uterine cavity was not obliterated by the fusion of the decidua reflexa and vera until the close of the fourth month. In case the menses continued throughout pregnancy, a very rare condition indeed, there was probably an abnormal and incomplete fusion of the deciduæ. Some cases had been reported of women who menstruated only during pregnancy. Such reports should be carefully criticised, as such cases probably depended, without exception, on pathological conditions of the cervical canal. From an examination of a large number of membranes and placentas, the result of interruptions of pregnancy in the third, fourth, fifth, and sixth months, he was convinced that hemorrhage due to a low situation of the placenta was much more common than was usually supposed. By this he meant that a large proportion of the supposedly simple abortions and miscarriages were really instances of the implantation of the placenta in the lower uterine segment, with resulting hemorrhage and evacuation of the uterus as a consequence of partial separation of the abnormally situated placenta, due to changes in the shape of the lower uterine segment dependent upon the growth of the uterus. It was generally thought and usually taught that hemorrhage from a placenta prævia did not show itself until the twenty-eighth or thirty-second week of gestation. In his collection he had a uterus with the fœtus and membranes intact, and a central placenta prævia, from

a woman who died within a few hours of the first hemorrhage at the sixteenth week of pregenancy. A careful autopsy showed that death was due to the acute anæmia produced by the hemorrhage from the partial separation of the central placenta prævia. He was further convinced that a careful study of the site of rupture of the membranes, in instances of supposedly accidental hemorrhage, would prove that hemorrhage during pregnancy and also during parturition, from the premature separation of a normally situated placenta, was a very rare condition indeed. He had found several cases of supposedly accidental hemorrhage that were really those of lateral placenta prævia, a more complete examination after fuller dilatation, and the examination of the rupture in the membranes post partum, indicating the condition that caused the hemorrhage. Severe hemorrhage from the partial separation of a normally situated placenta he believed to be very rare. Severe hemorrhage from a low implantation of the placenta he believed to be much more common than was generally supposed.

II. The metrorrhagia of labor: partum or intra-partum hemorrhages.

1. Of the first and second stages. These were principally due to (*a*) premature separation of a normally or abnormally situated placenta; (*b*) to ruptures of the uterus or cervix; and (*c*) to fibroid tumors, malignant disease of the genital tract, or rupture of varicose veins.

2. Of the third stage. Here, first and foremost, stood (*a*) uterine inertia as the most important etiological factor, uterine inertia occurring with a partial or complete separation of the placenta. Next in importance came (*b*) laceration of the genital tract, namely, of the lower uterine segment, the cervix, vagina, and perineum. Another important cause was (*c*) insufficient contraction of the lower uterine segment in cases of low implantation of the placenta. Here, while the fundus contracted firmly and completely, an imperfectly contracted lower segment permitted of fatal hemorrhage from the open blood-vessels of the low situated placental site. (*d*) Partial or complete inversion, although a most infrequent cause, must be enumerated and the likelihood of fibroids of the uterus or cancer of the genital tract must be borne in mind.

III. Puerperal metrorrhagia proper: post-partum hemorrhages. Puerperal hemorrhages were those occurring from six hours after the completion of the third stage of labor until the completion of the normal period of involution, namely, six weeks. These hemorrhages depended almost wholly upon the proper management of the second and third stages of labor and the care the woman received during the first few hours or days of the lying-in state. The amount of lochial discharge varied in different women. In some it always continued longer and was more abundant, yet not enough to justify us in calling the case one of secondary post-partum hemorrhage. As in intra-partum hemorrhages so in post-partum, the hemorrhage might come on in so sudden and so unexpected a manner that there would be no premonitory symptoms of the accident, the external flow of blood being the first symptom.

The causes were general and local. Among the general causes were (1) mental emotions, as shock, anger, fright, fear; (2) disturbance of the general circulation, as from the abuse of stimulants, the excessive use of chloroform, certain conditions of the heart and liver that interfered with the return circulation; (3) certain blood conditions, as extreme malarial poisoning, albuminuria, and puerperal sepsis; (4) the acute infectious diseases. Among the local causes were (1) anything which interfered with the proper contraction of the uterus during the puerperium, as (*a*) retained blood clots, portions of placenta or membrane; (*b*) a secondary placenta; (*c*) a distended bladder or rectum; (*d*) retroflexion; (*e*) inversion; (*f*) fibroid or polypoid tumors; (*g*) cervical lacerations; (*h*) malignant disease of the uterus; (*i*) simple subinvolution. (2) Causes inducing pelvic hyperæmia: (*a*) assuming of the upright position too soon after delivery; (*b*) too early sexual intercourse. (3) Thrombi which closed the uterine sinuses might be dislodged by sudden exertion, or by septic processes in uterine phlebitis.

Uterine inertia or relaxation as a cause of hemorrhage after the third day of the puerperium was of rare occurrence. Retained blood clots were more frequent in multiparæ, and might be usually prevented by careful attention to the uterus during the hour following the completion of the third stage, known as the "physician's hour." Hemorrhage from retained placental fragments and membranes was due to an incomplete third stage, and might be prevented by careful examination of placenta and membranes at the time of expulsion and removal of retained fragments. The retention of small pieces of membrane did not necessarily produce puerperal hemorrhage or other complications.

Uterine Hemorrhages due to Organic Diseases in Other Organs and to Constitutional Disturbances.—Dr. Andrew H. Smith discussed this part of the topic. Diseased conditions in other organs of the body might result in obstructed circulation, as in cases of heart disease when the valves were insufficient and an unnatural strain was placed upon the veins of the uterus. The same might occur in connection with any obstruction to the blood flow through the liver. Those women who were subject to hemorrhoids he thought were likely to have excessive menstruation from the fact that the return of blood through the uterine plexus was very similar to that through the lower portion of the hemorrhoidal plexus; in both cases there was a free communication between the portal circulation, and any obstruction of the circulation through the liver reacted upon the circulation of the uterus in the same way that it did upon the circulation in the lower portion of the rectum. Women who were chronic sufferers from hemorrhoids were very likely to suffer, other things being equal, from excessive menstruation. Abdominal tumors, by pressing upon the abdominal veins, caused changes in the mucous membrane of the uterus which predisposed to hemorrhage. Uterine hemorrhages depending upon constitutional disturbances were due to some change in the flow as well as to a change in the blood itself. Hemorrhage from the uterus associated with syphilis was due to degenerative changes in the vessels. Also, we had changes in the blood itself which tended to permit leakage and escape of blood from the vessels, as in anæmia. In the early grades of anæmia, in which it was not pronounced, there was but a slight inclination to the escape of blood on account of the thinness of the blood; but later on, when the anæmia had reached a more pronounced grade, there was produced rather an amenorrhœa, because there was not sufficient vitality to excite the uterus to the usual menstrual flow; in other words, in the early stages of anæmia we might have menorrhagia or metrorrhagia, while in the later stages we were apt to have amenorrhœa. In purpura hæmorrhagica we had a condition of the blood and blood-vessels which favored the escape of blood, and not uncommonly we found an undue flow of blood from the uterus. In scurvy and scrofula the same state of affairs seemed to be produced. The eruptive diseases were also accompanied by excessive menstruation. In typhoid fever there was a form of hemorrhage called the "uterine epistaxis." Great debility from prolonged lactation also produced this trouble,

probably by inducing anæmia. There was another class depending upon emotional troubles, and just what was the condition here produced he did not know. Frequently we saw an arrest of menstruation, sometimes a permanent one, a premature menopause excited by some very great fright or other emotional disturbance. In all these cases the matter of treatment was involved in the treatment of the systemic condition on the one hand and that of the diseased organ on the other.

Placenta Prævia.—Dr. Edward A. Ayers said that Leopold had helped somewhat in lessening the difficulty of recognizing the location of the placenta at the lower segment of the uterus; he had found after Cæsarean section that the uterus had a marked tendency to expand at the portion covered by the placenta, and he demonstrated that the traction of the Fallopian tubes and ovaries was posterior when the placenta was attached to the anterior portion of the uterus, and *vice versa*. When the placenta was attached to the lower segment there was a certain increase in thickness and a boggy sensation was imparted. But, after all, it was difficult to determine this location. Any hemorrhage occurring should suggest some form of placenta prævia. In the early periods the hemorrhage was caused by changes in the chorion. He recalled one case of hemorrhage occurring at the eighth week. There were three successive attacks at intervals of several months. At the delivery ciactricial tissue was found at the periphery of the placenta, showing that the hemorrhage had occurred at this point.

Management of placenta prævia. The best methods of procedure were those that aimed at obtaining a living child. Four methods were to be considered: (1) The use of the tampon in the vagina. (2) The use of the hands—manual dilatation. (3) Garrigues' bags. (4) Barnes' bags. He favored the Barnes' bags. In using the tampon we were uncertain as to what was occurring, and this was unsurgical. In manual dilatation we were obliged to occupy from fifteen minutes to an hour in securing dilatation, and it was almost impossible to do it without the hemorrhage continuing. Garrigues' bag was an inverted cone, and separated the placenta at the start. The process by manual dilatation required more time than was consumed in the use of the Barnes' bags. Barnes' bags began by stretching the internal and external os and the cervix between, and did not separate the placenta to the same degree. The left hand in the vagina held it in place, and if we used the double stop-cock we could lessen the tension and could secure as much dilatation as was necessary to bring down the leg and get the child within the cervix, practically without any hemorrhage at all. He was satisfied with this method.

Dr. J. R. Nilsen said that normal menstruation was under the control of two groups of forces, the inceptive and the desistive. Under the influence of the first, ovulation and menstruation were initiated. Menstruation continued from two to four or five days, and then ceased not only because of spent inceptive forces, but through influences from new desistive forces acting in a great measure through the vasomotor system. There was a numerous class of women whose menstrual period was ushered in promptly, with little or perhaps no suffering, but who continued to flow five, eight, ten days and even more; this constituted hemorrhage. As far as instrumental interference went it was largely a let-alone class, for there might be no local disease whatever to call for interference. The flow finally ceased only because so much had been lost that there was no longer enough for sufficient pressure in the vessels to effect further transudation, or the flow was so poor and thin that clots were not formed in the ruptured capillaries, or else the desistive forces were incapable of establishing normal muscular contractions in the uterus and in the vasomotor system concerned. The causes were constitutional, for the blood was poor and the muscular system throughout was sluggish.

The first thing demanding attention was the saving of the precious fluid by promoting, artificially, a reaction and stimulating the desistive forces. This could be done by judicious packing applied as carefully as possible under the broad ligaments. He did not allow such patients to flow many hours, and while preventing the drain began at once general systemic treatment. The effects were very gratifying. He advised against curetting the uterus unless we knew positively just what the cause of the hemorrhage was. He referred to another class of patients, and urgently advised never to pack but always to use the curette. A patient gave a clear history of recent abortion, with continuous flow since, having always menstruated normally before. There was no elevation of temperature and no evidence of disease anywhere in the pelvis, only some tenderness about the uterus. Packing should be avoided, except only to dam back the blood until the curette could be used. He claimed that he had evidence that many general practitioners were packing the uteri under these conditions, and this should be discouraged. Some fragments of the ovum had been left behind, attached over an area where involution in consequence was prevented, and some only half-occluded sinuses kept on bleeding. These fragments were usually found high up in one of the horns near the Fallopian tube, and they should be removed. Only the area holding these fragments should be curetted, using absolute asepsis and a sharp curette. It was rarely necessary to dilate. The curette should be held like a pen, and with hardly more than its own weight the operator should feel his way over the surface of the endometrium. He would come from the smooth, non-bleeding surface upon a rougher spot and would appreciate the mass situated there. The curette should be passed over and just beyond it, and then the sharp edge should be pressed down and the mass scooped outward. The reason that the fragments were found up in the horn was that, after ovulation, the ovum emerged from the Fallopian tube and attached itself to the first fit place and, in a perfectly normal uterine cavity, received a ready welcome immediately upon its entrance. At the abortion the muscular ring forming the horn contracted and clutched a portion of the placenta, holding it tightly, while the rest of the ovum was torn from it and expelled.

Dr. Edward E. Tull believed that uterine hemorrhage was present so often that it was not quite characteristic of anything except in certain conditions, as for instance extra-uterine pregnancy. He had never seen a case of this in which hemorrhage did not exist, and therefore it should be considered a strong factor in making the diagnosis. Hemorrhage due to anæmia was often encountered and would be benefited by liberal doses of iron.

Dr. Abram Brothers thought that the term irregular uterine hemorrhage should be used to designate these hemorrhages, whether menorrhagia or metrorrhagia, whether due to some pathological condition which produced the symptom of bleeding, or whether the bleeding was in the form of a protracted or irregular flow during intermenstrual periods. He was glad that the question of type had not been referred to, for his experience had taught him that there was but one normal type, the four-weekly type. Irregular uterine hemorrhages were usually accompanied by some underlying pathological condition, some chronic congestion of the uterine mucosa, or inflammation. Amenorrhœa and irregular uterine bleeding might often be overcome in young girls simply by the administra-

tion of tonics and attention to hygienic surroundings. One week ago he was called to see a case of supposed placenta prævia. The patient was believed to be seven months pregnant and she had had a fearful hemorrhage. He found the patient had been tamponed, and was still bleeding through the tampon. Upon removal of the latter he received in his hand a fœtus one and a half inches long. This woman had a three-months' fœtus, for four months dead, within the uterus, and there was nothing in her condition to show that she was not seven months in normal pregnancy. Ectopic gestation was a subject of great importance; the causes of bleeding in this condition were frequently overlooked. Hæmophilia, as a constitutional cause of uterine hemorrhage, he briefly referred to. Malignant disease was to be looked for not alone in women of forty, fifty, or sixty years old: he had treated malignant disease of the breast in a woman of twenty-four, and he also had had occasion to remove a cancerous uterus by vaginal hysterectomy from a woman of twenty-six. Persistent hemorrhages not relieved by the curette called for vaginal hysterectomy.

Menorrhagia.—Dr. Austin Flint, Jr., referred to cases of excessive hemorrhage in which it had been found necessary to tampon the vagina at the menstrual epoch; one occurred in a case of hæmophilia, another in a case of membranous dysmenorrhœa. Both cases had been repeatedly curetted without benefit.

Dr. W. Gill Wylie said the tampon had been much abused in the past and was still abused by many men, and he disliked to recommend its use except in such cases as those referred to by Dr. Flint. It took an expert to stop hemorrhage by this means. If the hemorrhage was stopped it distended the uterus, and was then forced back into the Fallopian tubes, distending them—especially in cases of hemorrhage occurring at a time when the Fallopian tubes were enlarged, as with miscarriages, labor, or fibroids. In this way might develop cases of cellulitis and of local peritonitis. In his service at Bellevue hospital, in twenty years the tampon had not been used three times. The uterus should be dilated and the cause of the hemorrhage gotten rid of, and the bleeding would always be stopped.

Therapeutic Hints.

Cough (acute or chronic).—

℞ Oil of wintergreen ..... ℥ ij.
Oil of cinnamon ..... ℥ ij.
Hydrocyanic acid (dilute) ..... ℥ iiss.
Glycerin ..... ℥ v.
Simple syrup ..... ℥ x.
Water ..... ℥ xxiv.
Irish moss ..... ℥ ss.
Linseed oil ..... ℥ xv.

Make an emulsion. Give two to four teaspoonfuls three times a day.

—Wm. H. Thomson.

When the cough is very irritating or painful codeine gr. ¼ may be added to each dose with advantage.—*Merck's Archives.*

In Eye Practice.—Large doses of potassium iodide are indicated in optic neuritis, ocular paralysis, choroiditis, serous iritis, relapsing iritis, cyclitis, and interstitial keratitis.—Albert R. Baker.

A Stable Solution.—

℞ Cocainæ hydrochlorat. ..... gr. iv.
Aquæ destillat ..... ℥ iiss.
Acidi salicylici ..... gr. ½
M.

—*Jour. de méd. de Paris.*

Sciatica.—Much attention should be paid to diet. Food should be liquid and nourishing and given frequently in small quantities. Hot milk is one of the best forms. Home-made broths and preparations of blood are useful. The rectum should be flushed every day or every second day with large quantities of hot water.—A. P. Williamson.

Coryza.—Local treatment for coryza is essential after the contraction of the cold. In making such local applications the nasal mucous membrane should first be slightly sprayed by a two-per-cent. solution of cocaine, a very few whiffs from an atomizer. Then the nose should be thoroughly cleansed by spraying with Dobell's solution, the head being tilted backward to allow the solution to cover completely the floor of the nose.—H. B. Wood.

Heroin.—Heroin and heroin hydrochloride can be used with very good results in all disorders of the respiratory organs; they combat the cough and dyspnœa, the most troublesome symptoms of these disorders. In hæmoptysis they will often check hemorrhage when other remedies fail. To avoid unpleasant after-effects, which are very rare in adults, heroin should be given always after meals. Heroin is also a very valuable drug in diseases of children, but the dose should be as small as possible, an overdose being liable to produce serious consequences. Heroin should be tried in whooping-cough, being of decided benefit in many cases, reducing the number of attacks, or at least influencing their duration and severity. Heroin and heroin hydrochloride, especially the latter, when used hypodermically, act promptly in bronchial asthma.—I. J. Martinson, *The Medical Times*, January, 1901.

Incontinuence of Urine.—

℞ Extr. fluid. rhois aromat ..... gtt. v.–xx.
Syr. aromat ..... gtt. xx.
Aq. destill ..... q.s.
S. One dose t.i.d.

—Perlis.

Cardiac Stimulant.—

℞ Caffein.,
Sod. salicyl ..... āā 1–1.5
Spartein. sulph 0.40
Amm. acetat ..... 1.
Aq. destill ..... 50.
M. S. 3 i. every half-hour p.r.n.

℞ Caffeinæ,
Sod. salicyl ..... āā 2–2.50
Spartein. sulph 0.50
Aq. dest ..... q.s. ad 10 c.c.
M. S. Inject gtt. xx. subcutaneously.

—Capitan.

Epileptic Attacks may be averted by preventing the aura to reach the central nervous system. To accomplish this a towel is tied tightly around the extremity in which the aura or creeping sensation is first felt.—Kovalewski.

Asthma.—A good combination for general use internally is the following:

℞ Sodium iodide,
Sodium bromide ..... āā gr. ij.
Fl. ext. euphorb. pil.,
Ethereal tinct. lobelia ..... āā gtt. iij.
Nitroglycerin ..... gr. $\frac{1}{100}$
M. S. Take at one dose, and repeat in half an hour, if needful.

In "cardiac asthma":

℞ Strych. sulphat ..... gr. i.
Morphin. sulphat ..... gr. i.
Tinct. digitalis ..... ℥ iv.
Aquæ ..... ad ℥ vi.
M. S. Teaspoonful every two to four hours or until the heart acts regularly.

—Jackson.

Hiccough.—Apply a bandage tightly around the body.—Jelks.

Alcoholic Mania.—

℞ Chloralamid ..... gr. xv.
Hyoscin. hydrobrom ..... gr. $\frac{1}{100}$

Neuralgia of the Face.—

℞ Butyl chloral hydrate,
Spt. vini rect. ..... āā ʒ iiss.
Glycerini ..... ʒ v.
Aquæ ..... ʒ iij.+ʒ vi.
M. S. A teaspoonful once or twice daily.

Cough in Phthisis.—

℞ Codein ..... gr. iss.
Terpin. hydrat ..... gr. xv.
Ext. hyoscyami ..... gr. iss.
Ext. belladonnæ ..... gr. $\frac{1}{4}$
Mas. cyroglossi ..... gr. viiss.
M. ft. pil. No. x. S. One four times daily.

Insomnia in Melancholia.—A very hot bath at night with mustard in it will often break the sleepless habit.

Epilepsy.—The treatment by bromides should not be interrupted for one day during two years unless for some very valid reason, such as a febrile affection, and even then, if slight, the dose should only be diminished or, if suspended, should be recommenced when convalescence sets in. The menstrual period is not an obstacle, nor is pregnancy. On the contrary, the bromides would have a favorable influence on the fœtus.

℞ Bromide of potassium ..... 40 gm.
Bromide of sodium ..... 12 "
Bromide of ammonium ..... 12 "
Benzoate of sodium ..... 12 "
Water ..... 1,000 "
Each tablespoonful represents 1 gm. of bromides.

—GILLES DE LA TOURETTE.

Plasmon is an albumen preparation containing a very high proportion of nitrogen, and is extremely digestible. As practical trials have demonstrated, plasmon can replace all other albumen foods, and it is superior even to meat in nutrient value. Plasmon, moreover, can maintain the physical strength of workmen engaged in the most laborious tasks, and, therefore, at its low price, can be thoroughly recommended as of inestimable value as a food for the working classes.—VIRCHOW, *The Medical Press*, October 10, 1900.

Thyroid Medication.—Tachycardia, nervous symptoms, loss of weight, etc., are largely obviated by giving arsenic coincidently.—MABILLE.

Convulsions.—

℞ Calcii sulphat. ..... 0.06 cgm.
Aquæ ..... 250. gm.
M. S. Teaspoonful every hour for infants up to six months of age.

From the age of six months to a year the quantity of the sulphate can be increased to 15 or even 30 cgm. —KINGGS, *Bul. gén. de Thér.*, February 28th.

Premenstrual Pains.—

℞ Codein ..... 0.05 cgm.
Chloral ..... 1. gm.
Ammon. brom ..... 1. "
Aq. camph ..... 30. "
—*Presse méd. Belge.*

Nervous Insomnia.—

℞ Paraldehyde ..... 10 gm.
Spt. vini rect. (ninety per cent.) ..... 48 "
Syr. simp ..... 60 "
Tinct. vanillæ ..... 2 "
Aquæ destil ..... 30 "
M. S. Teaspoonful every half-hour for three or four doses during the evening.
—*Journ. de Méd.*

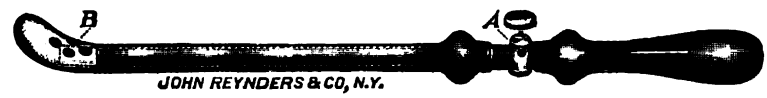
New Instruments.

A NEW INSTRUMENT FOR THE PROSTATE: FOR MASSAGE, INUNCTION, AND THE APPLICATION OF ELECTRICITY COMBINED.

BY ROBERT COLEMAN KEMP, M.D.,
NEW YORK.

I AM well aware that there are numerous excellent instruments for prostatic massage and many devices for the application of ointments per rectum. There are also electrodes for treatment of the prostate or intestines. I have been unable to discover, however, after careful investigation, an instrument which combines these three features in one. The advantages of such are manifest since frequent manipulation of the parts are thus avoided.

The instrument can be readily understood from the illustration. It consists of a metal tube about six inches long, insulated with hard-rubber to about half



an inch from the tip. This last is closed at its extremity, is given a slight prostatic curve, and has four perforations on its concave surface at B, for ointment or medicated solution to enter the bowel. The piston is a solid metal rod, fitting snugly the metal barrel of the instrument. It has an insulated handle of convenient length, about four inches, and at A is a binding post to attach to the pole of a battery.

Suppositories of ichthyol, etc., combined with lanolin are useful. Simple ointments can be so employed or antiseptics suspended in oil. They do not seem to interfere with electrical action, but to be absorbed more rapidly, probably due to the local stimulating effect on the circulation. This is not cataphoresis.

I have secured favorable results in a case of spasmodic stricture at the neck of the bladder. One patient with enlarged prostate, chronic cystitis, and dilated bladder, who for a year and a half has been able, with extreme effort, to void only a few drops of urine at a time, after each application of electrical massage voids from one-half to three-fourths of a cup of urine. This would seem to me rather suggestive, that if in the early stage of this condition electricity were more frequently employed, it would be a valuable adjunct in prolonging the functions of the bladder by increasing its muscular tone, and stimulating the detrusor urinæ muscle. In the cases treated up to the present time, I have used a mild faradic current, one pole (my instrument) in the rectum at the posterior margin of the prostate, and the other pole on the perineum, anteriorly. Massage and inunction were also combined. I would state that the diameter of the instrument is considerably less than that of the average index finger. By measurement, the diameter of the tube is $\frac{7}{16}$ of an inch. It was made by the Reynders Instrument Company, Twenty-third Street and Fourth Avenue.

Indications for Paracentesis of Membrana Tympani.—1. Great pain, with bulging of the membrane from contained pus; 2. When the tension of the membrane is high and the bulging even slight; 3. Insufficient drainage through a membrane already ruptured, and danger of extension to the antrum; 4. Excessive and continued pain which is not relieved by hot applications, especially if the tension be very high.—RANDALL.

Medical Items.

Action of Saccharin on Digestion.—From experiments performed by Nencki, he is of opinion that the use of saccharin in food need not be objected to, since he finds that saccharin used in quantities equal to a given sweetness produced by sugar, has less effect on the peptonizing of albumen than its equivalent of sugar.

Treatment of Lupus with Thyroid Gland.—J. J. Pringle in a clinical lecture (*Polyclinic*, September, 1900) advocates the use of thyroid tablets in the treatment of lupus vulgaris. He quotes two cases claimed as positive cures. One was that of a boy aged fifteen, with lupus of the nose, causing enormous swelling; after three years he was completely cured. The other case was that of a boy of eighteen with lupus of the thumb; he was cured in two months. Other cases are quoted in which much improvement took place, sometimes with the aid of scraping. If cases are going to improve with the thyroid, they generally do so within two weeks' time. In concluson Pringle is of the opinion that thyroid treatment is a valuable adjunct in the treatment of lupus when excision or erasion is not applicable. He thinks it presents advantages over the tuberculin treatment, the *x*-ray treatment, and possibly the Finsen light treatment. The dangers of thyroidism have probably been exaggerated. The best cases for this treatment are the acute suppurative tuberculous processes of the "scrofulodermatous" type and it is applicable in many cases in which surgical procedures are not feasible. It may be of use in the most chronic cases by preventing the spread of the disease and by preventing ulcerative attacks which often occur at certain seasons of the year. It may finally be useful as an adjunct to surgical treatment in preventing relapse.—*Treatment.*

Taking a Census.—The London *Evening Standard* says: "It was felt that the approaching end of the nineteenth century afforded a suitable opportunity for the different governments to come to an understanding, with the object of proceeding simultaneously to a universal census of the populations. The utility of such an agreement stands in no need of demonstration, and the value of an enumeration taken in an identical form, as regards all important features, may also be admitted without question. Unfortunately this ideal could not be arranged, but we are treated to the spectacle of a census in quite a number of the leading countries. In the Netherlands it was taken on the last day of 1899; in Portugal on January 1st last; in Denmark on February 1st; in the United States it has just been finished. In this month both Germany and Switzerland will proceed to 'the numbering of their peoples' and on the last day of this year Austria, Belgium, Hungary, and Sweden will follow suit. In Norway, January 1, 1901, is the day appointed; in Great Britain and Ireland, April 5th next; in France, April 12th, and in Italy, December 31, 1901. The system of an enumeration of a nation's people, its statistics of wealth and general progress in their various items, has only crystallized into a fixed policy within a hundred years, but the 'numbering of the people' is a very antique institution. The most ancient statistical records of the kind are those of Moses in the wilderness 1490 B.C. and later of David 1017 B.C. There is a record of a census in China ordained by the Emperor Yee in 2042 B.C., and one in Japan under the Mikado Sujin in the last century before Christ. The Greeks appear to have had a regular census system. In Attica an enumeration was said to have been made 317 B.C., and in Athens the citizens were divided and registered into four classes, according to the amount of their taxable property or income. In Rome, 500 B.C., every citizen had to appear on the Campus Martius, and declare in solemn manner his name and dwelling, the number and age of his children, and the value of his property, under penalty of having his property confiscated and of being scourged and sold as a slave. The Emperor Augustus had the people numbered, and he improved the method of doing it. In the Dark Ages, in fact from about A.D. 500 until A.D. 1700, there is no record of such work among the nations. The modern system of recording the evolution of the population was the outgrowth of the sixteenth-century practice of keeping registers of births, marriages, and deaths."

Thirtieth Annual Report of the Central State Hospital of Virginia.—This report has just been published and from a perusal of the same the impression is gained that affairs in the institution are on the whole in a satisfactory condition. At the termination of the fiscal year, September 30, 1900, there remained in the hospital 427 men and 441 women, total 868. One hundred and thirty-five patients were received during the year, 117 of whom were first admissions. The percentage of recoveries, based on the number admitted, was 43.5—37 for men and 50 for women. The death rate was exceptionally small, only four and one-half per cent. on the total number treated—this result reflects great credit on the medical and general management of the hospital. In nearly every case death was due to an incurable disease and but two were caused by tuberculosis, evidently owing to the greater preventive measures and sanitary precautions that have been taken in recent years. The industrial system is carried out thoroughly in the Virginia State Hospital, with beneficial effects both to the health of the patients and to the welfare of the institution. A most commendable alteration has been made in the "lunacy laws" of Virginia and one which might with advantage be followed by other States. Instead of three justices of the peace constituting the commission to adjudge one insane, as was formerly the case, the commission is composed of two physicians and a judge or justice. This is in the line of common sense and has already had a markedly good influence on the admissions to the hospitals in Virginia. The law requiring presidents of the respective boards and the superintendents to meet annually at one or other of the hospitals for consultation, exchange of views, etc., should also work well. The financial state of the Virginia Hospital is healthy, the annual per capita cost of each patient being the moderate sum of $92.90, while there remains to the credit of the establishment after all expenditures $3,183.52. Dr. Drewry, the superintendent of the Central State Hospital, Virginia, wrote a pamphlet in the spring of last year in which he complained that owing to the great increase of insanity in Virginia the accommodation in the State hospitals was quite inadequate. He then stated that within the first two years up to the time he wrote, 182 colored and many white insane had died in jails or at their homes while waiting for vacancies to occur in the hospitals. This reproach will shortly be removed from Virginia, as the new building in connection with the State hospital authorized by the legislature is approaching completion. With this additional accommodation the State will be in a position to take care of all the colored insane for the next two or three years. This is satisfactory, so far as it goes; but, as has been urged on every possible occasion in the RECORD, not only should there be ample provision found for those who have been adjudged insane, but hospitals should be established in every State in which should be temporarily deposited

suspected cases for the purpose of careful investigation by experts. Judicious, humane and intelligent treatment in the early stages of the malady will often go far toward curing its victims, while if a contrary course be followed the result will be that the disease will become incurable and chronic.

Etiology of Typhoid.—Plague and typhus we look upon as air-borne, typhoid and cholera as water-borne diseases. But these terms are only relative. If malarial fevers may under certain conditions become water-borne, it seems equally clear from the observations of Sir Charles Cameron, of Dublin, that typhoid may frequently be air-borne. Sir Charles' long experience of that typhoid-stricken city leads him to believe that the rôle which water plays in the distribution of the disease, though considerable, does not seem to be quite so great as is generally believed. Local epidemics he considers may be sometimes due to infected water or milk, to vegetables from infected soil, and to other similar sources; but in view of the fact that Dublin has the best water supply in the world and that the establishment of this water supply was not followed by any diminution of typhoid, he cannot admit that the general prevalence of typhoid in that city can be in any great degree due to its water supply, nor to its milk or food supply, nor even to defects in the city's house drainage, which is by no means exceptionally bad, but that some more widespread cause must be looked for. This cause he finds in the evaporation of bacillus-loaded water in the air in houses standing over dry and porous soils. In support of this argument he points out that whereas on the gravel soil in Dublin one person in every nine is attacked with typhoid, on the clay soil only one in one hundred and forty-five is attacked. These views are somewhat different from those usually prevalent as to typhoid etiology, but he is convinced from an extensive experience of typhoid in Dublin that there is a certain relation between its distribution and the geological character of the soil. This conviction is by no means necessarily in conflict with previous experience of typhoid as a water-borne disease; it is only on a par with the discoveries with regard to malarial fevers. As these fevers, although essentially air-borne, may by the absorption of their organisms become water-borne or mosquito-borne, so, by the evaporation from the soil of water containing typhoid organisms, typhoid may in a like manner come to be in a limited sense an air-borne disease. For the prevention of typhoid, as of all other diseases, the great desiderata are good and plentiful supplies of air and water—one is useless without the other. For real practical purposes we can draw no distinction between air-borne and water-borne disease. Indeed, all such carriers of infection may be looked upon as being in reality only proximate causes of disease. The immediate cause in most of the greater epidemics is to be found in the susceptibility of the individual. The microbes of typhus, of diphtheria, of influenza, and even of typhoid must be frequently present in a greater or less degree in the air we breathe and in the water we drink. Yet unless a certain pathological condition obtains in the human body by reason of which it becomes a suitable soil for the organism, it is very doubtful whether such microbes will grow and flourish. These pathological conditions, rendering the subject of them susceptible to infection, may no doubt be set up in the system by breathing foul air or drinking polluted water, and this preparation is a far more important factor in the production of epidemics than the actual number or conveyance of the organisms. The development of these organisms in the human body we may look upon as practically an artificial culture, for which a certain preparation is necessary; this preparation being an abnormal state of the system varying with reference to different forms of pathogenic life.—Dr. Foster Palmer, *Medical Magazine.*

A Bacteriological Study of the Blood in Acute Gastro-Enteritis.—G. Pieraccini and M. Nencioni briefly conclude a long and detailed description of clinical and laboratory experiments with the statements: I. That all the symptoms which accompany gastro-intestinal indigestion are a result of toxæmia of gastro-intestinal origin, but there is at no time any bacteriæmia. II. In a few grave cases alone, following deep lesions of the walls of the digestive tract, there may be a bacterial invasion of the whole organism.—*La Riforma Medica*, January 14–16, 1901.

The Possible Existence of a Reflux Passage of the Vesical Contents in the Ureters.—Filiberto Jacobelli, from the result of experimentation upon animals, concludes that the descending flow of urine constitutes the true protection of the ureters. When this is abolished, there is a rapid immigration of bacteria. Vesical stasis is not essential to this invasion, provided that there is cessation in the flow of urine in one ureter. Stasis has an indirect action, of course, but the ascent of the micro-organisms is not due to diffusion along a column of fluid, as Guyon holds, but to motion inherent in the bacteria themselves. This motion is opposed by the descending current. But should this be interfered with by a calculus, for instance, the ascent of the bacteria is thereby greatly facilitated. Possibly the origin of pyonephrosis from calculus may be accounted for in this way.—*La Riforma Medica*, January 4 and 5, 1901.

Health Reports.—The following cases of smallpox, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended February 16, 1901:

		Cases.	Deaths.
Smallpox—United States.			
California, Oakland	January 12th to 26th	4	
Florida, Jacksonville	February 2d to 9th	2	
Georgia, Jeffersonville	February 7th	2	
Illinois, Cairo	January 26th to February 9th	8	
Chicago	February 2d to 9th	2	
Pulaski Co.	February 2d to 9th	5	
Iowa, Ottumwa	January 5th to 26th	2	
Kansas, Lawrence	February 2d to 9th	3	
Wichita	February 2d to 9th	9	
Kentucky, Lexington	February 2d to 9th	1	
Louisiana, New Orleans	January 2d to 9th	14	4
Minnesota, Minneapolis	January 26th to February 9th	9	
Mississippi, Vicksburg	February 2d to 9 h	4	2
Nebraska, Omaha	February 2d to 9 h	8	
N. Hampshire, Manchester	February 2d to 9th	26	
New York, New York	February 2d to 9th	17	6
Ohio, Ashtabula	February 2d to 9th	2	
Cleveland	February 2d to 9th	48	1
Toledo	February 2d to 9th	1	
Pennsylvania, Pittsburg	February 2d to 9th	5	
Tennessee, Memphis	February 2d to 9th	16	
Nashville	February 2d to 9th	9	
Utah, Salt Lake City	February 2d to 9th	32	
Smallpox—Foreign and Insular.			
Austria, Prague	January 12th to 26th	27	
China, Hong-Kong	January 5th to 12th	1	
Ecuador, Guayaquil	November 24th to January 5th	..	25
Egypt, Cairo	January 1st to 7th	..	1
England, London	January 19th to 26th	3	
Newcastle-upon-Tyne	January 19th to 26th	5	
France, Paris	January 12th to 19th	..	6
India, Bombay	January 1st to 15th	..	6
Calcutta	December 29th to January 5th	..	96
Karachi	December 23d to January 6th	7	3
Madras	December 15th to January 4th	..	3
Mexico, Merida	December 20th, 1900	*	
Tuxpan	January 28th to February 4th	..	3
Porto Rico, Ponce	February 8th	22	
Russia, Moscow	January 12th to 19th	4	
Odessa	January 12th to 19th	31	5
St. Petersburg	January 5th to 19th	6	2
Scotland, Glasgow	January 25th to February 1st	180	

* Epidemic.

Cholera.			
India, Bombay	January 1st to 15th	..	9
Calcutta	December 29th to January 5th	..	31
Madras	December 15th to January 4th	..	19
Plague.			
China, Hong-Kong	December 29th to January 5th	2	2
England, Hull	January 30th	2*	
Great Britain, Wales, Cardiff	February 8th	..	1
India, Bombay	January 1st to 15th	..	550
Calcutta	December 29th to January 5th	..	28

* Crew of steamship *Friary.*

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Original Articles.

THE TREATMENT OF RHEUMATIC AND ALLIED DISEASES OF JOINTS COMPLICATED BY DEFORMITY.[1]

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THE impression one gets now and then in reviewing a desperate case that has yielded most happily to a line of treatment, prompts one to draw conclusions from inadequate data. If one attempts to tabulate or to review more in detail similar cases, the good impression is sometimes materially altered. The routine method of recording all cases coming under one's observation, good, bad, or indifferent, serves to check extravagant statements and to bring one nearer to terra firma. Personally, I know of no class of cases that serves better to bring about a conservatism in prognosis than the class which I purpose to discuss this evening. Quite sure am I that there are no more hideous deformities and no greater disability in any disease to which humanity is subjected than those generally included in the terms rheumatic and rheumatoid. I recall at this writing men, women, and children, all of whose motor functions are practically abolished, save that of respiration. The ossified man is not exclusively a freak in a museum.

Recently, while on a visit to an eastern city, I saw in a hospital a man, not yet thirty years of age, all of whose joints were ankylosed, from the temporo-maxillary to the digital, and in talking with the surgeon in charge, I learned that he considered this extensive ankylosis quite unnecessary. The question which I naturally asked without delay was, How can one prevent it? My profound respect for the skill of the surgeon led me to believe that if any one could give the desired information, he could. The reply was, in substance, by tonics, anti-rheumatics cautiously administered, protection of joints during exacerbations, active and passive movements combined with massage between the exacerbations. Records of my own cases lead me to believe that the treatment which he recommended will not always prevent the results which made this patient so helpless.

Before the presentation of the evidence gathered from my clinical notes, it would be well to define the terms in the title of the paper which forms the topic for discussion this evening. Rheumatic, when prefixed to a joint lesion, means an acute, subacute, or chronic condition, constitutional and characterized by certain deposits within the soft parts, articular or periarticular, impairing the functions of the joint in all degrees of disability. The constitutional features are blood changes as well as urinary, not at all times recognized by the pathologist, but nearly always appreciated by the clinician. A rheumatic joint is, therefore, one that is seldom non-articular, and presents changes in the contour as well as in the synovial sac, for instance in the roughening that is imparted to one's hand while the joint is moved, as if small rice bodies were rubbing one over the other; sometimes a tendinous crepitation, usually more marked in the joint immediately affected, but sufficiently pronounced in the corresponding joint.

Under the term "allied affections" may be included the bony ridges or fringes about a joint that occur in arthritis deformans — nodosis as it is sometimes called. The arthropathies dependent upon neuroses are included. I do not include the tabetic arthropathies, nor those of gout, although the line of distinction between rheumatism and gout is not always sufficiently defined to enable me to exclude gouty joints from the discussion, if the members of the society choose to contribute their experience.

Selecting from my office records patients whose later histories I have been able to obtain, I present for illustration and study some cases of multiple joint deformities; for example:

CASE I.—Multiple arthritis deformans or osteo-arthritis; lesion first involved the knees, extending two or three months later to all the joints; great deformity with decubitus; unrelieved by any treatment. A lady, sixty-four years of age, seen in March, 1890, in consultation with Dr. Polk. She had been a cripple eighteen years, having been confined to bed for eight years of that period. When the disease began, it involved the knees, and she came under the care of one of the most accomplished orthopedic surgeons in this city. Although he was able to correct the deformity, the disease gradually extended to the shoulders, elbows, hips, and knees. She had taken on flesh, and there was no expectation when I saw her that anything could be done, except to relieve the decubitus, or by devising some appliance to relieve the pressure. The patient was not relieved by any treatment, and at the time of her death the ankylosis was as firm as ever. The details of treatment are not recorded, although the wealth and intelligence of the patient were such as to command the very best known to science, and it is presumed that nothing was left undone during the long course of her disability.

CASE II.—Multiple arthritis deformans in an adolescent; deformity overcome by repeated operations; motion not restricted, but ability to walk on crutches; ten years later still able to get about, and disease apparently arrested. A lady, twenty-five years of age, was seen December 18, 1887. The first appearance of disease was when she was seventeen years of age. At this time galvanism was employed freely while the disease advanced. Her condition at the end of seven years was ability to walk only by slipping one foot after the other in a shuffling manner, the act accompanied by a noise distinctly audible, like bones knocking one against the other. The wrists were badly deformed, the fingers separated by deposits in the tendons, the ankylosis involving the shoulders, elbows, hips, and ankles. The only joints not implicated were those of the spinal column and the temporo-maxillary. I saw her again in 1891, two and one-half years later, when deformity was added to the ankylosis, and she was barely able to move with the aid of crutches. Six months later I made a careful examination of all the joints, put her under an anæsthetic in order to break up the adhesions, and put the joints in better

[1] Read before the Practitioners' Society, February 1, 1901.

position. I failed to move the right hip and right knee. The left hip was moved after the employment of much force and the deformity reduced about 25°. I succeeded in moving the left knee and brought it into a very good position—that of extension at 170°. Traction by weight and pulley, ice-bags, and morphine hypodermically, constituted the treatment immediately thereafter. A week later while she was under ether, I succeeded in completely reducing the deformity in the joints which had been moved at the time of the first operation. Plaster of Paris was applied at this time, and the pain was controlled by morphine. Two weeks later I succeeded in breaking down the adhesions at the right hip and right knee. Similar operations were repeated three or four times later, and passive movements were made in all the joints which had yielded. My last note was on May 25, 1892. The limbs were straight, the feet straight, and no adduction remained. She was actually walking with crutches. A letter under date of December 6, 1892, from the Home for Incurables, contained this paragraph: "I walk around considerably on my crutches. My knees do not bend, yet my hip is very much better." Dr. Jones told me, January 31, 1901, that she was still in the Home for Incurables, was not helpless, and went about on crutches; but the range of motion in her joints had not increased.

Case III.—Chronic rheumatic arthritis, following an acute attack, with endocarditis, joints involved those of wrists, hands, knees, and ankles; deformity so great that walking was impossible; walking restored, deformity reduced to minimum; treatment, hot air, hot fomentations, traction, brisement forcé, plaster of Paris, and apparatus. A lady, forty-five years of age, was seen by me May 18, 1896, and a diagnosis made of chronic rheumatic arthritis of both knees, hands, and wrists, with deformity. The disease began in the summer of 1890, six years prior to the date of my first observation, in an acute attack of articular rheumatism with an endocarditis as a complication. The acute soon gave way to a subacute process, and she was treated two months at Clifton Springs, and, in the fall of the same year, at Mount Clements, Mich. The first signs of improvement were observed in May, 1891, and it was not until September of that year that she was able to get out of bed. My records show her to have been, on May 18, 1896, quite helpless and stiff about the finger joints, with slight deformity of both hands. The range of motion was small at the wrist. The shoulders, elbows, and hips were normal, the knees held flexed at 195°, painful, and there was much periarticular infiltration.

The treatment adopted at the hospital to which she was admitted was traction on a double-inclined plane and iodide of potassium pushed to tolerance. In the course of five or six weeks the limbs were sufficiently straight to justify the use of a pair of long springs, in which she was able to stand. The apparatus was not tolerated well, and about one month later the knees were encased in skin-fitting plaster of Paris, the limit of extension being 160°. The plaster was removed three months later, and massage was employed daily for four or five weeks. The direct result of treatment seemed to be a diminution of infiltration and more motion in the joints. On November 24, 1896, she was able to walk a few steps with crutches, and she had a range of motion from 170° to 130°. Early in December of the same year, the knees and hands were subjected to superheated air by the Tallerman-Sheffield process. After several treatments of this kind, it was noted that the fingers and thumbs could be moved a little more freely, but there was no decided gain in the knees. On December 15th I reduced the deformity in both knees under ether. The operation was followed almost immediately by massage, supplemented by hot fomentations, night and day. Two weeks later the operation was repeated, the deformity overcome, and the limbs were again encased in skin-fitting plaster of Paris. She left the hospital toward the latter part of January, 1897, and a report in May of that year showed that she was going about with a fair degree of comfort. The plaster had been replaced by the apparatus. On January 18, 1899, two years from the date of her discharge from the hospital, she was able to walk with very little assistance, to rise from a chair and stand alone, and even to go up and down stairs. Her limbs lacked a few degrees of being straight, and she was able to flex them to about 150°. She did not use the apparatus except for long walks. My last note was on October 19, 1900, when she was able to go about without the apparatus and with very little assistance from her crutches. There had been no recurrence of the deformity, and from being a helpless cripple she was able to help herself comparatively well.

Case IV.—Chronic rheumatic arthritis in an adolescent; fibrous ankylosis with great deformity, which was fully corrected under anæsthesia; relief a few weeks later; final results not obtainable. A boy, seventeen years of age, seen November 1, 1892, with lesions involving the hips, knees, and ankles, with great deformity and helplessness. I purposely omit the details of the deformities, merely stating that the hips, knees, and ankles were not only partially ankylosed, but greatly distorted. An attempt was made at this time to correct the deformity, with a fair measure of success. Plaster of Paris was employed, but soon removed on account of strain. Weight and pulley were employed until the second operation, about one month later. At this time the deformity was fully corrected, and plaster of Paris proved of great value in retaining the good position. He was taken home a fortnight later, and the last note I have of him is dated May 5, 1893, when the deformity had not recurred, but the helplessness persisted. I am unable to get a report at present writing.

Case V.—Multiple rheumatic arthritis in an adolescent; knee first involved when seven years of age; later, an acute attack of articular rheumatism, followed by exacerbations at long intervals; finally, bony ankylosis with deformity and marked joint effusion; ankylosis and deformity relieved by several operations; three or four years later, osteopathic treatment for one year, with improvement in locomotion; this was followed by relapse to disability; at present unable to walk. A boy, seventeen years of age, from Montana, seen October 17, 1893. His disease appeared to follow close upon a trauma when he was seven years of age, and a few weeks after the injury to his right knee, he developed a rheumatic fever, confining him to bed for a week only. He recovered, with shortening and disability of the right knee. Two or three years afterward an exacerbation occurred after another trauma, and it was a year later before the left hip and knee were affected. About two years later his ankles became involved. Six months prior to the date of my first observation, his neck and temporo-maxillary articulation became affected. In his history I learned that two maternal uncles and a maternal aunt had recurring attacks of rheumatism. The boy was able to walk on crutches, though he could not stand erect. His walking was practically on his axillæ, as he swung his hips and knees together when he moved. There was partial ankylosis of the left elbow and complete ankylosis of both hips, the angle of deformity being about 110° in flexion. Both knees were involved. The right was extensible to 150°, flexible to 99°, the left the same. Both were distended with fluid. A rheumatic grating could be felt in both knees on movement. The ankles were enlarged and the motion was limited to about one-half normal.

On two occasions, October 31 and November 6, 1893, passive motion was made under primary anæsthesia, but the deformity was not overcome. Traction on inclined plane, with local applications, including anodynes seemed to afford relief, so that he got about with a little more freedom. Under complete anæsthesia, January 26, 1894, the deformity in both hips and knees was overcome, great force being necessary to effect the reduction. Plaster of Paris was employed to retain the position. The discomfort caused by the plaster was so great that it was removed a few days afterward, and on the 9th of May, 1894, the operation was repeated. Plaster of Paris at this time was more comfortably worn, and a few days later, on removal, the hips and knees were found to be free from deformity. Massage for the next three months with hydrotherapy failed to accomplish any improvement, and, indeed, the deformity recurred to a slight extent. Toward the latter part of September the patient went home, and it was necessary to put him in plaster of Paris in order that he might travel with the minimum discomfort. Reports from time to time from that day to the present have not been encouraging, and the results on the whole may be set down as negative. Here is an interesting extract from a letter under date of January 28, 1901. "Finally I heard of Dr. A. T. Still and osteopathy, and decided to give it a trial. So I went down to Kirksville, Mo., and went under their treatment, and from the first treatment I began to improve, and at the end of a year I came home. The swelling was all out of my joints, and they did not hurt any more when handled. I was able to be out of doors all the time and go buggy riding and do the driving, and to be able to take a longer and rougher ride than the majority of well people. After I got home, an osteopath came and continued the treatment until about a year ago, when I was vaccinated. This settled in my joints. They got stiff, and I could hardly move, and I had to go to bed, and I have been in bed ever since."

My experience with the hot-air treatment in multiple arthritis with deformity has been disappointing. I could relate two or three notable instances in which this treatment has been employed most persistently and faithfully, with no better result than has been obtained by other methods as faithfully carried out. There is usually a temporary relief, but at later periods the cases are either *in statu quo* or, if anything, worse. In nearly every instance in which temporary relief has followed its use, relapses have been managed by the correction of the deformity under an anæsthetic and the prolonged use of plaster of Paris. Take as an illustration:

Case VI.—Chronic rheumatic arthritis of ten or twelve years' standing; for thirteen months totally unable to walk; hot air and massage persistently employed, with negative results; correction of deformity under anæsthesia, with retention in plaster of Paris; final relief to the point of walking with ease, and great helpfulness. A lady, twenty-eight years of age, whom I saw in consultation with Dr. Robert Watts, October 13, 1898. This lady had an attack of subacute rheumatism when sixteen years of age. There was some temporary deformity. Eighteen months before I first saw her, while she was in comparatively good health, her right elbow gave her some annoyance, and soon thereafter her knees became slightly flexed. Her hands became deformed, although there was a trace of this from her sixteenth year. For the last thirteen months she had been a cripple, totally unable to walk, had had hot-air treatment and massage, both for her knees and ankles. I found at my first examination that the knees were held in moderate flexion, and could not be extended beyond an angle of 150°. They could be flexed quite to 90°. The right elbow was moderately deformed and comparatively useful. The Achilles tendons were shortened on both sides, and there was some infiltration about both ankles. Tonics and massage had been employed, as well as hot air. Toward the latter part of October, 1898, I completely extended her legs and did my best to correct the deformity at the ankles under ether. Plaster of Paris which was applied immediately afterward remained on for two or three weeks, without removal, and there was a very fair range of motion. Extension was possible to 180°, though resisted. Massage and hot fomentations at night, with a posterior splint to retain the limbs in good position, completed the treatment. In order to encourage walking, jointed splints were employed, and toward the beginning of the year 1899 she was able to walk with little assistance. The knees were progressing to recovery. It was found, however, that the shortened tendines Achillis resisted, and the joints themselves were kept quite tender from this strain. I found it practicable to put the ankle which was the worse in plaster of Paris every two or three weeks, and, while the plaster was setting, to increase the dorso-flexion. All deformity of this foot was overcome within two or three months, and her walking became quite easy. During the past year I had occasion to treat the right ankle in the same way, and the result has been most gratifying. She requires no assistance in walking, can go up and down stairs, and leads a comparatively active life.

Another illustration of correcting deformity and retaining in plaster of Paris for a longer or shorter time is furnished by the following:

Case VII.—Chronic multiple rheumatoid arthritis, with deformity at hips and knees so great that walking was impossible; treatment, repeated operations with brisement forcé, followed by skin-fitting plaster of Paris for long periods; when the deformity was reduced to a minimum, hot air, massage, and traction; result, ability to walk with very little discomfort, and disease apparently arrested. A girl, seventeen years of age, was brought from the South, October 21, 1899. She suffered from chronic multiple arthritis, rheumatoid in character. The joints involved were the knees, elbows, hips, and the joints of the fingers. The limit of extension was 155° on one side, 110° on the other. The crepitation in the knees was very pronounced. Shortly after admission to the hospital, she was put under an anæsthetic and both hips and knees were extended to about 150° to 160°. It was difficult to go farther than this. Plaster of Paris was applied to retain, and on the removal of this, six or eight weeks later, traction on a double-inclined plane was employed. The joints were very sensitive, and required either hot or cold fomentations. On subsequent dates the deformity was further corrected. During the spring of 1900, hot air was employed for the wrist and knees daily for nearly two months. Progress was very slow, and skin-fitting plaster of Paris was resorted to with most marked relief. She was finally able to walk, and at the time of her discharge, July 31st, she was walking without any assistance, and presented very little, if any, deformity. The increase in motion at the hips, knees, and wrists was marked. A letter during the fall reported still further improvement. Full details of this case are not necessary; but she submitted frequently to anæsthesia and plaster of Paris, because after every operation the range of motion was notably increased and the disability so far relieved.

There are cases in which neuritis is a most distressing feature, and while immobilization after correction of the deformity affords relief from pain, there is usually very little gain in motion. My own experience leads me to resort to the minimum amount of violence, and brief periods of retention. A brief summary of the

history of a patient admitted to the hospital, July 10, 1893, will serve as an illustration.

CASE VIII.—Multiple arthritis deformans, with recurring attacks of neuritis; disability very nearly complete; deformity corrected, but patient unable to use crutches, because of involvement of upper extremities; necessary to restore deformity so that a wheel chair could be used; sudden death three years after beginning of treatment, from cardiac disease. This was a woman, twenty years of age, who was pretty generally ankylosed, and the deformity of the lower extremities was such as to fit her to a chair. Trophic changes in the extremities were very pronounced. Operations were performed to straighten the limbs, but an old neuritis was rekindled, and the peri-articular lesions seemed to be increased. Subsequently I regretted that I had overcome the deformities, because she was unable to sit down, and the recumbent posture was necessary to afford any relief from the pain. Finally, abandoning all hope of motion, I flexed the knees and hips again, under an anæsthetic, so that she might occupy a chair. All treatment directed toward relief of the neuritis proved of little avail. A cardiac lesion beame most distressing, and she died quite suddenly in June, 1896.

CASE IX.—Recurring attacks of peri-arthritis induced by trauma and complicated by neuroses; later chronic rheumatic arthritis with deformity and multiple neuritis; from almost complete disability and helplessness, restored to the use of her limbs; cure by no means complete. A lady, thirty-four years of age, from Georgia, was referred to me by Dr. Hunter P. Cooper, April 7, 1890. Transportation was exceedingly difficult and painful. Her temperament was highly neurotic, dating from girlhood. Her limbs and joints were excessively sensitive, tenderness extending in the course of the intercostal nerves as well. Her menstrual functions had always been regular and normal, and gynæcologists had pronounced her uterus and ovaries free from disease or deformity. The knees were held fixed at an angle of 90°, the calf and thigh muscles were atrophied. There were no bony enlargements about the joints, no effusion, no spinal tenderness or deformity. Her history is interesting, and presents six periods. 1. The left knee became stiff when she was ten years of age, after sitting for some time in school, and remained so for about one week. Muscular spasm of a neurotic nature seemed to be the cause. It was several weeks before the functions of the joint were fully restored. 2. Five years later, while jumping from a wagon, she had a sharp pain in the left knee, and the high flexors were soon in a state of tonic spasm. At this time there was a creeping sensation about the knee and a slipping, apparently of the tendon, such as is common in hysterical joints. This attack lasted a few weeks, but for years afterward she was troubled with her knee after long walks. 3. Seven years later, without any trauma as an exciting cause at this time, but while nursing a member of the family, and while under great mental anxiety, this same knee became involved as it had before, and swelling about the knee was added to the symptoms. It was fully ten months before she was entirely free from this attack. 4. Two years later, without any special cause, the left knee became again involved and was called a neurotic knee. This continued to trouble her until the next period of her illness. 5. This period was in the following year, when the right knee began for the first time to participate in the trouble. In the course of four or five months she got practically over the trouble in both knees. 6. During the following year, she had a sharp attack of pain in the right knee, which was so severe that she was obliged to go to bed, and she had not walked from that time to the date of my first examination, April 7, 1890.

I was unable to do anything without an anæsthetic, and it was found necessary to divide the flexors, after which, with considerable force, I was able to extend the limbs only to about 125°. The joints at the time of the operation were smooth, and the resistance was peri-articular. More or less neuritis followed the operation. It was fully three weeks before I was able to repeat it. After a half-hour of strong manual force, I was able to bring the right limb down to 180°, the left to 165.° Plaster of Paris was applied, and it was necessary to use opiates quite freely for the next two or three weeks. By dint of traction with weight and pulley, and hot fomentations, I was enabled during the next three or four months to bring the limbs perfectly straight, and to get her on her feet with the joints protected by apparatus. Treatment from this time forth was rather irregular, but was most obstinately resisted. In the summer of 1891, I employed brisement forcé under nitrous oxide. This was repeated from time to time until a small range of motion was secured. The last I saw of the patient was in May, 1892. She has been under treatment, largely by correspondence, from that time to about four or five years ago, since which time I have heard from her yearly, and the latest report is that she goes about the house and garden. She does not venture far from home, because of increased pain. She walks sometimes without the apparatus, sometimes with it, and has, I am assured, a fair range of motion.

Before passing from the subject of multiple lesions to individual joints, a reference may be made to this disease as it occurs in children. We have at present employed in the sewing-room of the hospital a young woman, admitted as a patient in December, 1886.

CASE X.—Multiple chronic rheumatic arthritis in a child; for many years confined to a wheel-chair, and now so far relieved that she goes about without crutches or braces; is an employee in the sewing-room of the hospital. When she was seven or eight years of age, she remained for two or three years under treatment, tonic, protective, etc., with gradual improvement. For many years now, she has been able to get about with very little discomfort, but the joints of the lower extremities, as well as those of the upper, are more or less impaired as to motion. The results in children are no better than in adults. The treatment of individual joints is followed by better results than when multiple lesions exist.

The rigid spine has been discussed so much by neurologists within the past two or three years under the name of spondylose rhizomélique, that a further presentation of the subject would be superfluous. The clinical features and the pathology of rigid spines have rather overshadowed the treatment. Among my records, I find a number of cases in all stages of the deformity. In the majority I have not obtained any satisfactory results by any methods yet suggested. The treatment which has been most efficient has been immobilization of the column by plaster of Paris or steel braces, and by active counter-irritation, preferably with the Paquelin cautery.

CASE XI.—Spondylitis with rigidity; rheumatic element with neuritis complicating; relieved by Paquelin cautery and apparatus. A gentleman, fifty-two years of age, from Springfield, Mass., was referred to me, November 15, 1890, by the late Dr. Loomis. The patient's spinal rigidity arose from exposure to cold, in December, 1889. He had, at the time of my first examination, a good deal of neuralgia, a stooping gait, and a step like one with Pott's disease. There were decided thickening over the spinous processes of the upper dorsal vertebræ, and much tenderness on pressure. I fitted him with a spinal brace, and used the Paquelin cautery quite freely. At the end of three or four

months, he was walking quite erect, and he was so impressed with the relief he got from the use of the cautery, that he purchased one himself, and had his wife make the applications. At the end of a year, he passed from observation, but in October, 1893, I had an opportunity of examining him and found him perfectly well, without deformity, free from rigidity, and I am sure that he has remained well to the present time.

When the lesion involves the shoulder, it is usually peri-articular, and passive motion under an anæsthetic is as a rule attended with excellent results. I could place on record a number of cases which would bear me out in the above statement, but I hesitate on account of the limited time at my disposal. Before mentioning the shoulder joint, I should have spoken of the temporo-maxillary ankylosis, and the treatment which has proved efficient.

Case XII.—Chronic multiple rheumatic arthritis with temporo-maxillary ankylosis; relieved by resection. About two years ago, we had at the hospital a boy who was suffering from multiple lesions of this kind, and for at least a year, while we were attending to his other joints, and getting him in condition for walking, all efforts at relief of the maxillary joint failed. For weeks at a time we would have his mouth held open by wedges in his teeth, but whenever the wedges were removed, ankylosis would recur. He fed himself in a space where one or two teeth had been removed. I determined finally upon a resection of the articular end of the inferior maxilla, had Dr. Weir see the case, and he very kindly operated at the hospital, with most gratifying results. I think he has already placed the case on record.

The elbow is a joint which ought to be relieved by brisement forcé, but this operation must be often repeated and every procedure of this kind followed by pretty vigorous massage, and active and passive movements. The following will bear me out in the above statement:

Case XIII.—Fibrous ankylosis of elbow in awkward position, following an attack of rheumatism; cured by many operations of brisement forcé under anæsthesia; massage always followed the operations. A lady, twenty years of age, came under my care November 16, 1897. Her father first consulted me about her in August, and at this time she was under treatment in a private hospital in London, without any noticeable relief. I could learn really very little of her history, but when I first saw her she had a range of motion at the elbow from 115° to 110°. The infiltration had subsided, but the radio-ulnar articulation was involved as well as the radio-humeral. I subjected the elbow to hot air for nearly one month, having pretty vigorous massage employed after each treatment. Very little headway was made, and on December 16th I began moving the elbow under nitrous oxide, and continued this every three or four weeks until March 1, 1898. It was remarkable how many adhesions were broken up on every occasion. The range of motion increased from that time without interruption. I saw her on January 8, 1899, and the range of motion was perfect—flexion, extension, pronation, and supination.

I was not so fortunate in two other cases, the details of which I purposely omit; but I did succeed in giving more usefulness to the extremity by reason of the better position. In one of these I employed hot air for a long while, without appreciable results.

Case XIV.—Ankylosis of elbow after rheumatism; no motion established after repeated operation, hot air and massage. Within the past few days I have had a letter from the lady, who assures me that she can use the forearm and hand for all practical purposes, although there is no motion at the joint.

The other, Case XV., was treated by forced movement under gas on four occasions, and the result, after the last, promised well. This was in 1891. A day or two ago I had a letter from the gentleman, saying that there was no motion, but the position was good, and he had fair use of the extremity. I believe when this treatment fails, a resection of the joint would be good practice, although I have no experience to record.

Case XVI.—Ankylosis of wrist after rheumatism; marked relief after brisement forcé, supplemented by traction splint; ultimate result reported as a cure. The wrist joint offers, by reason of the expansive articular surface, still greater obstacles, and the only case I have to record is in a lady twenty-five years of age, who submitted to the operation two or three times with a little gain. My last observation was on February 6, 1891, one month after the beginning of treatment, when I was able to record a small range of motion. I provided her with a traction splint with a movable joint, and urged a continuance of active and passive movements. A letter under date of July 10, 1892, nearly eight months later, brought a complaint that the wrist was weak, and that she had been disappointed. It is only fair to state, however, that this was in reply to a demand for the settlement of her account. A mutual friend saw her in 1896, at a watering-place, and found her quite enthusiastic about the cure of her wrist. My friend saw her move it in flexion and extension, and was assured that it was cured.

An ankylosed hip from rheumatism or osteo-arthritis responds poorly to any form of treatment, although I have a few cases, which speak well for repeated movements under an anæsthetic.

Case XVII.—Chronic rheumatic arthritis of hip with fibrous ankylosis; brisement forcé on several occasions; result, at present, good. I have now under treatment a lady from Rochester, whose hip last fall was firmly ankylosed at an angle of about 135°. At the time of the first operation, an enormous amount of force was required to break up the adhesions, and the noise was so loud that the nurse and assistants were sure that I had fractured the femoral neck. I dissented most decidedly, and was able to demonstrate the opinion I held. There was, however, a marked crepitation in the joint, which was not present at subsequent operations. The protection was continued for two or three days after the operation, and then active and passive movements were employed. Altogether she has had six or eight forcible movements of the joint under anæsthesia, and the range of motion extends over about 90°. This case differs markedly from one treated in 1891.

Case XVIII.—Chronic rheumatic arthritis of hip; partially relieved by a traction splint; subsequent involvement of all joints, and all treatment attended with negative results. A man, forty-seven years of age, referred to me by Dr. Cook, of Hartford. An arthritis of the right hip followed an injury eight years previously, and he apparently got well. Four years later an exacerbation ended in decided stiffness of the joint. There was a small range of motion, say from 150° to 135°. There was no signs of abscess, and I had very little difficulty in making out a case of chronic rheumatic arthritis. I advised a hip splint by day and weight and pulley by night. Six months later some progress was reported, and I heard nothing further of the case until January 30th of the present year, when Dr. Cook, in reply to a letter, wrote that the patient had recovered with a stiff hip, perfectly painless and useful. Subsequently the disease attacked nearly every joint in his body, and Dr. Cook was unable to do anything for his relief. The patient died about three months ago, but up to that time the hip had remained *in statu quo*.

Whatever enthusiasm has come to me in the management of joints thus afflicted, has come by reason of some extraordinarily good results when the knee was

involved. I must place on record a few of these, and beg to present the case of Miss P——:

Case XIX.—Chronic rheumatic arthritis involving both knees, of many years' standing; deformity and disability; cure at the end of three years; in seven years no relapse, cure perfect. She was about fifty years of age when she came under my care, August 4, 1891. Her history was this: Twenty years ago, while stepping out of her carriage, she strained her right knee. Three months later there was fluid in both joints, and she was treated with splints in bed for three or four months. For the next twelve or fourteen years she was always careful of the knees, although using them in moderation. Then she turned her knee rather sharply and suffered for several weeks. Ten months later she had another strain, and then began to use crutches, which she used at the time I first saw her. She was quite helpless, and one knee was more involved than the other. There were general infiltration, resistance to all movements, crepitation, etc. The right ankle was slightly involved. Treatment was advised, but postponed until April 15, 1893. I put her on a double-inclined plane, used hot fomentations and the Paquelin cautery, and administered iodide of potassium. After getting the limb straight, I applied plaster of Paris, skin-fitting, which was worn for four or five weeks. This was followed by an apparatus. Improvement went on without interruption. An occasional use of the cautery from this time to August 3, 1894, was all the treatment she had. In October and December of that year, I found the range of motion practically normal. In 1896 there was no impairment of function whatever. As a city missionary, she was using the limbs climbing up and down stairs of tenements, without pain or discomfort. With the exception of a strain, in February, 1897, there has been no recurrence of any symptoms. From that time to the present I have seen her occasionally, and she still remains perfectly well, and walks and travels without any discomfort. The treatment in her case was, therefore, protection to the joint, gradual correction of the deformity, and the internal administration of potassium iodide.

Case XX.—Chronic rheumatic arthritis of knee, assimilating a sarcoma; most marked relief obtained by the prolonged use of plaster of Paris, infrequently repeated; cure completed by a jointed splint; result perfect. A lady, thirty-eight years of age, was seen at Governor's Island, April 7, 1894, with a diagnosis of rheumatic arthritis of the right knee with some involvement of the left. Her lameness was of eight months' duration. When I saw her she was quite helpless, the right knee much enlarged, and the contour completely effaced. A protective apparatus was employed, but little relief was afforded until October 14, 1894, when I began the use of plaster of Paris and crutches. I made it a point to fit the plaster very closely, and leave it on for six or eight weeks at a time. This was continued for nearly a year, and improvement was marked whenever a new cast was applied. After all infiltration had subsided, there was a fair range of motion, and a brace, extending from the thigh to the shoe, allowing limited range of motion at the knee, was adjusted, and there was little further of interest to be noted in the case. By the spring of 1896 she was well. There was a range of motion from 180° to 90°, an easy gait, and up to last reports, two or three years ago, there was no recurrence.

I have notes of a number of cases treated similarly, but with less persistence, in which the results have not been so satisfactory. One of the most obstinate was that of a man twenty-eight years of age, whom I saw on March 21, 1899.

Case XXI.—Ankylosis of left knee after acute rheumatism; three months' daily use of hot air with negative results; repeated operations of brisement forcé; later, plaster of Paris; final result, small range of motion, no deformity, with ability to walk long distances without support. There was deformity and almost complete ankylosis of the left knee, left over from an attack of acute articular rheumatism in March, 1898. In August of that year, the superheated-air treatment began in Philadelphia, and for three months daily he was subjected to a temperature of 340°. An accident occurred at the end of this period, and his leg was badly burned. When I first saw him, the angle of greatest extension was 140°, of flexion 130°, 10° possible of motion. I moved his knee under an anæsthetic on various occasions, at one time followed by plaster of Paris, and at another by active and passive movements, and, after a long time, I rather despaired of accomplishing good results. In August, 1899, after nearly six months' continuous treatment, there was little if any motion, but the limb was straight. Treatment was resumed in November, 1899, and continued to February, 1900, with at least a dozen operations. In January, 1900, Dr. Janeway saw him with me in consultation, and doubted whether the patient would ever get any motion. I saw him on the 2d of July, and he could extend the leg to 175°, and flex to 150°. The patella moved easily from side to side. He was walking freely and with very little discomfort. I have not traced the case for a late result, and hence am unprepared to state his condition at the present time.

Case XXII.—Ankylosis and deformity of knee, following confinement; later, a rheumatic attack with cardiac complications; deformity and pain about the knee accentuated; failure to get relief after treatment at Hot Springs, operations under anæsthesia, apparatus, and osteopathy. A lady, thirty-one years of age, referred to me by Dr. E. G. Janeway, March, 1896. Twenty months prior to this date, and about two weeks after confinement, she had pain in the left foot, with a little swelling. Two or three months later, she had an attack of rheumatism involving the ring finger of the left hand, arm, shoulder, and knee. There was much neuritis in this attack. She recovered at the end of three months in all the joints, except that of the knee. At the hot springs of Virginia the deformity of the knee yielded a little to the bath treatment. When I first saw her, the knee was fixed at an angle of 120°. The acute symptoms were so pronounced at this time that I employed hot fomentations, with traction in bed on a double-inclined plane. At the end of a month I succeeded in breaking up the adhesions about the knee, under nitrous oxide, and extended the knee to 160°. Massage was at once employed, while traction was continued. The pain following this operation was most excruciating, and lasted a week or ten days. At the end of a month, the limb could be extended to 180°, and flexed to about 155°. It was three months before I saw her again, and then the angle of greatest extension was 160°. Further operations were declined, and treatment was largely expectant. Six months afterward, a vigorous osteopathist undertook treatment with negative results. At last accounts, February, 1899, there was very little pain, but there was very little gain in the range of motion.

I had intended to place on record a number of cases in which the neurotic element was a distressing feature, and in which the treatment was necessarily prolonged, but they all read alike. In nearly all, the deformity has been overcome, and a small range of motion has been established, and the patients have been restored to a degree of helpfulness that finds expression in lasting gratitude.

I am tempted to dwell a little on the results obtained in cases in which the disease involves the tibio-tarsal and mid-tarsal joints. Suffice it to say, how-

ever, that the majority of my patients have been relieved, adhesions have been broken up, a useful range of motion has been established, and the lesion itself has proved less intractable than in some of the other joints.

I am free to confess, in concluding this paper, that it is difficult to fix upon any one form of treatment that has yielded the best result, but I cannot refrain from commending the forcible breaking up of adhesions when inflammatory conditions have subsided, a frequent recurrence to these operations, and the discriminate use of plaster of Paris. My belief in the efficacy of absolute immobilization as a promotion of absorption of chronic inflammatory products grows stronger year by year. The protection of joints with a limited range of motion, by apparatus within the bounds of this motion, is also to be commended. There is scarcely any joint in the body but that will tolerate a great amount of force at certain times. Only recently have I attempted the correction of a deformity in a rigid spine, by extension with moderate force, and the result at the present writing is gratifying, to say the least. The apparatus employed is that used in the correction of the boss of the deformity in Pott's disease, and is employed without an anæsthetic. In a few instances I have recommended an anæsthetic.

To sum up in a word the treatment which has been most efficient, I would say, a judicious management of the case throughout, correction of the deformity, partial restoration of function which renders the patient helpful; and improvement is sure to follow.

AN IMPROVED METHOD OF EXAMINING THE FEMALE BLADDER, ADMITTING INTRAVESICAL OPERATIONS AND TREATMENT OF THE URETERS.[1]

By WILLIAM R. PRYOR, M.D.,
NEW YORK.

It will not be necessary for me to detail the various methods of cystoscopy, nor to enter into a criticism of all of them. You are contemporary with their evolution, and are fully aware of the technique of the several procedures. After showing you these instruments for illuminating the bladder, for removing foreign bodies, and for catheterizing the ureters, I will make a demonstration on this cadaver. But a few words on the principles involved in the procedure may not be amiss.

Instruments.—As dilators I employ the straight male sound, from 25 F.–36 F. The cystoscope consists of a main tube for inspection, alongside of which is attached a smaller tube for carrying the lamp and the stem which holds it. The tube for illumination extends beyond the tube for inspection, and consequently the rays of light project beyond and outside the tube for inspection, no rays entering the latter. The light illuminates 100° of the bladder circumference, 260° being in shadow. The heat from the light is taken up by the metal of the tube. The lamp, lamp-holder, and wires are completely insulated. Neither urine nor other fluids can short-circuit the current when this apparatus is connected. The tube for inspection is perfectly free from rays of light as well as from the lamp, and therefore inspection is made of an illuminated object and not through rays of light (Fig. 1). The tube is also free for the purpose of making applications and passing the ureteral catheters, removing neoplasms and foreign bodies. The tubes measure: 0.6 cm. x 1 cm., 1 cm. x 1.3 cm., 1.2 cm. x 1.5 cm. Each tube is 8.7 cm. in length, exclusive of the obturator. I have had a tube made 11.5 cm. long, for use in bladders which are drawn high up by pregnancy and tumors. The smallest size is for use under cocaine. I usually employ size 2 when the patient is under narcosis. The battery is dry and the conducting wires are insulated in a rubber-covered cord. The tubes and obturators are sterilized by boiling, the lamp by wiping with five-per-cent. carbolic-acid solution.

The great advantages obtained by this cystoscope are: a tube for inspection free from obstructions and free from light rays, either direct or reflected; the

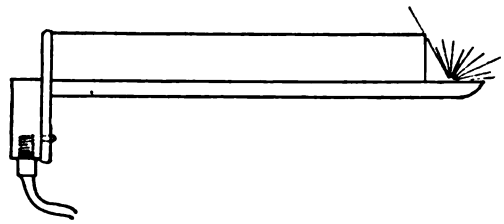

FIG. 1.—The Cystoscope. The obturator is not shown.

absence of necessity for focussing rays of light, which embarrasses the operator in his manœuvres when a head mirror or lamp is employed; the passage of the rays of light directly to the object to be inspected; the absence of all the disadvantages inherent in the use of the cystoscope of Nitze; and, lastly, the perfect ease with which demonstrations can be made; absence of heat; absence of urine about the trigone; absence of the necessity for pumping out urine.

Posture of the Patient.—This plays a very important part in the examination of the female bladder. All of you who have seen a case of exstrophy of the bladder know the degree of the intra-abdominal force upon the bladder. When the bladder is empty this force usually presses the bladder into a triangular

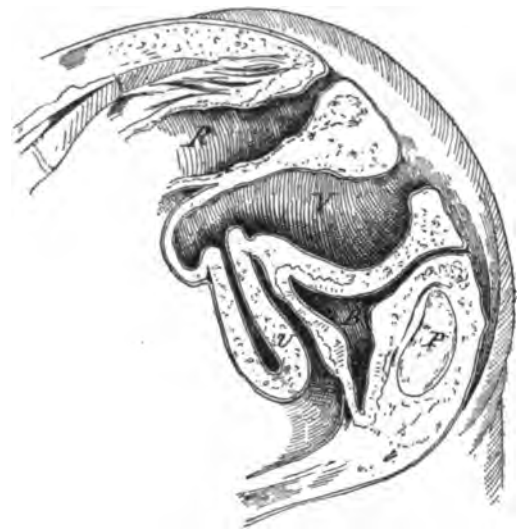

FIG. 2.—The Position of the Organs in the Knee-Chest Posture. (Frozen section by Berry Hart.)

form. When the viscus is thus shaped it is impossible to make a proper cystoscopic examination of its interior. The reason for this is found in the folds which the mucous membrane assumes when the bladder is empty. Therefore, it is very desirable to distend the bladder so as to straighten out the rugæ and make a plane surface of its interior. This is done by either fluids or air. Of the first I need speak no further than to ask you to consider that first simple proposition of your elementary physics which deals with the passage of light rays from a light medium, the air, to a denser, water. Thus, direct inspection through an open speculum of a water-filled bladder is impracticable; and when fluids are employed some form of

[1] Read before the New York County Medical Association, January 21, 1901.

closed tube must be used, with the attendant difficulties of treating the bladder when diseased conditions

Fig. 3.

are found, of catheterizing the ureters, and of removing neoplasms and foreign bodies. We are, therefore, compelled to employ some method which will distend the bladder with air and secure an unobstructed view of the entire bladder wall.

When Kelly first brought out his method it marked a distinct advance. Upon first seeing him employ this I was struck with the embarrassment caused by the constant presence of urine, and by the inadequate distention of the bladder. Furthermore, the light by which the organ was illuminated was a reflected light. The first position he used was the dorsal with elevated hips, but no release of intra-abdominal pressure was secured. I saw this at once and devised in February, 1894, my table which secured the proper posture. This I have used ever since. Kelly changed the posture of his patients to the knee-chest, the one he now employs and the one I wish to contrast with mine (Fig. 2).

"In virgins and nulliparæ the bladder walls balloon out so much upon atmospheric distention that the base is carried up toward the sacrum, and becomes so markedly concave that the ureteral openings can scarcely be seen; the observer has to drop the handle of the speculum to such an extent that he is obliged almost to bring his head under the pelvis to find them. This difficulty will be obviated by first introducing into the vagina a little speculum which lets in the air and causes the anterior vaginal wall to drop down, bringing the base of the bladder into the plane of vision. If the distention is still too great after this manœuvre, the difficulty may then be overcome by introducing within the vagina a cotton pack large enough to hold the anterior wall down, or a small inflatable rubber bag, or an instrument shaped like a spatula with a strongly curved handle to make pressure on the vaginal wall and bring the ureteral orifice into view."

I quote Dr. Kelly's words, for he can express these disadvantages of the knee-chest posture better than I. But even when the embarrassing recession of the ureters has been overcome by distention of the vagina, the element of focussed light is present. All the disadvantages of the three methods of examining the bladder which I have mentioned are done away with by the procedure I offer you.

The patient is put on the back in the lithotomy posture (Fig. 3). With straight sounds I dilate the urethra to a 30 or 36 F. But no dilatation is needed when the smaller tube is used under cocaine. I then introduce the obturated speculum and evacuate the urine.

In women who have flaccid abdominal walls or who have marked prolapse of the anterior vaginal wall it is advisable to pass the catheter immediately before they are placed on the table; for after such are on the table in the lithotomy posture the bladder is not easily emptied. The bladder having been emptied, the table is lowered into the requisite angle, usually about 45°. The uterus now sinks away from the pubes and drags with it that portion of the bladder which is covered by peritoneum (Fig. 4). This, being attached also to the pubes, is straightened out. At the same time the cervix sinks away from the vulva and the base of the bladder is also straightened. The bladder assumes the shape of an open equilateral triangle with rounded corners. The extent to which this gravitation of the pelvic viscera takes place is readily seen by inspecting the suprapubic area. This will be found much sunken. The advantage of this posture over the knee-chest is due chiefly to the straight lines which the vaginal segment (in which the ureteral orifices are found) and the pubic segment assume.

In the knee-chest posture the bladder can be made to dilate somewhat by air, but both the pubic and vaginal segments are thrown into curved lines. In the knee-chest posture the bowel and vagina being closed, as the air rushes into the bladder the pubic segment actually falls further anterior than normal, while release of the intra-abdominal pressure from the anterior plane of the pelvis acts just as would a

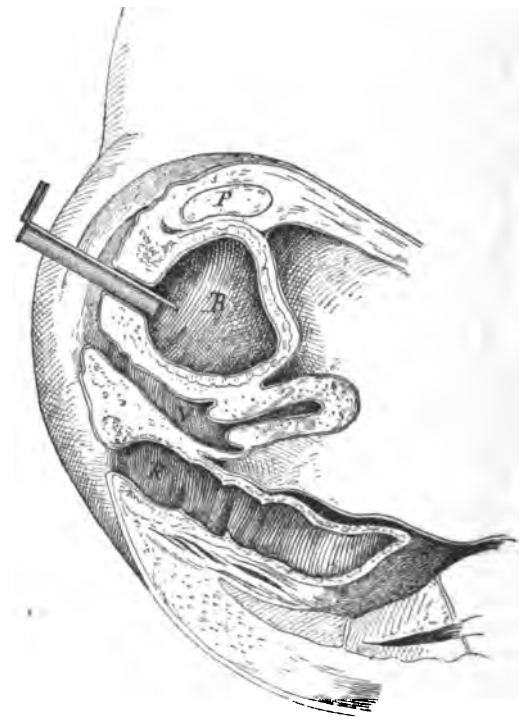

Fig. 4.—Shows the Effect of Atmospheric Pressure on the Bladder in my Posture. (Pryor.)

bladder overdistended by urine; the cervix falls backward, and the vaginal segment of the bladder approaches the sacrum and rectum, thus concealing the ureters.

Gravity in the knee-chest posture militates against

a symmetrical dilatation of the bladder. If you open the vagina at the same time you do the bladder, as is often necessary before you can see the ureters, of course the posterior pelvic plane moves up and the difficulty is partially overcome.

When you place a patient in the knee-chest posture and open the vagina, the posterior vaginal wall recedes toward the sacrum (Fig. 2). Leave the vagina closed, but allow atmospheric pressure to act on the interior of the bladder, and the vaginal walls are practically one. Thus the anterior vaginal wall recedes toward the sacrum with the posterior, and the ureters are dragged out of easy access and view. With my position no such thing occurs, for the uterus, tending by gravity toward the pelvic brim, becomes partly an abdominal organ and symmetrically opens the bladder as air is admitted to the latter. You can experimentally defeat this by holding the uterus in the pelvis with the closed fist on the belly before lowering the table; and you can overcome the obstruction to the descent of the uterus, in fat women, by lifting up the belly fat after the table is lowered.

There should be no restraint by clothing or dressings as the table is lowered.

Inspection.—I first examine the ureteral orifices and the trigonum, for there we find most of the lesions. I then sweep the instrument over the lateral vesical walls, and by turning the handle down make the light illuminate the pubic segment. I know of no other method by which every portion of the bladder wall can be inspected. Since I have begun employing this method I have found lesions above the trigonum sufficiently often to convince me that no search of the bladder should be considered thorough which does not embrace all its cavity. In catheterizing the ureters for the purpose of securing separate specimens in ureteral and kidney lesions, I have been able to secure sterile urine from both ureters even when acute cystitis existed (bacillus pyogenes). This will show with what ease the ureteral orifices can be cleansed and the ureteral catheters passed without touching the sides of the cannula. My cases I will not detail, as they will not aid in my explanation of the physics of the questions I introduce. As a method of demonstration to students it is most excellent. I have shown both ureters to sixty men and passed the ureteral catheters within an hour.

A question of priority is always raised when a presumably new method or instrument is shown. My table and posture I devised in 1894. I bought Chetwood's urethroscope in November, 1899, and at once saw its defects as applied to the female bladder. I gave an instrument maker my order with a written detailed statement of what I wished, and received the first week in December, 1899, my perfected instrument. I made demonstrations with it to my classes and showed them the ureteral orifices and bladder mucosa during December, 1899.

The idea of a separate tube for the light alongside the tube for inspection is borrowed from an old cystoscope which employed this arrangement for the purpose of sucking out the urine while reflected light was thrown in. Otherwise in every way the instrument is original as is the posture.

Lymphadenia.—There is no specific. Regular life, avoidance of constipation, open-air exercise are indicated. Iodine if given at all should be in the form of iodide of iron. No importance is to be attached to the injection of red bone marrow. Arsenic may be combined with small doses of opium, or arsenical water, such as La Bourboule, may be given for a long time.—LEMOINE.

SOME FACTS REGARDING "UREINE."[1]

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AND
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WE were amazed, recently, on reading Dr. William Ovid Moor's account of "The Discovery of Ureine, the Principal Organic Constitutent of Urine, and the True Cause of Uræmia,"[2] to find that such sweeping generalities had been based upon methods so defective chemically. Our faith in the older observations that urea is the chief organic constituent of urine has been so complete, and our confidence in the deductions of far-reaching significance based thereon has been so thorough, that it was impossible, in the absence of real chemical evidence in favor of Dr. Moor's assertions, to accept his inferences that "the human urine contains a liquid [!] organic body, in a quantity superior to urea," and that "this organic liquid (ureine) is the most characteristic component part of urine."

Dr. Moor began his paper with the statement that he found the human urine to contain "a large quantity of some organic substance which gives in a very intense manner" the same characteristic blue reaction with a solution of ferricyanide of potassium and ferric chloride that may be observed when morphine and various alkaloids are treated with a solution of these two salts of iron. "Numerous and exact investigations," he adds, "forced him to the conclusion that none of the known organic or inorganic components of urine could account for this intense blue reaction, and that, therefore, some chemical body, until the present unknown, must be the cause of this strange phenomenon." We do not know, of course, how "large" the quantity of this substance was, nor how "intense" the reaction it caused; but the fact that Gautier,[3] Bouchard,[4] Aducco,[5] and others have found basic bodies in both normal and abnormal urine giving this reaction, makes it seem probable that Dr. Moor's "strange phenomenon" is to be referred, in part at least, to substances of similar character dissolved in urine, and not especially to anything unknown, as he has assumed. There is sufficient reason to believe that each of these observers was dealing with chemically pure, individual substances, and that these products were not contaminated with ureine.

Dr. Moor goes on to say: "It is not surprising that the existence of a metabolism product of such great importance should, until the present, have escaped our knowledge, for every urinary analysis has been made with the firmly rooted idea that urine is a liquid composed of water and of inorganic solid ingredients"! In the light of every-day knowledge regarding the quantity of such organic substances as urea, uric acid, creatinin, hippuric acid, etc., in normal urine and their relation to metabolism, this inaccurate statement is worth considering only because it suggests how much of fact there is in the ureine story.

In one place Dr. Moor concludes that "this organic metabolism product of the human body (ureine) belongs to the group of alcohols of the aromatic series; at a temperature of about 80° C. it begins to split into

[1] From the Laboratory of Physiological Chemistry of Columbia University, at the College of Physicians and Surgeons, New York.

[2] Communication presented to the Thirteenth International Medical Congress, Paris, 1900. Published in the MEDICAL RECORD, 1900 (Sept. 1st), vol. lviii., No. 9, p. 336.

[3] Gautier: "Les alcaloïdes dérivés des matières protéiques sous l'influence de la vie des ferments et des tissus." Journ. de l'anat. et de la physiol., 1881, p. 330.

[4] Bouchard: "De l'origine intestinale de certains alcaloïdes normaux ou pathologiques." Revue de méd., 1882, p. 12.

[5] Aducco: "Sur l'existence de bases toxiques dans les urines physiologiques." Arch. ital. de Biol., 1888, p. 203.

several bodies belonging to the class of aromatic oxy-acids." At another, he states "ureine is a ferment, which has a potential energy of at least 130° C." Yet neither of these conclusions is accompanied by any statement of fact upon which to base them, and only imagination seems to account for them. Thus, ureine is said, in this connection, to be "the principal [!] cause of the ammoniacal fermentation of urine, as without its presence urea cannot be decomposed into ammonia and carbon dioxide." Again, "only a temperature of above 130° C., perhaps 140° C., can split urea into ammonia and carbon dioxide." All this in mere dogmatic statement, with no experimental justification and entirely in opposition to the numerous results of very laborious work for years by many careful investigators.

Dr. Moor also says: "Urea, in many respects, is just as indestructible [does he mean undecomposable?] as iron, silver, or any other elements, for the strongest mineral acids do not decompose [!] it, but simply combine with it." Is it not true that one of the properties of all matter is "indestructibility"? Dr. Moor, however, may have intended to use the word in a different sense from that customarily applied to it. If he means to refer to comparative stability, what of the fact that even dilute hydrochloric acid decomposes urea? Everybody knows, also, how quickly urea is broken up when concentrated nitrous acid, for example, acts upon it.

In all of the unaccountable assumption characterizing Dr. Moor's paper, there is nothing, however, to compare with the biological burlesque at the close. "Without ureine," he says, "all organic matter would become converted into urea, which would remain in nature without any use, and thus within a limited period of time all vegetation and animal as well as human life would cease."

Truly, as Dr. Moor remarks, "this wonderful organic fluid," this "mysterious chemical body," ought to receive very careful study. We ourselves have been of the opinion, however, that the method by which it has been made deserves much more attention.

With a view of testing these points experimentally, we have lately made several preparations of ureine, not only by the method given in the paper alluded to at the outset, but also by the improved process outlined in Dr. Moor's latest communication.[1]

Reviewing the method, as improved, the normal human urine, varying in quantity from 1.5 to 49 litres, was evaporated at a temperature not above 50° C., usually at 48° C., until no more vapor could be seen arising from the surface of the fluid, even after the application of Dr. Moor's "indispensable" and "delicate test"; as long as rapid withdrawal of the thermometer from the fluid, following directions, caused "a puff of vapor ascending from the mercury bulb," the evaporation was continued. It stands to reason, of course, that even though no steam can be seen arising from the evaporating fluid under these conditions, insensible vapor may continue to form at this point, and a large proportion of water may be left in the fluid. Certainly, water cannot be completely removed from a urinary residue at such a low temperature—a matter of importance, bearing not only on the separation of urea, etc., farther on, but also influencing the percentage of ureine.

The concentrated fluid, still containing a fairly large proportion of water, of course, was next kept in an ordinary freezing mixture, at 10° below 0° C. for several hours. (Dr. Moor says: "We reduce the temperature of the liquid, if possible, to 0° C." The length of time the mixture is to be held there is not given.) A heavy precipitate, mostly of inorganic matter, quickly separated. Absolute alcohol at 10° below 0° C., equal to half the quantity of fluid, was then added to "facilitate filtration," and this mixture filtered in small quantities (while below the freezing-point), thus removing most, though by no means all, of the urinary salts.

The main bulk of urea was thrown out of this filtrate in the form of urea oxalate with powdered oxalic acid (1 gm. for each 100 c.c. of urine used), and then alcoholic solution of oxalic acid—thirty-per-cent solution—was added "until no further precipitate was formed." By very careful work at this point we found that immediately visible precipitation could not be relied upon as a true indicator of complete separation. Consequently, in order to avoid excess of oxalic acid (Dr. Moor says nothing about this) its alcoholic solution was added in small quantities at intervals of several hours until the filtrate gave only a delicate reaction for oxalic acid, with calcium chloride in the presence of acetic acid. At this stage only a slight permanent precipitate formed on adding a little more alcoholic solution of oxalic acid, even after standing over night. It must not be forgotten in this connection, however, that urea oxalate is somewhat soluble even in absolute alcohol. But under these conditions, with considerable water left in the previously evaporated residue, the alcoholic mixture possessed increased solvent action. In testing with calcium chloride, the positive reaction just referred to was doubtless due in part to the combined oxalic acid in solution in the form of urea oxalate. This method, even at best, therefore, certainly does not suffice, as Dr. Moor seems to assume, for complete and satisfactory removal of urea.

The filtrate from the urea oxalate was next concentrated at 48° C. In a few hours a thick, dark-brown, oily fluid was obtained. This Dr. Moor has the assurance to speak of as a chemical individual—"ureine"—admixed merely with pigment and "some saline matter." He says that at this point "there is nothing but ureine, together with coloring matters." He adds that this ureine "is sufficiently pure to satisfy all exigencies of clinical medicine and of physiology," and then, inconsistently and with little reason, concludes, "for it is evident that the presence of some saline matter cannot influence the qualities of ureine." How, we may ask, were the other organic substances of the urine having physiological influence removed, such as indican, aromatic oxy-acids, toxic basic bodies, etc., etc.? Further, what reason is there for believing that the presence of urinary saline matters cannot influence the toxicological qualities of ureine—potassium salts for example?

In the preparation of chemically pure (?) ureine from this point, following Dr. Moor's recommendations for making ureine for merely chemical purposes, the alcoholic solution was "treated successively with barytes to remove the sulphates and phosphates, with nitrate of silver to separate the chloride of sodium"! This addition was made very carefully in each case, to avoid excess of silver and barium, a precaution not referred to by Dr. Moor. But did all of this result in removal of inorganic salts contained in the urinary residue, or did it effect mainly their transformation? We think we are safe in saying that the potassium chloride, for example, still present in ureine was merely converted into soluble nitrate of potassium and into insoluble chloride of silver. The latter was filtered off later, but the nitrate remained in the ureine, possessing even more toxic influence than the corresponding chloride. In short, these reagents, speaking generally, removed radicles, not salts; the amount of inorganic matter left behind was undiminished, if not increased; and the mixture became in

[1] Moor: "The Discovery of Ureine, the Principal Organic Constituent of Urine." THE MEDICAL RECORD, 1900 (Sept. 22d), lviii. No. 12, p. 471.

reality more toxic. We fail to see, therefore, how chemical purity was approached by such awkward steps as these. We purposely followed Dr. Moor's directions in detail here, however, merely to obtain results that would be comparable with his. Very heavy precipitates formed on the addition of the reagents, showing how large was the proportion of inorganic substance in the ureine which its discoverer pronounced "sufficiently pure to satisfy all exigencies of clinical medicine and of physiology."

Finally, in the preparation of pure (?) ureine, as Dr. Moor directs, coloring matters were removed with mercuric nitrate. Much of the residual urea and other organic substances, as well as coloring matter, were precipitated from the mixture by this substance. At first the precipitate with mercuric nitrate dissolved in the mixture, but eventually became permanent. In order to avoid excess of mercury (Dr. Moor gives no suggestion in this connection), addition of the nitrate was discontinued when nearly all color was removed and only very slight precipitation was still obtainable. The bulkiness of the precipitate at this point, as well as its appearance, further emphasized the absurdity of considering the previous fluid anything but a mixture. The final liquid was decidedly acid in all cases, as all the filtrates had been from the beginning. According to the original paper, Dr. Moor neutralized with sodium carbonate at this point. "It is advisable then," he says, "to add a sufficient amount of sodium carbonate, so as to render the liquid slightly alkaline." After all this he described ureine as a "very slightly alkaline, almost neutral," substance. Was its reaction just what Dr. Moor made it? In his second communication Dr. Moor says, why we do not know, "It is better not to neutralize subsequently with sodium carbonate." Consequently, though he does not say so, ureine would have to be an acid substance, if purity had been attained by the procedure he has outlined.

The decolorized ureine was finally evaporated at 48°–50° C., to remove water, and then was carefully analyzed qualitatively. Employing customary methods of separation and detection, "purified" ureine was found to contain sodium, potassium, ammonia, phosphate, urea, creatinin, pyrocatechin, phenol, alkaloidal substances, and nuclein bases. Other urinary substances were present which we did not attempt to identify. In spite of the fact that we avoided excess of mercuric nitrate in the process of decolorization, we always found mercury in ureine. Doubtless a soluble organic compound of mercury that had formed with the nitrate was its immediate source. Nitrate and oxalic acid, also introduced during Dr. Moor's process of "purification," were constant constituents. Bluish to brownish amorphous material separated as the fluid concentrated after decolorization. Shaken up repeatedly with ether during a period of three months, ureine separated gradually into four permanent layers of different color and varying degrees of transparency, and the ether itself became slightly yellowish. Samples that had been allowed to stand exposed to the air for three months, deposited crystals of urea. The mother liquor yielded additional crystals when its temperature was reduced to, and held at, 0° C. Under these conditions the fluid became semi-solid, so large was the proportion of crystalline material.

Dr. William A. Taltavall, who has had considerable chemical experience in this laboratory with urinary extractive bodies, analyzed several of our preparations and favored us with some of the qualitative data just presented. Mr. A. N. Richards, assistant in physiological chemistry, has also given us valuable help in this connection. We cordially thank both of these gentlemen for their able co-operation.

In a special series of preparations designed to determine the influence of variations of the method, we obtained the crude ureine from forty-nine litres of urine, and then, dividing it into two equal parts, decolorized one half with mercuric nitrate, the other half with plumbic acetate. Since the deductions in Dr. Moor's first paper were based on the qualities of neutralized ureine, we neutralized with sodium carbonate one half of each quantity of the "purified" ureine. That is, of the portion decolorized with mercuric nitrate, one half was neutralized ("M—2"), the other was not ("M—1"). In the same way, one half of that decolorized with plumbic acetate was neutralized ("P—2"), the other remained acid ("P—1"). "M—2," "P—1," and "P—2" solidified after evaporation at 45° C. for about a week, because of crystallization of urea and inorganic matter. They were unlike in appearance and hardness; "M—1," a thick oily fluid at this stage, seemed to contain the least quantity of solid matter, and to hold the smallest amount of crystalline substance in suspension.

The appended table (results in duplicate) shows the loss in weight of samples of each of these preparations, after having been at higher temperatures for prolonged periods; also the ash of each:

Preparation.	Weight of Urine Taken.	On Water Bath 50 Hours.	Total Number of Days in Air Bath at 100–110° C.			Weight of Ash.
			3½.	10½.	25.	
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
M—1	3.90	3.36	2.63	2.25	1.88	0.1788
	3.94	3.37	2.64	2.23	1.96	.1818
M—2 (neutralized).	6.49	5.51	4.47	4.02	3.58	.8137
	7.63	6.66	5.49	4.82	4.10	.9566
P—1	5.65	5.03	4.16	3.79	3.41	.3562
	6.80	6.02	5.17	4.73	4.21	.4231
P—2 (neutralized).	5.12	4.58	3.81	3.53	3.08	.7590
	6.09	5.51	4.70	4.33	3.69	.7888

The following figures represent the loss of substance, at the end of the drying process, both in amount and in percentage, of original ureine; they give, also, the proportion of ash in the ureine and in the final dried residue:

Preparation.	Total Loss of Substance.		Percentage of Ash in:	
	Amount.	Per Cent.	Original Ureine.	Final Residue.
M—1	2.02	51.80	4.51	9.51
	1.98	50.25	4.61	9.27
M—2 (neutralized).	2.91	44.84	12.54	22.73
	3.53	46.26	12.53	23.33
P—1	2.24	39.65	6.30	10.44
	2.59	38.09	6.22	10.05
P—2 (neutralized).	2.04	39.84	14.82	24.64
	2.40	39.41	12.95	21.36

These results show at a glance that ureine, as our qualitative results proved, is not a definite chemical substance, and indicate that with comparatively unimportant modifications of method it varies greatly in composition. If it were "a body belonging to the group of alcohols of the aromatic series," we should expect to find little or no residue after such vigorous heating for so long a period. Except that they were viscid rather than fluid, and a little darker in color, some of the final products were the same in appearance as the original mixture and seemed little affected by the heating. If "at a temperature of about 80° C. it (ureine) begins to split into several bodies belonging to the class of aromatic oxy-acids," what organic sub-

stance, may we ask, is left behind that is so resistant to this destructive action of a temperature of 100°–110° C.? There was, of course, some decomposition of contained organic products; but, we believe, most of the loss represented in the above tables was due to elimination of water. The figures in the tables are valuable, then, for the suggestion they make that ureine is a mixture.

In his second communication Dr. Moor says: "If we add nitric acid to ureine, a solid waxlike mass will be formed at once, and this is a fact worth remembering, as otherwise one might think that this solid, waxlike substance was the result of a chemical combination of nitric acid and urea." In all probability it was. This waxlike mass could be obtained immediately with concentrated nitric acid in all of our ureine preparations. When it was broken up mechanically in an excess of concentrated nitric acid, and examined under the microscope, this mass was found to consist almost solely of urea nitrate crystals. Diluted somewhat, each sample of ureine gave an abundant yield of crystals of urea nitrate and urea oxalate, with the corresponding concentrated acids.

We cannot agree that "it is this constitutent (ureine) of urine which is the cause of its specific odor." The longer the period of evaporation in preparing ureine, we have found, the less distinct is the odor remaining with it. The ability of ureine "to take up large quantities of oxygen with great facility" is doubtless equivalent to the total capacity of its various constituents to do the same. The reaction with potassium ferricyanide and ferric chloride given by ureine may be attributed, in part at least, to the reducing substances we have found in it.

Dr. Moor's statements regarding the amount of ureine in urine, and also its specific gravity, cannot be credited. Our own experience in comparative observations shows that each is determined largely by the length of the period of evaporation in preparing ureine. The more prolonged the evaporation, after the time that vapor no longer can be seen arising from the fluid, the less is the volume, and the greater the weight, of residue (ureine).

With respect to the toxicity of ureine, upon which Dr. Moor lays so much stress, and its consequent influence in uræmia, little need be said in view of the chemical facts we have just presented. We tested this matter, however, in two experiments. In the first, in a healthy dog weighing 5 kgm., subcutaneous injection of 8 c.c. of "purified," concentrated ureine caused great restlessness, diarrhœa, diuresis, and vomiting during the first twenty-four hours. Marked local irritation and œdema about the point of injection also resulted. There were no convulsions at any time; no suggestions whatever of uræmia. The dog was chloroformed on the third day after injection.

In the second experiment, on a lively cat weighing 2 kgm., subcutaneous injection of 4 c.c. of the same preparation of ureine, after it had been further concentrated at 45° C. for forty hours, caused marked local irritation and was followed at once by restlessness; later by diuresis, diarrhœa, vomiting, paralysis, and finally by death in convulsions, nine hours after introduction.

The results of our second agree in the main with those of the single experiment, reported in detail by Dr. Moor, on a rabbit with "3½ c.c. of ureine obtained from the urine of a pregnant woman in the ninth month of her pregnancy." We are unable to say, however, that any single symptom exhibited in our experiments was due to any one definite chemical compound in the mixture Dr. Moor terms ureine. The poisonous action of ureine is doubtless due to the sum of the toxicity of the normal urinary compounds contained in it.

The fact has long been known that the normal urine contains substances of a very toxic character.[1] Potassium compounds, as all of our readers know, are prominent among these; but even more poisonous are the various organic bodies of an alkaloidal nature, present in only minute proportion. Dr. Moor's method of preparing ureine fails to eliminate completely either potassium salts or the normal basic alkaloidal bodies giving the typical reaction with potassium ferricyanide and ferric chloride, and the toxicity ascribed to ureine must undoubtedly be referred, in part at least, to these substances dissolved in it. The evaporation process from the beginning, it is perhaps needless to point out, causes an accumulation in ureine of these various products possessing toxic influence.

Summing up in a few words: Ureine is not a chemical individual. It is a *mixture* containing several of the organic substances and a considerable proportion of inorganic salts ordinarily found in normal urine. Further, its toxicity can be referred to some of these normal urinary constituents. Consequently, our knowledge of the cause of uræmia, we regret to say, has been in no way increased by Dr. Moor's work on ureine, nor can any of his deductions regarding the biological significance of this urinary complex be accepted.

A METHOD OF REDUCING DISLOCATIONS OF THE THUMB.[2]

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IT is a source of regret on the part of the writer that a definite cause of irreducibility in these cases cannot be assigned. In looking over the English literature from 1800 to 1899 the author has found the following various lesions given as causes of non-reduction:

The tendon of the flexor longus pollicis was lodged between the heads of the articular surfaces by winding round from the ulnar side in a case reported by Woodsworth in the London *Lancet* of 1863. He says reduction should be accomplished in these cases by rotating the distal portion inward and outward, followed by hyperextension and then flexion. Another attributes all evil influences to the lateral ligaments, and advises cutting them for reduction.[3] Another, and a very frequently assigned cause, is the flexor brevis pollicis, the heads being locked behind the metacarpal bone.

FIG. 1.—Dorsal Displacement.

J. W. Elliott[4] reported a case in which the bone was grasped between one of the heads of the flexor brevis and the tendon of the longus, and that in this case all

[1] The latest reference to the matter that we have seen is the recent paper by Dresbach, confirming the previously accepted general fact, without, however, isolating or identifying any active substances: "On the Toxicity of Normal Urine," The Journal of Experimental Medicine, 1900, v., p. 315.

[2] Read before the Society of Alumni of Bellevue Hospital, January 2, 1901.

[3] Taafe: London Lancet, 1873, vol. i., 300.

[4] Boston Med. and Surg. Journ., 1887, vol. cxvii., 625.

the ligaments were torn; demonstrated by operation for reduction. The sesamoids in the short flexor have also received a large share in this discussion. Louis Stimson, in his excellent work on "Fractures and Dislocations," assigns the cause to the anterior ligament with the following words: "The cause of this difficulty (in reduction) in all cases in which he exposed the joint, has been the torn edges of the anterior ligament, closely drawn across the back of the metacarpal behind its edge, and a slight nicking of that edge made reduction easy."

Personally, the author has no theory or demonstration to prove any cause, but feels that we must accept all causes that have been given, as each has by actual operative procedure been demonstrated as a factor in this class of injuries.

Neither do I claim any priority for the method which I shall describe, for in the literature of 1853 John Doe, of Vermont, reported a method[1] that bears a slight relationship in procedure, but he deemed it advisable to make sharp extension before manipulating. This method will be referred to later. Before describing the writer's method, some of the procedures advised and used during the nineteenth century will be briefly cited.

Fig. 2.—Volar Displacement.

Vidal's method, recommended by Roux and the French authors, consisted in slipping the handle of a large door key over the distal extremity of the thumb and using it as a means of traction, etc.

The Indian puzzle, as a means of traction, was recommended by Hamilton, of Buffalo. This is a cylinder of some woven fibre which was slipped over the distal end of the thumb, and as traction was made, the puzzle grew smaller in size and thereby gripped the thumb more forcibly, allowing of a great amount of force to be applied.

Levis' apparatus, unearthed now and then from the splint-box in many hospitals, I feel sure you are all familiar with. This was advised by Levis in the *American Journal of the Medical Sciences* of January, 1857.

The clove hitch, made of tapes, was another method of securing a firm grasp on the distal portion of the thumb.

The forceps of Blandin and Charrière was an instrument with two concave blades and powerful handles, the object being to grasp the dislocated portion firmly and allow of powerful traction.

It is needless to say that the employment of these instruments and devices has been followed by evulsion of the dislocated portion and even including muscular and tendon detachment.

Tatum in 1850 reported a case in which he excised the articular surface in a case of compound dislocation, infection taking place and amputation at the mid forearm resulting.

Subcutaneous cutting of the lateral ligaments was done with good (?) result by Taafe, the case being reported in the London *Lancet*, 1873, vol. i., 300.

B. Cutter[2] in 1858 reported a case of dorsal dislocation reduced by the Crosby method. This case, he stated, was held by the lateral ligaments.

A. B. Hirsch[1] reports two cases reduced by the Crosby method plus bilateral extension to liberate the lateral ligaments. These cases were distal phalanx dislocations.

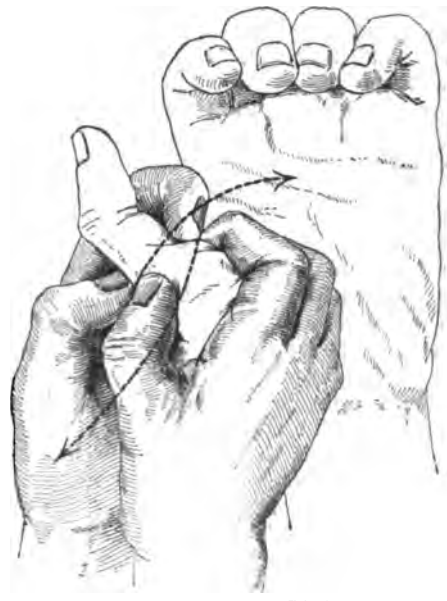


Fig. 3.—Reduction in Dorsal Displacement.

Crosby's method was thus described. The thumb is hyperextended by one hand of the operator, while the thumb of the other hand of the operator forces the phalanx in place by pushing on the phalangeal base. This was known as Crosby's right-angle motion.

Crosby's method with rotation has been used successfully. J. F. Helber[3] advises—on the theory of the cause of irreducibility being the heads of the short flexor—the use of a tenaculum to pull the flexor heads or tendons out of the way. He cited no case.

John Doe,[3] of Vermont, describes the following method: Place the patient's hand upon the knee, facing in the same direction as the patient, extend the thumb to a right angle, place the index finger on the ball of the patient's thumb, the operator's thumb on the back of the dislocated phalanx, and push forward.

You will note the differences in the method described by the writer, and to make the method more clear the author presents four illustrations. Figs. 1 and 2 show dorsal and volar dislocations of the metacarpophalangeal articulation. The dorsal does not show as well as the volar; both could be more marked, but owing to the subjects being frozen the artist was hampered in reproducing the actual conditions in his illustrations.

Fig. 4.—Reduction in Volar Displacement.

Figs. 3 and 4 show the method used. In Fig. 3, *i.e.*, in cases of dorsal displacement, the operator places his thumbs at the base of the proximal phalanx and the cushions of his

[1] American Journal of the Medical Sciences, vol. xxv., 401.
[2] The American Journal of the Medical Sciences, vol. xxxv., p. 561.
[1] Philadelphia Polyclinic, 83, vol. i., p. 40.
[2] Philadelphia Medical Times, 1882 and 1883, vol. xiii., p. 721.
[3] American Journal of the Medical Sciences, 1853, vol. xxv., p. 401.

index fingers on the distal extremity of the metacarpal bone. The forces are then applied in opposite directions, as shown by the curve of the arrows, *i.e.*, the index fingers pull the metacarpal bone in a condition of extension or abduction, while the thumbs raise and push the phalanges in a position of flexion. Should the dislocation be volar, which is rare, the procedure with reference to the operator's thumbs and index fingers is reversed, the thumbs lifting and extending the distal phalanges, and adduction or flexion of the metacarpal bone is made by the index fingers, as shown in Fig. 4, although the fingers should be placed lower than shown in the cut, so as to cover the prominence now seen at +, and the thumbs should be placed at the proximal end of the arrow pointing upward.

This method has been used by the author since 1887, and so far no failure in reduction has been met with. The citation of one case will be sufficient.

X——, aged thirty years, a male nurse in a sanatorium for insane and alcoholics, was attacked by his patient with a chair, and in attempting to ward off the blow received the impact upon his right thumb, and sustained a complete dorsal displacement at the metacarpo-phalangeal articulation. He was seen several hours afterward by a prominent surgeon, who made protracted efforts at reduction and finally suggested ether anæsthesia with operation. The patient objected and called in the neurologist in charge of his patient, who sent for the author. The signs were quite evident, although considerable swelling was present. The patient willingly submitted to a trial without anæsthesia, and upon the first attempt reduction was accomplished. A like experience resulted in a case of dorsal displacement in the mid-phalanx of the middle finger on the left hand in charge of another interne, during the writer's hospital interneship in 1887. Anæsthesia was required in but one case in this entire time.

Although the writer has not met with a failure up to date, no claim is made for infallibility, but he does claim that a fair trial will demonstrate the ease of reduction, and that anæsthesia and the cutting operations in this injury will be markedly decreased.

TUBERCULOSIS IN PRISONS AND REFORMATORIES.

By S. A. KNOPF, M.D.,

NEW YORK.

A few months ago I received from the distinguished secretary of the Indiana State board of health, Dr. J. H. Hurty, a letter speaking of the Indiana State reformatory in reference to a "most interesting tuberculosis situation" existing in that institution. The following are the facts which Dr. Hurty communicated to me: "This reformatory is in reality a prison for males, but no one over thirty years of age is confined there. In 1899 the legislature appropriated a quarter of a million dollars to build a new cell-house, containing six hundred cells. During the construction of this cell-house it was necessary to provide for the prisoners in the old cell-house, and temporary forced ventilation was provided. A space, however, formerly intended for two hundred is now crowded with almost six hundred, and the consequences are a rapid increase in tuberculosis. There are now not less than two hundred prisoners with the disease, all forms of which abound. Meningitis has killed a few and general tuberculosis is very common. This reformatory is situated at Jeffersonville, Ind., immediately opposite Louisville."

The other day I was honored by a visit from Mr. Charles F. Wingate, the eminent sanitary engineer of New York, in order to consult with me about the alarming tuberculosis situation now prevailing at Sing Sing.

Charities, the official organ of the Charity Organization Society of the city of New York, devoted in its number of January 19th an entire column to the subject of tuberculosis in the Elmira reformatory. I cannot do better than quote textually the interesting and instructive report of the board of managers of the Elmira reformatory, for the year ending September 30, 1900, as it appeared in *Charities:*

"For a number of years tuberculosis has been an increasing and dangerous feature among our prisoners. Many have it upon arrival, in a more or less advanced stage, others develop it under the trying conditions of prison life, with cellular confinement, and association with those already affected, and all unite in communicating the subtle and poisonous infection to their clothing, their bedding, and the air of the cells and corridors. The management further became convinced, by careful scrutiny, extending over many months, that prisoners, healthy on arrival, became affected, and sometimes with astonishing rapidity, by the disease, from being steadily confined in the same cell with a tuberculous subject.

"Inquiry showed that . . . no intelligent and complete analysis of the prison population for the purpose of separating the diseased from the healthy inmates had been undertaken, and no orders existed, nor was it the practice to exclude from the buildings civilian employees in whose families were contagious or infectious disease, such as measles, scarlet fever, or diphtheria, while such disease prevailed."

This renewed awakening to a danger to which I endeavored to call attention in several of my previous writings,[1] is gratifying to me, and to stimulate, if possible, a more widespread agitation for reform in this respect is the object of this article. To those familiar with the subject the above revelations are not new. Prisons all over the world have had for years the reputation of being the breeding-places of tuberculosis. Observations in this respect date back as far as 1825, when Baly[2] began to gather his statistics concerning the Milbank penitentiary in London. From these we learn that from 1825 to 1842 175 deaths occurred in this institution, of which no less than 75 were due to consumption. Besides these 75 cases 90 prisoners were set free during these seventeen years on account of being hopelessly afflicted with pulmonary tuberculosis.

Villemin,[3] to whom we are indebted for the first absolute proofs of the infectiousness of tuberculosis, shows that the mortality from consumption in French prisons was three to four times as great as that of the free population. Pietro Santa, also a French observer, reported that out of 27 deaths in the "prison civile" of Algeria 17 were due to consumption, and in the Central prison of Harrach no less than 57 deaths out of 153 were due to the same disease. Baer,[4] who investigated the condition of German prisons, published the following interesting facts: "During the first year of confinement 38 out of 100 deaths were due to tuberculosis, during the second year 45, during the third year 42, and during the fourth year 36." These statistics perhaps help to demonstrate that a great majority of consumptives among the prisoners have contracted their disease during the time of their confinement.

[1] Knopf: "Pulmonary Tuberculosis; its Modern Prophylaxis and the Treatment in Special Institution and at Home" (P. Blakiston's Son & Co., Philadelphia). "Some Thoughts on Overcrowding and Tuberculosis" (Jour. of the Amer. Med. Assoc., October 20, 1900).

[2] Hirsch: "Handbuch der historisch-geographischen Pathologie," 2d edition, 1876.

[3] Straus: "La Tuberculose et son Bacille," Paris, 1895.

[4] Baer: "Ueber das Vorkommen von Phthisis in den Gefängnissen" (Zeitschrift f. klin. Medicin, 1883, Bd. 6).

Now let us, in the light of our present bacteriological knowledge of tuberculosis, as well as with the aid of what our fathers taught us of the non-bacterial causes of consumption, enumerate, if possible, all the reasons for this fearful mortality among prisoners in nearly all penal institutions, in this and in other countries, and learn therefrom what may be done to remedy the conditions. I have myself in an inofficial position visited some prisons in this and in other States. What surprised me in some was the absence of spittoons and the absence of regulations concerning expectorating. Now, I venture to say there is not a prison of any size where there are not at least a few tuberculous prisoners. They may not be known as such to the prison authorities, but they exist nevertheless, and with no spitting regulations, no spittoons, they certainly constitute constant centres of infection. But even should there be spittoons and should spitting regulations be observed religiously by the inmates, there still remains the drop infection. This method of infection, while of much less importance in the average free patient than in the tuberculous prisoner, must, in my humble opinion, be considered one of the very important manners of propagating the disease in prisons. The little drops of bacilliferous saliva, expelled during the so-called dry cough, loud speaking, sneezing, etc., fall to the ground before they reach a distance of more than three feet. The trained free patient will keep his handkerchief before his mouth during dry cough or sneezing, nurses and friends can be taught not to approach the patient unnecessarily close or long, and the danger of drop infection can thus be reduced to a minimum. In a cell, often not much wider than three feet, occupied by two prisoners, drop infection is rendered easy, and if one of the inmates is tuberculous the other will surely contract the disease, leaving aside the additional causes which foster tuberculosis in prison life. Drop infection is not only possible in the cell, but just as much and perhaps more so when the prisoners sit or stand close together, or face each other at the work table. It is also possible when they march lock-step, as they are then even closer together than when at work, though perhaps the infection of the prisoners' clothing plays here the most important part.

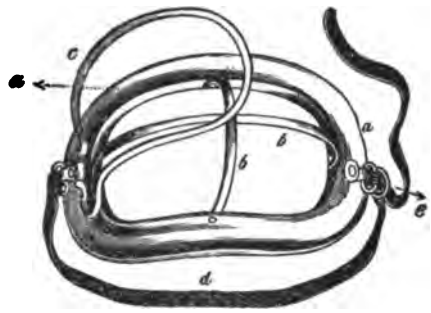
As a final evidence of the fact that the healthy prisoner is very often directly infected by his tuberculous cell-mate, we must mention yet the statistics of Döderlein and others, published in Cornet's recent book,[1] according to which the mortality from tuberculosis among the prisoners condemned to solitary confinement is considerably less than among ordinary prisoners.

So much for the infection by the inhalation method. The possibility of infection coming from imperfectly disinfected cells, clothing, bedding, mattresses, etc., used previously by a tuberculous individual, must, however, also be thought of. We will not speak here of ingestion and inoculation of tuberculosis. Prisoners are no more exposed to this mode of infection than others, but let us rather seek the causes which render the individual so very susceptible to the germs of tuberculosis during the average prison life.

As a primary predisposing cause to consumption during prison life we must, of course, consider the lack of fresh air. I have learned that there are some prisons in which one hundred and fifty cubic feet only are allotted to each pair of prisoners for the night, which means seventy-five feet per individual. The work-rooms may offer more cubic space, but we have here the additional dust from the material worked with. If tuberculous patients are employed in the workshops, which at the present time is very likely in the majority of prisons, the dust will have its large admixture of tubercle bacilli.

[1] Cornet: "Die Tuberkulose," Berlin, 1899.

Next to the lack of fresh and pure air we might mention as a predisposing factor the prison fare. In view of the excellent reputation our American prisons have in this respect, it would be unjust to say that all prisoners are underfed. This is not so, but there are some prisons where an improvement in the food, in its selection and preparation, would tend to decrease the morbidity and mortality from tuberculosis. The condition of the buildings and the soil on which they stand are not infrequently the cause of rendering tuberculous disease, so to speak, endemic in these institutions. It is well known that damp soil fosters tuberculosis. A prison situated on damp ground is always in danger of having more tuberculous patients than one built on dry soil. The material, too, used for the building of prisons has a great deal to do with the sanitary conditions. I am indebted to Mr. Wingate, the above-mentioned sanitary engineer, for the interesting information that the walls of our prisons made entirely out of stone tend to retain moisture and cold more than any other building material, and thus



ipso facto help to foster tuberculosis almost as much as does damp soil.

Another important factor, tending to create a favorable soil for the invasion of the bacilli in an individual condemned to prison life, is a psychic one. The mental depression of many prisoners is well known; it may be due to remorse, nostalgia, love of liberty, or to all these. Many prisoners are constantly sad. In sorrow one eats but little, the arterial pressure is low, the muscular weakness and depressed nervous state make the act of breathing incomplete. The heart is called on to do more work and perpetual palpitation ensues. The circulatory disturbances in the lungs impair the nutrition of this organ, and thus this field for the invasion of the bacillus of tuberculosis is prepared.

After having studied the causes let us try to seek the remedy. The most rational one which suggests itself to one's mind would be that there should be special prisons for tuberculous criminals as there are for the insane criminals. Such a rational change of the situation may not be brought about so easily, and it might be more practical to seek remedies which can be applied immediately.

The tuberculous prisoner must be separated from the non-tuberculous in the workshop as well as in his cell. This can be done and should be done. Every prisoner upon entering the penitentiary or reformatory school, or only the detention prison, should be carefully examined physically in addition to the bacteriological examination of the sputum. Every inmate of any of these institutions should be re-examined once every three months. This examination should not be confined to prisoners alone, but should be obligatory for wardens, keepers, officials, and help.

How the local division of tuberculous and non-tuberculous prisoners can best be effected will depend very largely upon the situation and the capacity of the institution and should be supervised and directed by the medical officer of the institution. An officer or an employee of the prison, if found to be tubercu-

lous, should in his own interest leave the institution, seek if possible the best hygienic surroundings, and submit himself to thorough treatment.

What is to be done in the line of treatment of tuberculous prisoners must also depend upon the location of the prison and the means at the disposal of the authorities. To form convict camps, an experiment tried in Alabama, might be productive of a great deal of good; but what it is best to do with tuberculous prisoners in the various stages of the disease is still a problem requiring a good deal of study. One thing is certain, in the interest of their own welfare as well as that of the community at large, tuberculous prisoners should be separated from the others. The clothing of the prisoners, but more particularly that worn by tuberculous individuals, should be regularly disinfected. The same rule also holds good for bedding, mattresses, etc. No matter whether there are tuberculous patients or not, there should be spittoons and spitting regulations in all prisons. Cheap pocket spittoons might be perhaps most suitable. Every inmate, whether tuberculous or not, should be enjoined never to expectorate except in his individual flask.

Prisoners should also be taught always to hold a handkerchief before their mouths during sneezing or coughing. In short, the discipline to avoid drop infection and infection from carelessly deposited sputum in a prison should be equal to that of the best conducted sanatorium for consumptives. Such precaution would not only tend to diminish the danger from the expectoration coming from individuals suffering from tuberculosis, but prove also of great prophylactic value in epidemics of grippe, measles, whooping-cough, etc. To avoid drop infection, prisoners should be about four feet apart when in the workshop, and whenever practicable each one should have his own cell. Whenever from lack of room tuberculous prisoners cannot be separated immediately from the others, and where even the workrooms are so crowded that the prisoners cannot be placed at least three feet from each other, the tuberculous inmates of the institution should wear mouth masks. Such masks, of which I give an illustration here, were first introduced by Prof. B. Frankel, of Berlin, in his division of the Charity Hospital of that city. There all the tuberculous inmates must wear these masks to catch the germs they expel in speaking and coughing, and are allowed to remove this protector only while eating or expectorating. In Professor Frankel's clinic, as also in others where this custom has been imitated, the patients have soon become accustomed to the use of the mask. It seems to me that in a prison, where discipline is still more easily carried out, such measures could be beneficially installed. By impregnating the gauze, which is held in place by the metallic frame of the mask, with some medicinal substance, the tuberculous prisoners could be made to believe that the instrument was worn for their own personal benefit instead of for the benefit and protection of others, or, as they might think, as a means of designating them as individuals suffering from a contagious disease. Thus, even the humane arguments for not using such a mask would have no foundation. Where these masks have been used, bacilli have been found almost constantly on the gauze. Frankel's and Moszkowski's experiments[1] have demonstrated the great value of these protective masks, which can be easily disinfected. The gauze should, of course, be changed at least once a day and immediately be burned after removal. Plumbing and ventilation throughout the prison buildings and especially in workshops and cells should be made as perfect as possible, and the cubic space allotted per individual at night time be at least three hundred to four hundred feet. Great attention should be paid to the good condition of the sewerage system. No prison should be erected on damp soil, and the material serving for its construction should not be such as to retain cold and dampness. When in the opinion of the prison physician a change or betterment of food is indicated, in order to preserve the health of the prisoner, his request should be complied with. Wherever practical, outdoor work should be sought for the prisoners, but at least a few hours of outdoor exercise every day should be made possible for the well-behaved prisoner.

To counteract the mental depression to which so many prisoners are subject, I know of no better remedy than the multiplication of prison angels. The sermons preached on Sundays in the prison chapel are doubtless always of a beneficent influence, but they do not reach the individual in the same measure as the gentle words of our woman prison angels.

In conclusion, I wish to say to those who think that tuberculosis among the criminal class should be regarded rather as a blessing, since it exterminates an undesirable element in society, that all criminals are not criminals for life. The majority of them do not remain in prison, but return to live again in our communities, mingle with us as other people, and if they are tuberculous they not only can transmit the disease to others but also can become a burden to the community. Therefore, putting aside all sentimental reasons why we should combat tuberculosis among the inhabitants of prisons as well as among other people, we should do it in the interest of the healthy prisoners who may again become useful members of the community, and in the interest of the people at large.

16 West Ninety-fifth Street.

[1] Frankel: "Die Tröpfchen-Infection der Tuberkulose und ihre Verhütung."

Acute Pulmonary Œdema.—J. Teissier (*Wiener medicinische Blätter*, November 1, 1900) concludes as follows: (1) Even severe and sudden mechanical disturbances are not in themselves, as a rule, capable of producing pulmonary œdema. The experiments of Cohnheim and Lichtheim have already shown that ligation of the aorta below the diaphragm or ligation of the pulmonary veins might be accomplished without producing pulmonary œdema; in my experiments complete and continued compression of the anterior and the entire aorta in dogs has been produced, without giving rise to pulmonary œdema, except when this compression was carried to such a height that the pressure in the pulmonary artery was tripled and of sufficient degree to force out the trocar. (2) If to such a mechanical disturbance there be added an irritation of the cardiac plexus (compression of the left ventricle or auricle or irritation of the peripheral vagus stump), then we can see mild disturbances in the carotid and pulmonary arterial pressure, that is, simultaneous elevation of both pressures with the maximum in the pulmonary; with this there occurs a slight œdema, which appears in streaks on the surface of the parenchyma and especially at the basis of both lungs. These streaks signify hepatized or atelectatic areas, produced by intra-alveolar transudation around which circumscribed zones of compensatory œdema develop. (3) The œdema is permanent and widespread only when the animal is given a preliminary intravenous injection of 1–7 c.c. of methyl salicylate. (4) This previous intoxication appears both experimentally and clinically to be the first step in the production of acute pulmonary œdema; it may give rise to an enormous œdema, without any unusual modification of pressure in the left ventricle or pulmonary artery. It was easy to determine that acute œdema could be readily produced experimentally, without any marked change of pressure in the left ventricle.

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THE NEED FOR MORE EFFICIENT SANITATION.

THE problem above all others which awaits solution is not how to invent the most deadly weapon of offence or defence, nor to evolve the best means of living cheaply, nor to discover a specific for each and every disease; nor is it in the sphere of high politics; but the problem is to devise the most effective methods of improving the sanitary conditions of cities and of teaching and enabling the poorer classes throughout the world to lead a healthy life—in short, to endeavor to banish disease by rational preventive measures. It would be superfluous here to do more than point to the curtailment of disease already brought about by various modes of thorough sanitation intelligently carried out. Suffice it to say that the results have been so illuminating that they have shed a bright light upon the possibilities of the future, and have acted as a beacon for the guidance of social reformers. The question of sanitation, however, is such a wide one that within the limits of an article it will be possible to deal with only a few of its more salient features.

At the Pan-American Congress just held in Havana, Dr. Walter Wyman, surgeon-general M. H. S., gave an able address on the subject, and especially urged that municipalities should more fully recognize their responsibility and their duty to the community by insisting that the cities and towns under their control should be kept clean and wholesome throughout; and he rightly drew attention to the fact that in order to bring about this state of affairs it will be necessary to cultivate among the people a demand for municipal sanitary excellence, and as great an abhorrence of municipal filth and neglect of sanitary engineering as there is of uncleanly dwellings and of uncleanliness of person. A good water supply, perfect sewerage, and proper disposal of garbage, good street paving and street cleaning, should be the first boast of every municipality. But these are no new truths; and although it is perfectly right that they should be constantly ventilated, and that, if possible, the mass of the people should be educated to appreciate their full significance, and while at the same time thinking persons of all grades of society have come or are coming to a belief in the virtues of proper municipal sanitation, and take a pride in the beauty of the town in which they live, yet the difficulty is that the real root of the evil is not grappled with, and that the localities in which disease is nourished and the sources from which it is spread far and wide are too often untouched. As Dr. Wyman pertinently remarks: "There is no reason whatever for the existence of slums in any city. Relatively speaking, too much attention is paid to public parks and handsome municipal buildings. The city's improvements should be in the alleys, around the docks, in the tenement-house quarters; and great as may be the appreciation of public art as manifested by statues and public gardens, and of the parks and boulevards, let these wait upon the less showy but more important features of municipal life. The old saying, 'What the eye does not see the heart does not grieve for,' applies with equal force to cities as to individuals.

"The faults that do not obtrude themselves upon the observation are by the majority of people passed by heedlessly. The plague spots of large centres of population are invariably in out-of-the way places. Therefore the sewerage, paving, light and ventilation of these, the worst sections, should receive the first and most constant attention. Unfortunately it is notorious that this is not the case, and the energies of the municipal authorities are for the most part concentrated upon the effort to keep the principal thoroughfares in a satisfactory sanitary condition to the neglect of the disease-breeding purlieus. The wealthy and presumably better-educated portion of the community display in this connection a lamentable lack of foresight, and their apathy with regard to the unsanitary conditions of the districts inhabited by the poor classes in many instances may be termed almost suicidal." Dr. Wyman puts the situation plainly when he says: "It is an interesting matter for conjecture—What would be the effect upon the prevalence of contagious disease if there could be a complete wiping out of all slums and low tenement-house districts in all our cities? It matters not that an epidemic once started may prevail as violently or more violently in the better portions of a city, and that cleanliness and sanitation may then have but little effect upon its progress. The fact remains that for the perpetuation of these diseases among the people filth and bad environment are essential; and when we reflect how easy and natural is the upward gradation of infection, how readily through successive grades it may ascend the social scale from the lowest to the highest, the direct and personal interest of the wealthy and more intelligent classes of a community in the condition of the poor and ignorant becomes manifest." The fact is that well-to-do citizens are both directly and indirectly concerned with the physical and moral welfare of their poorer brethren, and that a failure to realize their true position in the matter will inevitably recoil disastrously upon their own heads. The men of almost unlimited wealth, "rich beyond the dreams of avarice," who are more numerous in this country than in any other, and who, to their credit be it said, are as a class by no means backward in furthering charitable schemes, seem not as yet to have become impressed either with the need of or with the good to be done by assisting with their money the cause of efficient sanitation.

In Europe and in Great Britain especially, many philanthropists of ample means have expended large sums in improving the dwellings of the poor, with on the whole most satisfactory results. The writer of the address to which reference has been made comments upon the immense amount — $61,000,000 —which has been contributed during the past year to educational, religious, and charitable objects and institutions in the United States, and makes the just reflection that while such lavish benevolence is a magnificent manifestation of prosperity and philanthropy combined, yet in the list of benefactions there is no mention of purely sanitary gifts or endowments. He is of the opinion that more practical and beneficial results would have been obtained if this $61,000,000, instead of being expended upon educational, religious, and charitable institutions, had been devoted to reclaiming the slums, and in the purchase and destruction of rookeries, with the erection in their stead of modern sanitary tenement houses; and that, too, even though the money had not been expended outright as a gift, but as a safe though moderately paying investment. In the MEDICAL RECORD the evils of the tenement-house system, as present in New York and many other American cities, have been frequently discussed, and it has been argued that these cities should follow the example of London and other European towns in demolishing on a wholesale scale dwellings constructed on such principles, and in building houses in which human beings may live as human beings and not as cattle. The tendency of up-to-date treatment of disease is rather to prevent than to cure. The policy is assuredly a wise one. But so long as districts reeking with filth, overcrowded, lacking light, air, and ventilation, are allowed to exist, the hope of stamping out or even checking disease to any great extent must be dismissed as Utopian. Sanitation carried out thoroughly and rigorously is the only panacea.

THE REPORT OF THE SURGEON-GENERAL OF THE ARMY.

THE report of the surgeon-general of our army increases each successive year, both in the quantity and in the importance of the information therein contained. That this must be so will be readily understood when it is considered that the army is much larger than ever before, while it is more widely scattered than was formerly the case. Indeed, with the possible exception of the soldiers of Great Britain, the fighting men of this country are located at the present time in lands more distant and in climates more various than are those of any other nation.

Necessarily the opportunities provided the United States military surgeons of studying injuries and disease are on a correspondingly extended scale.

The report of the surgeon-general of the army for the year ended June 30, 1900, is without exaggeration an extremely valuable document, and one from which the ordinary medical practitioner can gather a multitude of useful points. The report states that during the calendar year 1899 there were 229,885 admissions to sick-list recorded in a mean strength of 105,546 regulars and volunteers. This is equivalent to a rate of 2,178.06 per thousand of strength as compared with 2,146.18 per thousand during the year 1898, and with 1,236.66 the mean annual rate of the decade 1888–97. Of the admission rate for the year, 714.99 were constituted by malarial diseases, 380.69 by diarrhœal diseases, and 192.48 by injury, of which 21.56 admissions per thousand men resulted from gunshot. Typhoid fever contributed only 20.69 cases per thousand of strength. In 1898 typhoid fever contributed 141.59 cases per thousand of strength. The deaths in 1899 amounted to 1,945, equal to a rate of 18.43 per thousand, as contrasted with 27.99 during the year 1898 and with 6.69, the mean of the preceding decade. The troops serving in Cuba had the highest rate of admission, 2,749.74 per thousand, as against 3,413.54 per thousand in 1898, the result of exposures during the active service of the Santiago campaign.

The statistics for the years 1898 and 1899 show that when the rates for the white and the colored troops of the whole army are compared, malarial infections occurred more frequently among the latter than among the former. This, however, does not imply a greater susceptibility on the part of the colored men, but is referable to the fact that during a part of the time all the colored regiments were exposed to Cuban malaria, while only a relatively small proportion of the large force of white troops was similarly exposed. In those instances in which white men and colored men were subjected to the same malarious influences, the white troops suffered more severely than the black soldiers. The health of that portion of the United States army, both of regular and of volunteer, serving in the Philippines during the time dealt with by the report, was fairly good. In 1899, with a mean strength of 39,280 regulars and volunteers, the admission rate for all causes of disability was 2,395.52 per thousand of strength; for disease, 2,206.36; for injury, 189.16; for gunshot injury, 52.26. The death rates corresponding to these admission rates were respectively 30.58, 15.28, and 12.60. It is satisfactory to note that although the admissions for disease, as well as the death rate from all causes, were considerably increased during the period referred to, the death rate from disease was appreciably reduced. The increased admission rate was due to diarrhœal diseases, malarial infections, and injuries. Diarrhœal diseases formed 642.80 and malarial infections 624.37 of the total admission rate.

The lessened rate of mortality from disease resulted from a lessened prevalence of typhoid fever, with a consequent lowering of the death rate from that disease. The lower death rate was also in part due to the milder character of the malarial infections, the death rate from these diseases being only 0.89, as compared with 1.51 in the preceding year. The increase in the totality of the death rate was the consequence of active service, as expressed by the mortality rate from gunshot, which was much higher than in the previous twelve months. Two hundred and sixty-seven cases of smallpox, 78 of which were fatal, gave rates respectively of 6.80 and 1.99 per thousand of strength.

The establishment of post and regimental hospitals is declared, as may well be believed, to have been of great benefit in relieving the base hospitals and those in Manila. Undoubtedly the most important work performed by army surgeons in the Philippines has been the care and attention given to sanitation, in which efforts they have been ably seconded by officers and men. Another point to which notice is rightly called is with regard to the food of the soldier in the tropics, and especially as to the criticisms that the regular ration contains too much meat and too little starch. Col. Charles R. Greenleaf, assistant surgeon-general, stationed in the Philippines, writes as follows upon the question:

"It has been alleged that the soldier should be fed somewhat after the manner of the native, largely on rice and starchy foods, and the quantity of his meat (beef and bacon) diminished. However sound these views may be as scientific theories, they are not supported by the results of practical experience. It does not appear after careful observation that the food furnished the soldier by the present ration produces sickness either by its variety, character, or quantity, provided it is properly cooked and eaten in moderation." In the MEDICAL RECORD, opinions almost identical with these have been expressed more than once. In Cuba the health of the troops, as was to a great extent to be expected, compared very favorably with that of the previous year.

This gratifying state of affairs was due not only to the fact that war, with its dangers to health and limb, was over, but also to the improvements in sanitation introduced and carried out by the energy of the army surgeons. In Porto Rico the death rate among the troops fell from 48.48 in 1898 to 11.27 in 1899, a sufficiently convincing proof of the altered conditions in that island. The report states that as regards smallpox the regular troops were better protected from the infection than the volunteers. This is shown by the relative prevalence of the disease among the troops in the Philippines in 1899, where large mixed commands operated during the whole year in a dangerously infected country. Among a mean strength of 22,922 regulars there occurred 110 cases, of which 28 proved fatal, while among the volunteers, with a mean strength of 16,358, there occurred 157 cases, 55 of which were fatal. The rate of admission per thousand of strength among the regulars was 4.80; among the volunteers 9.60; and while the death rate among the regulars was only one per thousand men, among the volunteers this rate was 3.36 per thousand. The coincidence is somewhat curious, as later in the report it is stated that although the number of vaccinated men is not known, probably all the accepted recruits for the regular army, together with the United States and State volunteers, were vaccinated or revaccinated in accordance with regulations. Mention is made of the appearance of bubonic plague in the Pacific Islands, and an interesting account is given of the history, epidemiology, bacteriology, treatment, and prevention of that scourge.

One of the most valuable papers contained in the report is contributed by Acting Assistant Surgeon Thomas W. Jackson, United States army, being the record of twelve months' observation of Cuban malarial fevers in Pinar del Rio Province. Pulmonary consumption as a cause of death in the army was practically the same in 1899 as in 1898. In the former year the admission rate for Porto Rico was 5.10, for Cuba 4.49, and for the Philippines 4.48; the highest death rates occurred in Porto Rico and the Philippines, 0.80 and 0.79 per thousand men. The admission rate for the army for venereal diseases exhibited in 1899 a rather deplorable increase. Alcoholism was responsible in the same year for a larger amount of sickness and mortality than in 1898, but official reports do not sustain the statements made by newspaper articles as to the disastrous effects of "vino" and other alcoholic drinks among our troops in the Philippines. During the year 1899 there were reported from the army, regulars and volunteers, 2,276 cases of gunshot injury, with 149 deaths, or 6.5 per cent., resulting from the wounds and 4 deaths from causes other than the wounds, 1,714 were returned to duty, 180 were discharged on certificates of disability, 134 by order and 80 by muster out or expiration of term of service. In 2,268 of the total number of injuries, the head, face, or neck was wounded in 257 cases, or 11.4 per cent.; the trunk in 402 cases, or 17.7 per cent.; the upper extremity in 763 cases, or 33.6 per cent., and the lower extremity in 846 cases, or 37.3 per cent. Of 98 wounds of the abdomen 38 were non-penetrating and 60 penetrating wounds. None of the former were fatal, but 41 of the latter proved fatal, constituting 68.3 per cent. of the whole number of penetrating wounds.

Insanity in the army in 1899 showed an increase over the mean annual rate of the decade 1888–97, but this higher rate has not been enough to warrant the sensational accounts which have appeared in the newspapers from time to time within the past year. The explanation given in the report, that this increase was to be anticipated on account of the rapidity with which recruiting was effected during 1898 and 1899, will satisfy those who are best qualified to pass a fair judgment on the matter. No one who reads the report of the surgeon-general of the army for 1899 with an unbiassed mind can do aught but give Dr. Sternberg and his coadjutors the highest praise for good work successfully accomplished. The manner also in which the result of and the experience gathered from their labors is set forth is most excellent. The report is greatly embellished by some really splendid photographs depicting hospitals in the Philippines which have been erected or converted to the purpose of caring for the sick, by the exertions of the army medical department.

CRUSADE AGAINST UNLICENSED MEDICAL PRACTITIONERS IN MINNESOTA.

THE State board of medical examiners of Minnesota is taking steps to prevent the illegal practice of medicine in that State. It appears that although the act to regulate the practice of medicine in the State of Minnesota is, with the exception of an amendment which was made in 1895, fairly stringent in its provisions, these are frequently broken or ignored. The

members of the board realize the fact that it is just as much their duty to punish persons violating the provisions of the act as it is to license physicians and surgeons, and, accordingly, action has been taken with this object in view. Since January 1, 1900, many prosecutions have been undertaken, all of which have proved successful. The medical board is now endeavoring to have the act revised, believing that the standard of medical education would be greatly advanced if this were done.

The policy of the board is set forth in a resolution passed January, 1900, as follows: "That from and after this date the secretary of this board be instructed to enforce the provisions of the medical act, and to require each and every person to obtain a license before beginning the practice of medicine in this State." It was further resolved at a meeting held in June, 1900, "That the secretary notify all physicians not residents of this State, who are known to be practising medicine in Minnesota other than as consultants, that it will be absolutely necessary for them to comply with the statutes, and the secretary be instructed to begin prosecution when necessary in such cases."

Not the least important duty will be the investigation of charges of dishonorable conduct on the part of certain advertising medical practitioners, which has been brought to the attention of the board.

This movement on the part of the Minnesota board is well advised and should be vigorously proceeded with. The MEDICAL RECORD has at all times advocated the raising of the standard of medical education in all the States and the prosecution of those who fail to fulfil the obligations placed upon them by the provisions of the medical acts. There seems to be at the present time an epidemic of quackery everywhere, and it is incumbent upon medical men to band together to protect their own interests. As pointed out in the MEDICAL RECORD, January 19th, it is the purpose of the Medical Society of the County of New York to begin an active crusade against unlicensed, and therefore incompetent, practitioners; and it will certainly be for the welfare of the medical profession throughout the United States if the examples of New York and Minnesota are followed.

THE SANITARY SUPERVISION OF CUBAN PORTS.

AMONG the propositions regarding Cuban relations, suggested as amendments to the Army Appropriation bill in Congress, is one "that the government of Cuba will execute, and as far as necessary extend, the plans already devised or other plans to be mutually agreed upon, for the sanitation of the cities of the island, to the end that a recurrence of epidemic and infectious diseases may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the southern ports of the United States and the people residing therein." This is a substitute for an amendment first proposed, that "the United States shall have sufficient supervision of the laws of Cuba relating to sanitation to protect this country from epidemics liable to originate in the island." We much prefer the wording of this proposition to that of the one to be adopted, for it offers greater security for the attainment of the object purposed. When the revolution in Cuba began six years ago, we called attention to the possible effect of its success upon the health of this country, in that the opportunity would be open to us to clean out the pest holes which Spanish misgovernment had created and maintained there. Now that we have had sanitary control of the island for two years, and that the labors of General Wood, Major Gorgas, and others have accomplished so much, we cannot afford to endanger the results already obtained by unconditionally turning affairs over to inexperienced hands. There are men of the highest scientific attainments in Havana and elsewhere in Cuba who, if permitted, would continue the good work initiated by medical officers of the U. S. army and Marine-Hospital service. It is for this country to see to it that these competent men are not thrust aside, the control of sanitary matters being given to ignorant laymen as a reward for political services. That the fear of such action is not an idle one is shown by the protest of a Cuban paper recently against the expenditure of so much money on sanitation, the ground for the editor's objection to cleanliness being that the natives were immune against yellow fever; and the non-immune foreigners could stay away or die as they preferred. The stamping out of yellow fever in Cuba is a matter of vital importance to us, and the United States should have a controlling voice in sanitary affairs on the island, at least until this object has been accomplished.

News of the Week.

The Medical Society of the Missouri Valley will hold its annual meeting in Omaha, March 21st.

Scarlet Fever and Yale Students.—Two cases of scarlet fever have been discovered in a Yale University boarding-house.

Academy of Medicine.—In the section on general medicine, Dr. E. Franklin Smith has been elected *Chairman* and Dr. James N. West *Secretary*.

Religious Services to Smallpox Patients by Telephone.—In Mount Pleasant, Mich., where smallpox prevails, a large number of victims received simultaneous religious consolation by telephone.

Fined for Falsifying a Death Certificate.—A Brooklyn physician has been fined $100 in the Court of Special Sessions for having filed a false death certificate in the case of a man who died of smallpox. A cause of death other than the true one was given in the certificate.

Annual Dinner of Mount Sinai Hospital Alumni Association.—The annual dinner of this association was held February 20th, at the Arena. Dr. Charles H. May, the president, acted as toast master, and the following guests responded to the toasts: Dr. George

F. Shrady, Dr. E. Gruening, Mr. Wallach, president of the board of trustees of the hospital, Dr. A. Jacobi, Dr. John A. Wyeth, Dr. Mark Blumenthal, and Dr. B. Sachs.

A Hospital Quarrel in Orange.—The house physicians at the Orange (N. J.) Memorial Hospital recently sent in their resignations to the medical board, with a request for their immediate acceptance. This action is said to be the outcome of a quarrel with the woman superintendent.

Burning of a Hospital in Tokio.—The hospital of the medical department of the University of Tokio, Japan, a wooden structure, was totally destroyed by fire on January 29th. Twenty-one of the patients were burned to death, and ten patients and nurses were more or less seriously injured.

The Loss of the "Rio de Janeiro."—By the sinking of the Pacific Mail steamship at the entrance to San Francisco harbor, two physicians were drowned, Dr. William E. Dodd, an ophthalmologist of Butte, Mont., and Dr. Onkawara, a Japanese physician. Dr. Arthur O'Neil, the ship's surgeon, was saved.

The California Medical Practice Bill, now before the legislature of that State, is in danger of being beaten by the osteopaths, Christian scientists, and quacks of all sorts and conditions. There are said to be twenty-seven Solons pledged to vote against it, and the papers state that Governor Gage, never conspicuous for his devotion to science, has joined the forces opposing it, and promises to veto the measure if he cannot prevent its passage in the legislature.

The Plague at Cape Town.—An exacerbation of the plague which has been lurking in a number of coast towns in South Africa for many months, recently occurred at Cape Town and caused some uneasiness lest the British troops stationed there should be attacked. The visitation is reported now to be subsiding, and no new cases have appeared among the eighty Kaffirs who were under detention after having been exposed to contagion. The mortality has been light and no cases have appeared among the British troops.

Hazing a Medical Student.—A student in the medical school of the University of Maryland, Baltimore, whose mustache had been cut off by some of his fellow-students in an upper class, caused the arrest and fining of his tormentors. Feeling ran high against him, and in order to give it time to subside he remained away from the lectures for a week or ten days. His stay was not long enough, however; for on putting in an appearance in the lecture room he was greeted with hisses and groans and pelted with rotten eggs, while a large portion of the class left the lecture as a protest against his presence.

Smallpox is still prevalent in this city, despite the efforts of the health officials to subdue it, one or two new cases being reported almost daily. There has been a great falling off in the number of vaccinations during a few weeks past, the alarm of the public caused by the discovery of the first few cases having been succeeded by apathy. The health board recently appealed through the newspapers to the people of the city to protect themselves by vaccination, otherwise, it was intimated, a serious outbreak was to be feared. This apathy is in contrast with the active interest aroused in Woodbury, N. J., by the discovery of three cases there last week. The health officers ordered all the churches, Sunday schools, day schools, and the public library closed, and citizens were warned not to congregate in crowds. Within a few days after the discovery of the first case, over four thousand vaccinations were made.

The President of Johns Hopkins Resigns.—Dr. Daniel Coit Gilman, president of the Johns Hopkins University, Baltimore, has resigned, the resignation to go into effect at the close of the academic year, September 1st. Dr. Gilman has been with the university since its foundation, twenty-five years ago.

Suicide of a Hospital Patient.—A patient in a ward on the fourth floor of the Columbus Hospital got rid of the attending nurse one morning, and running to the window, flung himself headlong out. He struck on the roof of a one-story extension, and died in a few minutes. He was under treatment for Bright's disease.

Spitting in Street Cars.—The Metropolitan Street Railway Company is causing to be placed in its cars a revised anti-spitting notice, which specifies that spitting upon the floor of a car is a violation of the sanitary code, and is a misdemeanor, the extreme punishment for which may be $500 fine and one year's imprisonment, or both. The warning is very salutary, the law of the matter is good, and we hope that violators will be made an example of.

Christian Science and Testamentary Ability.—The will contest which has been going on in this city for several weeks has reached the stage of calling medical experts to testify as to whether or not a person who accepts entirely the tenets of so-called Christian science is of a mind sufficiently sound to dispose of her estate without the intervention of the law. The weight of the medical evidence has been that a person who believes in Christian science is suffering from a delusion and is consequently not sane in the strict meaning of the word. Many absurd statements have been elicited from the Christian science witnesses, called to support the will. One treated a wilting rubber plant successfully by "absent treatment." The recovery of the rubber plant may have been in part due to the fact that some one else began to try hydrotherapy when the wilting was observed, as was also testified in this interesting trial.

Discussion on the Social Evil at the Academy of Medicine.—Dr. Prince A. Morrow read on Monday evening, February 25th, at the Academy of Medicine, a paper on the medical aspects of the social evil. In the course of his remarks he said "that the attempt to regulate vice in the cities of Europe by a system of fees and licenses had not been successful." William H. Baldwin, Jr., chairman of the committee of fifteen,

said "that the idea of uprooting the evil altogether was Utopian; for himself he preferred a little of hell with certain restrictions to a great deal of hell." Dr. Frederick R. Sturgis advocated the licensing and regulating of the social evil and contended that the experiment had been successful in St. Louis. Finally, the members of the academy voted to investigate the social evil in this city, and authorized their president, Dr. George B. Fowler, to appoint a committee of seven to do it.

A Suit to Test the Vaccination Law has been brought in Chicago by a man whose unvaccinated children have been excluded from the public schools. The complainant contends that his children are free from contagious disease, and refuses to have them vaccinated, on the assumption that the virus has frequently caused sickness and death.

The Hospital Ball in Aid of St. John's Guild and the Red Cross Hospital.—This ball was held at the Metropolitan Opera House on Tuesday night, February 12th, and was a brilliant success. Edward Strauss, brother of the celebrated Viennese composer known as the "Waltz King," conducted the music. Several diplomatic representatives of foreign nations were present, some in court costume, and the army and navy were well represented.

A Medical Student's Good Work.—In the railway accident near Camden, N. J., last week, in which many lives were lost and a number of persons were injured, no physician was found on either train. A medical student of the class of 1902 in the University of Pennsylvania (the papers did not give his name), who happened to be present, did very effective work in the care for the injured, washing and bandaging their wounds and giving first-aid instruction to those able to assist in the work.

A New President of the Board of Health.—Mayor Van Wyck has appointed Mr. M. C. Murphy, former president of the health board of this city, police commissioner, and put in his stead as president of the health board one of the former police commissioners, a Mr. Sexton. The new incumbent of this most important office is forty-four years old, and has been from early youth a professional politician. He was an under sheriff for nine years, sheriff for two years, and police commissioner for three years. His qualifications for health commissioner are not apparent, but probably the work of the board will not be seriously affected if no emergency requiring a knowledge of sanitary matters arises. His salary is $7,500 a year.

A Course of Clinical Lectures on Syphilis will be given at the New York Skin and Cancer Hospital on Wednesday of each week, beginning on March 6th, and ending May 1st. The course is free to physicians. The following is the programme of the lectures to be given: March 6th, "Syphilis as a Disease: Modes of Infection: Extra-Genital Syphilis," by Dr. L. Duncan Bulkley; March 13th, "Skin Manifestations of Syphilis," by Dr. L. Duncan Bulkley; March 20th, "Infantile Syphilis," by Dr. A. Jacobi; March 27th, "Syphilis of the Mouth, Nose, Throat, and Larynx," by Dr. D. Bryson Delavan; April 3d, "Syphilis of the Eye and Ear," by Dr. David Webster; April 10th, "Syphilis of the Nervous System," by Dr. Edward D. Fisher; April 17th, "Syphilis of Internal Organs," by Dr. Edward G. Janeway; April 24th, "Syphilis of the Bones, and Surgical Relations of Syphilis," by Dr. Willy Meyer; May 1st, "Synopsis, Conclusions, and Treatment of Syphilis," by Dr. L. Duncan Bulkley.

Epidemic Grippe.—During the past month grippe has prevailed in epidemic form throughout Connecticut, Illinois, Indiana, Maryland, Massachusetts, New Hampshire, New York, Ohio, Pennsylvania, South Carolina, Wisconsin, and Virginia. The disease has been of catarrhal type and with a low rate of mortality.

Smallpox in Glasgow.—The outbreak of smallpox in Glasgow has been kept well in hand, and the sanitary officers have found ready co-operation from the inhabitants of the city. Nevertheless the number of patients is large, amounting to four hundred and thirty-three patients in hospital.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending February 23, 1901. Assistant Surgeon R. C. Holcombe detached from the *Glacier* and to duty with marines at Pollok, P. I. Special orders, February 15, 1901.—Department of Cuba directs Surgeon J. W. Ross, retired (United States navy), to report to the chief sanitary officer, city of Havana, for duty.

Hearing on Anti-Clairvoyant Bill.—On February 21st, the senate committee on cities gave a hearing on Senator Wagner's bill making it a misdemeanor to practise clairvoyancy, palmistry, or fortune telling. Henry Richardson, who represented the clairvoyants on the Christian Science bill hearing before the assembly committee last week, again appeared for them, and by his reasoning seems to have succeeded in convincing the committee that the legislature had no right to interfere.

The New York Academy of Medicine.—The order of the stated meeting of the New York Academy of Medicine for March 7, 1901, is as follows: "Discussion on Alcohol and Alcoholism," by Prof. R. T. Chittenden, of Yale University, and "A Discussion of Alcohol as a Food; its Direct Action on the Nerve Cell; its Effects on Americans, and the Aspect of the Law and the Inebriate," by Drs. A. A. Smith, M. Allen Starr, H. M. Biggs, Walter B. James, J. Ewing, Joseph Collins, and others.

The Amended Medical Bill.—The assembly public health committee will report for amendment and recommitment Assemblyman Bell's anti-Christian Science bill this week. The bill will be amended so as to affect only faith-cure people and make all persons who pretend to be healers and cure the sick and injured pass an examination before the State board of regents, showing their competency in caring for the sick, and

their knowledge of disease by requiring a knowledge of practical diagnosis. Dr. M. H. Henry, the chairman of the committee, finds that the bill has stirred up more dissension in the medical fraternity than any other kind of legislation ever proposed.

Obituary Notes. — Dr. Pierce B. Fagin, aged eighty-two years, a pioneer of California, is dead at Santa Cruz. Dr. Fagin laid out the site of the city of Des Moines, Iowa, in 1846. He was a native of Iowa, and was graduated in medicine in 1876.

Dr. I. Newton Jones, of Cincinnati, died at his home in that city on February 21st, of pneumonia. He was a graduate of the Medical College of Ohio, in the class of 1866.

Dr. Thomas O'Reilly, one of the oldest physicians in St. Louis, died at his home in that city on Sunday last, of influenza. He was born in County Cavan, Ireland, seventy-four years ago, and was licensed by the Royal College of Surgeons, London, in 1849. In that year he went to St. Louis, and had practised there ever since. He was a prominent member of many Irish societies, and was a notable home-rule advocate.

Dr. Samuel Camp, of Great Barrington, Mass., died on February 24th at his home, aged seventy-two years. He was born in Winsted, Conn., and was graduated in 1851 from the Medical Department of the University of New York. He began to practise medicine, immediately after his graduation, in New Marlborough, Mass. Four years later he went to Michigan, returning in 1859 to Great Barrington, where he lived until his death. He served in the civil war as surgeon of the twenty-seventh Massachusetts regiment.

Dr. E. E. Pirrie, an Edinburgh graduate, formerly of Louisville, Ky., was killed some months ago in South Africa, where he had been serving as assistant surgeon in the Gordon Highlanders. In this capacity he had gone upon the field after a battle with a squad of hospital orderlies to look after the wounded. The party displayed the Red Cross, but the Boers fired upon them. The first volley wounded a litter bearer. Dr. Pirrie was attempting to indicate to the enemy that his men were non-combatants, when a bullet struck him in the breast and killed him almost instantly.

Dr. Mayo G. Smith died February 23d at Colorado Springs, Col. He was born in Newburyport, Mass., in 1816. He was one of the first graduates of Oberlin College, and was an intimate friend of Horace Greeley. Dr. Smith was the author of two works on ether and chloroform based on experiments he had conducted, and was associated with Morse in completing the telegraph and constructing the first line between Washington and Baltimore.

Dr. S. A. Mercer Given, proprietor of the Burn Brae Sanitarium at Clifton, Delaware County, Pa., died on February 23d, at the age of forty-one years, from diabetes.

Dr. William H. Egle died of pneumonia at Harrisburg, Pa., on February 19th, at the age of seventy-one years. He was graduated from the medical department of the University of Pennsylvania in 1859, and in 1862 became surgeon to the ninety-sixth Pennsylvania volunteers. He was one of the pension examiners and for twenty years prison physician. In early life he was a newspaper editor, and from 1887 to 1899 State librarian. He was for thirty years a surgeon in the national guard, retiring a year ago as surgeon-in-chief of the third brigade. He was the author of a "History of Pennsylvania," and he edited the Pennsylvania archives.

Dr. Bawater J. Vernon, F.R.C.S., England, a very well-known London surgeon and eye specialist, died very suddenly of heart disease on January 28th. The deceased gentleman had been attached to St. Bartholomew's Hospital for a number of years.

Dr. Abbott Hodgman, of this city, died February 26th, aged sixty-five years. He was graduated from the New York University Medical College. He was a trustee of the Metropolitan Museum of Art and a member of the New England Society.

Progress of Medical Science.

New York Medical Journal, February 23, 1901.

The Relation of Scurvy to Recent Methods of Artificial Feeding.—By J. P. Crozer Griffith. The author finds an etiological factor in the extensive use of proprietary foods, in food containing or derived from starch, and, occasionally, in the use of cooked or partially cooked milk. It is difficult to speak positively concerning the last named, for we so often find proprietary foods used in connection with milk that it is difficult to estimate the relative weight of each of these two factors. In sterilized milk the trouble may lie not in the milk itself, but in the absence of the proper proportions of proteids, fats, and sugars. A series of sixteen cases is given illustrative of the general statements above made. The great remedy in the disease is fruit juice. When this is added to a given diet, it is often possible to continue the latter without modification. Every case must be a law unto itself as concerns dietetic management, for what is one baby's meat is another baby's poison.

A Simple and Accurate Method of Substitute Infant Feeding.—By H. D. Chapin.

The Pathology of Intra-Uterine Death.—Continued article by N. McPhatter.

The Normal Declinations of the Retinal Meridians.—By G. T. Stevens.

State Care of the Insane.—By H. W. Coe.

Medical News, February 23, 1901.

Pharyngeal Adenoids and Hypertrophied Tonsils.—J. H. Woodward states that the excitation of aural disease is the chief mischief attributable to the existence of pharyngeal adenoids. Deafness may occur as the result of direct occlusion of the orifices of the Eustachian tubes by this growth—without inflammation of the tympanum. The deleterious influence of adenoids upon the patient's general health is most important. The symptomatology of pharyngeal adenoids may be thus considered: (1) Symptoms common to all cases of adenoids. (2) Symptoms dependent upon the size of the adenoids. (3) Occasional accessory symptoms. Under the first group are: (*a*) hyperplasia of the lymphoid tissue in the vault of the pharynx; (*b*) chronic congestion of the submucous blood-vessels of the inferior turbinated body; (*c*) a more or less profuse mucopurulent discharge. Under the second group are: (*a*) alteration of the voice, as if the patient were suffering from a cold in the head; (*b*) mouth-breathing; (*c*) snoring and choking in sleep; (*d*) general malnutrition; (*e*) deafness; (*f*) chronic headache and mental dulness. The third group comprises: (*a*) asthmatic seizures; (*b*) habit (facial) chorea; (*c*) epileptiform attacks. The symptoms attributed to hypertrophied faucial tonsils are: (*a*) alteration of the voice—giving a muffled quality; (*b*) snoring and choking in sleep; (*c*) excessive secretion of mucus in the throat; (*d*) frequent attacks of acute catarrhal inflammation in the throat, and follicular tonsillitis; (*e*) chronic enlargement of the cervical lymphatic glands; (*f*) mouth-breathing; (*g*) deafness; (*h*) general malnutrition. The writer states that the alleged evil effects of tonsillotomy upon the organs of generation have not come under his observation. He has not encountered a patient on whom tonsillotomy had been done, who was not benefited in some measure at least by the operation.

The Sustaining Treatment of Typhoid Fever with Special Reference to the Use of Hypnotics.—A. H. Buckmaster concludes that: No practitioner has done his duty, who does not know at the end of each twenty-four hours that the patient has had enough food, water, and fresh air; who has allowed the patient to wear himself out by continued high temperature or by lack of sleep (the amount of sleep in the twenty-four hours should be recorded); who has not posted himself daily as to the condition of the urine, the movements of the bowels, and the condition of the skin.

A Report of Some Cases of Abdominal Surgery, with Remarks on the Diagnosis of Carcinoma of the Cæcum and the Surgical Treatment of Carcinoma of the Liver and the Gall Bladder.—By Charles Greene Cumston.

The Value and Accuracy of the Roentgen Method of Diagnosis in Cases of Fracture.—By Charles Lester Leonard.

Nasal Obstruction; Mouth-Breathing; Catarrh; Dilators.—By Norburne B. Jenkins.

Compound Dislocation of the Knee.—By Walter Lathrop.

Journal of the American Medical Ass'n, Feb. 23, 1901.

The Importance of an Early Diagnosis of Tuberculosis.—A. Mansfield Holmes states that when the vital forces become impaired from any cause whatever, the resistance to tuberculous infection is diminished and the danger of infection increased. When the germs are brought in contact with the weakened tissues, the actual beginning of tuberculosis is instituted. Early diagnosis is of supreme importance. There are early symptoms which appear long before the stage of expectoration; and the latter is present very often for a considerable time before bacilli can be found. When early symptoms are present and no other cause can be found to account for them, we are justified in suspecting tuberculosis. The previous history, general appearance, and symptoms should be well considered before a diagnosis is made. Repeated physical examinations, bacterial examinations of the sputum, and microscopical examinations of the blood should be made. If any doubt then exists, a tuberculin test should be tried. Hygienic means should be employed most carefully by both patient and physician, and when greater care is taken to recognize the early symptoms and then to prevent infection, fewer cases may be expected.

The Bacterial Toxins.—Victor C. Vaughn and Thomas B. Cooley believe that the colon bacillus in virulent form contains within the cell a toxin which is fatal to guinea-pigs of from 200 to 300 gm. weight, in quantities of less than 1 mgm. The aqueous extract of the cells of the colon bacillus grown on agar is inert. The entire germ is highly resistant to heat and to dilute acids and alkalies. The cell wall of the colon bacillus is digested by the prolonged action of artificial gastric juice, which does not alter the toxin. The toxin as thus obtained is insoluble, or but slightly soluble, in dilute acid, but is slightly soluble in water and more readily in dilute alkalies. This toxin responds to the ordinary proteid reactions. The toxin, after being freed from the cell membrane, is not destroyed by being boiled.

Some Observations in Mastoid Operations.—A. W. Calhoun concludes that there is infrequency of mastoid disease as compared with the large number of cases of suppurative otitis media. The disease is of mild type, having a marked freedom from cerebral and other dangerous complications. The negro race is comparatively exempt. Serious mastoid disease is sometimes present without marked outward symptoms. There are cases without apparent middle-ear involvement. Not every case requires radical operation.

Anastomosis of the Ureters with the Intestine; a Historical and Experimental Research.—By Reuben Peterson.

Three Cases Illustrating Cerebral Complications of Otitis Media Suppurativa.—By Charles W. Richardson.

Misstatements on Antivivisection; Correspondence with American Humane Association.—By W. W. Keen.

The True Role of Drugs in the Management of Consumptives.—By Solomon Solis-Cohen.

Differential Diagnosis between Chickenpox and Smallpox.—By Herman Spalding.

Suppurative Tympano-Mastoiditis in Children.—By Herman Knapp.

Philadelphia Medical Journal, February 23, 1901.

Resection of the Rectum per Vaginam.—John B. Murphy believes that the following advantages are offered by the vaginal route: (1) The sacrum and posterior bony wall of the pelvis are not disturbed. (2) The field of operation is as extensive and the anatomical parts as accessible as in the transsacral operations. (3) The peritoneal cavity is opened in both the vaginal and sacral operations, and in neither is it a source of great danger. (4) The diseased tissue is more accessible for inspection and the extent to which the operation may be carried in an upward direction is as great, if not greater than by the sacral route. (5) The peritoneum may be drained freely through the vagina. (6) A perfect end-to-end approximation, either by suture or by the use of the button, may be secured. The preferable method of uniting the two ends is by interrupted sutures of silk, because, as there is no peritoneum on the sphincteric segment, failure of union with the button is to be feared. (7) The sphincter is retained and the perineal body is restored. There is diminished action of the levator ani muscle. (8) When the operation is complete, the parts are practically in their normal positions.

The Value of Sputum Examinations to the General Practitioner.—M. Howard Fussell speaks of the necessity and value of these examinations. A detection of the organism of tuberculosis in the very early stages would be of incalculable value to the human race. In the large cities the board of health will examine the sputum at short notice, free of charge. The whole process of staining for the bacilli will not take more than fifteen or twenty minutes.

Congenital Umbilical Hernia; Report of a Case, and Table of Cases Hitherto Reported.—By Homer E. Safford.

Amputation of Both Feet Under Spinal Anæsthesia with Cocaine.—By Augustus C. Behle.

Sarcoma of the Ribs.—By C. C. Warden.

Boston Medical and Surgical Journal, Feb. 21, 1901.

Dysenteric Diseases of the Philippine Islands with Special Reference to the Amœba Coli as a Causative Agent in Tropical Dysentery.—Joseph J. Curry says that the amœbic type of dysentery occurred in over sixty-six per cent. of the cases of dysentery which came to autopsy. This is the most common type of dysentery found all over the islands. The fact of the amœbæ occurring so frequently as they do in the liver abscess contents found in the course of tropical dysentery; the absence of bacteria from these abscesses generally; the rarity of abscesses of the liver in the course of dysenteries other than those in which amœbæ are present, and the general constant characteristic pathological picture at post-mortem, all weigh strongly in favor of the amœba coli as the principal causative agent in one type of tropical dysentery. An acute type of dysentery has been observed in the Philippines in which the bacillus dysenteriæ of Shiga occurred. In addition, cases of subacute and chronic dysentery have been met, in which neither the amœba coli nor the bacillus dysenteriæ was found.

Uterine Fibroids.—Homer Gage considers severe and exhausting hemorrhages, and rapidity of growth of tumors, as well as persistent pain, interference with the functions of the bladder or rectum, and ureteral obstruction, indications for operation. Operation is also worthy of consideration when the mere knowledge of the existence of the tumor induces a condition of chronic invalidism. Age should be a small factor in determining the question. Not only do fibroids tend to delay and prolong the menopause, but in a study of four hundred cases Kattmann found that in nearly twenty-five per cent. neither climacteric nor menopause had any hindering effect on their growth. As to the choice of operation the author uses dilatation and curettage whenever possible. He has performed radical operations in many cases. Myomectomy he has done only six times, but with very gratifying results, and he believes that a steady improvement in technique will widen the field for the practice of this measure, giving us, at least in a very large number of cases, a safe, non-mutilating method of dealing with uterine fibroids.

Dysbasia Intermittens Angiosclerotica; Intermittent Lameness of Vascular Origin.—James J. Putnam reports a case of this very rare affection which is characterized by the sudden and intermittent appearance of a helpless, cramp-like feeling in the legs, which checks motion. The theory held is that the condition is due to a limitation of the arterial supply to the muscles. The author questions the accuracy of this theory, for a careful examination of his patient's arterial circulation in the feet showed that one of the posterior tibial arteries could be felt distinctly, the other faintly, while the dorsal arteries could not be recognized. The same conditions obtain since the patient's improvement. A vascular spasm is perhaps the best explanation.

United States Army Pathological Laboratories in the Philippine Islands.—Joseph J. Curry gives an account of the work done in the three laboratories in and near Manila. Two of these were on hospital ships, and the author says that, in smooth water and at anchor, it is possible to do practically the same work in them as in a laboratory on land. Not only is it valuable to be able to establish a diagnosis on shipboard, but the hospital ship, moving as it does to the various ports in the islands, can render the service of a portable laboratory to the cities and the towns which the ship reaches. Excellent work has been done in the investigation of the bubonic plague, and of other diseases as well.

Clinical Meeting of the Medical Board of the Massachusetts General Hospital.—"Rupture of the Right Iliac Artery," by F. C. Shattuck; "Lead Encephalopathy," by F. C. Shattuck; "Osteo-Arthritis," by F. C. Shattuck; "Friedreich's Ataxia," by James J. Putnam; "Splenectomy," by I. C. Warren; "Loose Semilunar Cartilages," by I. C. Warren; "Plastic Operations for Rodent Ulcer," by I. C. Warren.

British Medical Journal, February 9 and 16, 1901.

A Clinical Lecture on a Case of Chronic Cancer of the Face.—F. T. Paul reports a case of cancer of the sweat glands. He states that rodent ulcer is a carcinoma of one of the appendages of the skin, and differs from epithelioma, which is a carcinoma of the rete mucosum. It is probable that cancer of the sweat glands differs as much from cancer of the sebaceous glands as the latter does from cancer of the rete. This case, while it possesses some of the clinical features of cases of cancer of the sebaceous glands, or ordinary rodent ulcer, tends to grow into a solid tumor instead of excavating the face, as would happen when the characteristic erosion of the latter occurred. The writer believes that there are two kinds of carcinoma of the skin appendages, both of which are characterized by continuous slow growth; but in only one, true rodent ulcer or carcinoma of the sebaceous glands, does ulceration keep pace with growth. The two varieties of adenoma of the skin glands are fairly well recognized. In the case reported, the disease has been continuously present in the patient for many years without treatment or interruption of any sort, and is still slowly progressing without secondary infection; consequently it cannot be epithelioma. Microscopical examination also proves the structure to be that of a glandular type of growth. As to treatment of rodent ulcer, the examination should be microscopically thorough and uncompromising, and complete and immediate removal of the growth should be accomplished.

Remarks on the Heart-Index Interval in Aortic Regurgitation.—Paul M. Chapman states that the pulse wave produced in cases of aortic regurgitation is slow. This he takes to be the main phenomenon in pulse delay. When delay is observed in these cases, increased arterial tension tends to obliterate the delay. Diminished arterial tension makes it still more manifest. In a hypertrophied heart, the large mass of muscle would, for physiological reasons, contract more slowly, owing to the propagation of nervous impulse through its substance being more slow. To this, in all probability, is due the slight increase in the duration of ventricular systole (a rare phenomenon), showing that the ventricular contraction is actually a slow contraction, the duration of ventricular contraction being strangely independent of extraneous conditions. If it is considered, however, that as compensation is attained the arteries are better filled, giving to the patient a corresponding sense of comfort, and that then the pulse wave is accelerated, it will be seen that the attainment of a normal heart-radial delay is some measure of the correctness of the compensation, and that this may be a guide to avoid further interference.

A Preliminary Communication on the Treatment of Rodent Ulcer by the X-Rays.—James H. Sequeira, having a severe case of rodent ulcer referred to him for the Finsen treatment, and finding that the patient was unable to bear the pressure of the special apparatus which is used in the Finsen method to render the parts under treatment anæmic, applied the *x*-rays. Improvement resulted in this case as well as in others in which this treatment has been used. So far, the writer has treated only cases which have been deemed unsuitable for operation, or in which patients have refused operative measures. Of the twelve cases of the writer, eight are still under treatment and four are under observation, the ulcers having healed. Stenbeck, of Stockholm, records the successful treatment of a case of rodent ulcer by an almost identical method. His case is the first in which this procedure was adopted. In no instance in the writer's cases has there been a disappointing result. The treatment is painless and nothing further is required than covering the part with a simple antiseptic dressing.

Cerebellar Abscess Successfully Treated by Operation.—Thomas Barr and James H. Nicoll report a case of this kind and draw the following conclusions from their experience: (1) Early operative interference in the way of discovering and subsequently draining the cavity offers the only chance of recovery in cases of intracranial pyogenic lesions; (2) the results in such cases of operative interference have been much more favorable in temporosphenoidal than in cerebellar abscess; (3) the cause of death in cerebellar abscess is, in a large majority of cases, dropsical distention of the lateral ventricles (with œdema of the surrounding brain tissue). This ventricular dropsy appears to be the result of obstruction of the veins of Galen, produced by thrombosis originating in their lumina, or extending thence either from the superior cerebellar veins or from the straight sinus.

The Electrolytic Deposit of Sulphur from the Harrogate Sulphur Waters as a Therapeutic Agent.—Francis William Smith, from his experiments with the Harrogate sulphur water, believes that the nascent sulphur is deposited by electricity at the positive pole; that the same occurrence takes place on the skin of patients in a sulphur bath under similar circumstances; that in addition to the remedial influence of nascent sulphur, electricity stimulates the peripheral nerves all over the body in a sulphur bath, and thus renders the action of sulphur more rapid and more efficacious in skin and gouty affections.

Facial Neuralgia Due to a Hair Irritating the Membrana Tympani.—A. Percy Allan reports the case of a man aged twenty-one years, who had suffered from acute paroxysmal neuralgia for three months. Having excluded dental and ocular causes, the ear on the affected side was examined, and the membrana tympani was seen to be much injected. By means of the auriscope a hair was discovered lying along the meatus, and was pressing with its end on the tympanic membrane. It was removed, and the patient immediately experienced relief. After a day or two the attacks of pain entirely ceased.

An Address on the Need of Bacteriological and Pathological Laboratories in Dublin.—Sir George Duffey refers to the need of establishing in Dublin an institute similar to that of the Jenner Institute of Preventive Medicine of London. He states that it is to the study of bacteriology in relation to medicine, pathology, and to hygiene that we must look for more light in the treatment of disease and in our efforts for its prevention. He also advocates the establishment of a pathological laboratory for Irish asylums, to promote the study of the pathology of mental diseases.

A Note on the Results Obtained by the Antityphoid Inoculations in the 15th Hussars, Meerut, India.—By A. E. Wright.

Ecchymosis of Head and Neck due to Partial Strangulation by Tight Collar during Epileptic Fit.—By J. S. Maynard.

Acute Case of Pityriasis Rubra (Dermatitis Exfoliativa Generalis); Rapid Recovery.—By George A. Bruce.

The Effects of Severe Muscular Exertion, Sudden and Prolonged, in Young Adolescents.—By W. Collier.

Remarks on Finsen's Light Treatment of Lupus and Rodent Ulcer.—By Malcolm Morris.

Tetanus Successfully Treated with Anti-Tetanus Serum.—By George F. Woodroffe.

Trephining in Intracranial Suppuration the Result of Fracture.—By D. A. McCurdy.

A Report on Ten Cases of Poisoning by Arsenetted Hydrogen.—By J. S. Clayton.

Cases of Adult General Paralysis with Congenital Syphilis.—By R. Percy Smith.

Amputation Mortality at the London Temperance Hospital.—By W. J. Collins.

Thyroid Extract as a Remedy, with Illustrative Cases.—By P. Blaikie Smith.

On the Treatment of Superficial Syphilitic Gummata.—By Roderick Maclaren.

A Successful Case of the Serum Treatment of Tetanus.—By A. E. Lyster.

Concurrent Epidemic Measles and Diphtheria.—By C. E. Baddeley.

A Case of Acute Digitalin Poisoning; Recovery.—By F. Radcliffe.

Laryngotomy in a Case of Thoracic Aneurism.—By F. W. Jollye.

On Ringworm Infection in Man and Animals.—By J. L. Bunch.

Skin Lesion from Exposure to Roentgen Rays.—By A. Wylie.

The Surgical Treatment of Migraine.—By Walter Whitehead.

Indentations in the Skulls of the Newborn.—By J. M. Gell.

Case of "Surgical" Scarlet Fever.—By E. T. Larkam.

Successful Tracheotomy in Infants.—By W. L. Chubb.

Wind Exposure and Phthisis.—By Charles A. Davies.

Dislocation of a Sesamoid Bone.—By G. R. Parker.

Menstruation in a Newborn Infant.—By R. Jardine.

Scarlatina Pemphigoides.—By M. Benson.

Turpentine Poisoning.—By F. G. Grapel.

The Lancet, February 9 and 16, 1901.

The Surgery of Pregnancy and Labor Complicated with Tumors.—Lecture by J. Bland-Sutton. When an ovarian tumor occupies the pelvis and offers a mechanical impediment to delivery, the fœtus almost invariably dies, and the following accidents may happen: (1) Rupture of the cyst, (2) rupture of the uterus, (3) rupture of the vagina, and (4) extrusion of the tumor into the rectum. Rupture of the cyst is the way in which nature usually overcomes the difficulty. The choice of treatment really lies between two methods: (1) In the early stage to push the tumor out of the pelvis and allow labor to be completed and then at some convenient season to perform ovariotomy. This is often referred to as "reposition." (2) To perform ovariotomy at once and then to accelerate the labor by the use of forceps. If the tumor cannot be extracted, then Cæsarean section should be performed. This method may be conveniently referred to as ovariotomy which may occasionally require Cæsarean section.—Second of three lectures by J. Bland-Sutton. The present lecture covers the subjects of uterine fibroids and ovarian tumors. The general conclusions are that the ovarian growths give more trouble to pregnant and parturient women than do fibroids, but that the latter are far more lethal, as they so frequently destroy puerperal women from sepsis. Several clinical histories with illustrations are given, as well as two statistical tables. The author says that the facts at our disposal indicate very certainly that uterine fibroids, even more than ovarian cysts, are a grave menace to successful pregnancy, and in a large number of cases are directly responsible for a premature termination of the pregnancy. When abortion happens the patient requires to be safeguarded most strictly against infection, for it may involve the fibroid, and in this event the patient not only runs a very great risk of losing her life, but she certainly will have a long illness, and in many instances a serious operation may be necessary to prevent her from becoming a chronic invalid. We must not forget that a woman may have one, and, indeed, several fibroids in her uterus, and yet be the happy and healthy mother of children, but no one will deny that the presence of a fibroid in a gravid uterus is an additional peril to those which are proverbially associated with pregnancy. It occasionally happens that a woman comes under observation, known to be suffering from a combination of pregnancy and fibroids, and a careful examination discloses the fact that, if the pregnancy goes to term, delivery by the natural passages would be impossible. In these circumstances hysterectomy is justifiable.

Primary Sarcoma of the Stomach.—By W. S. Fenwick. Fenwick believes that the studies of recent years justify the conclusion that many of the growths of the stomach, commonly regarded as carcinomata, are really sarcomata. This opinion is founded partly on the discovery that many specimens which are described in museum catalogues as examples of carcinomatous or fibroid tumors, present the microscopical characteristics of round-celled or spindle-celled sarcoma, and partly upon the large number of cases of sarcoma of the stomach which have been published since special attention has been drawn to the subject. The most common type is the round-celled growth, though the spindle-celled, the myo- and angio- varieties have been met with. Like carcinoma, the process is apt to attack old scar tissue in the stomach. Differential diagnosis may be difficult, for some cases of sarcoma give no symptoms whatever. We may be guided in our judgment by the following facts: (1) The disease usually occurs before thirty-five years of age, so that the younger the patient the greater the probability that the malignant affection is sarcomatous in character. (2) In many cases there is slight but continuous pyrexia accompanied by rapid and profound anæmia, while in carcinoma fever is always absent during the early stages of the complaint and the cachexia much more gradual in its development. (3) Simple enlargement of the spleen is by no means infrequent, but is never met with in cancer unless the organ is involved in the growth. (4) According to Kundrat the tonsils are apt to enlarge and the follicles upon the sides of the tongue may become swollen or ulcerated. (5) Secondary deposits in the skin occur in a notable proportion of the cases, and permit of excision and microscopical examination. It should be remembered, however, that sarcomatosis has been met with in true cancer of the stomach. (6) A large nodular tumor due to infiltration of the omentum or a greatly enlarged liver with secondary growths in its substance are rarely met with. (7) Persistent albuminuria is often observed in sarcoma but is exceptional in cancer. (8) The discovery of pieces of morbid growth in the vomit renders the diagnosis certain.

Considerations Touching the Pathology and Relations of Diabetes.—Second Baillie lecture by W. H. Dickinson. The special topic of the lecture is glycogenesis. Concerning diet the author says that a proper diet will lessen the diabetic perversion, though it does not always abolish it. The substitutes for ordinary bread present the chief difficulty. Gluten bread is theoretically correct, but some patients cannot get it down; they say it is like chewing india-rubber. But the gluten flour need not be made into bread, and it is often less objected to in other shapes which can be given to it in the domestic kitchen, in cakes, buns, and puddings. Bran biscuits often do well and are useful, as they tend to obviate the constipation which is one of the troubles of the disease. Green vegetables—spinach, French beans, and the like—are fully recognized as fit for the diabetic; but mention may be made of some vegetable products which are not green and yet are of especial use in diabetes; namely, vegetables containing much cellulose. It is true that cellulose is a carbohydrate, but it does not appear to be easily converted into sugar, and indeed it is doubtful whether in the human body it undergoes any such conversion. One of the troubles of diabetes is constipation; cellulose largely passes off in the fæces and tends to obviate this condition. The more bulky varieties of garden stuff, whether roots or fruits, may be made use of, such as cucumbers, vegetable marrows, tomatoes, and radishes. Apples, if not obviously sweet, may be permitted in small quantity. These articles of diet are not all absolutely free from sugar, but none contain much sugar, and certainly they are often useful, though perhaps not absolutely correct in theory. Anything is better than nothing, and if the diabetic cannot take what he should he had better take what he can.

Why Are Both Legs of the Same Length?—By G. E. Wherry. As a fact, says the author, our lower limbs are not usually both of exactly the same length, though they are so for all practical purposes. The left is usually the longer, though the gait is not notably influenced by this fact. At birth the lower limbs are shorter than the upper, and their movements are rather of the prehensile type. "We are not born leggy like the foal or kangaroo, but we gradually achieve legginess." The bones increase in length, not so much by interstitial deposit, as by addition to their ends; that is, by progressive ossification of the layer of cartilage which intervenes between the end of the shaft and the epiphysis. Ossification goes on till the component parts of the bone are all united by bony matter, and thus the stature of the individual is determined. If from inflammation or injury an epiphysis be damaged, one limb may be shorter than the other, or inflammatory stimulation may even induce an increased length in the bone affected. The skeletons of tortoises, not being subjected to suddenjars, have no epiphyses at the ends of the long bones, whereas in the leaping frog the extremities of the humerus and femur long remain as separate epiphyses. The continuous concussions to which the ends of the bones of the lower limbs are exposed, when a vigorous child is excited by its own natural spirit to run about, are doubtless of great value in assisting the growth in length of the lower limbs, which soon lose their infantile character, and become adapted for running and walking. By exposing the lower limbs to the same influences and resistances during their entire growth we manage to maintain them of the same size and of the same length, and gentle jars upon the epiphyses at the joints may be considered favorable to growth.

Posterior Basic Meningitis.—By H. Thursfield. The article is an analysis of a series of cases seen at the Great-Ormond Street Hospital. The general conclusions are stated in the following: Posterior basic meningitis presents a considerable variety of clinical characters. In the majority of the cases which occur in children of under twelve months it is a very distinct and easily recognizable disease, but this rule does not hold invariably. On the other hand, a disease occurring in older children with many of the same symptoms and possessing the same pathological and bacteriological features, yet has certain characteristics which make it resemble very closely epidemic cerebrospinal meningitis. Are the two identical, and are the special features of the epidemic disease due merely to an exaltation of virulence in the organism? On the whole, and judging from the cases seen, the answer must be given in the affirmative. The clinical symptoms obviously differ considerably, without any corresponding alteration in the pathological or bacteriological features, and the main differences between the organism of Weichselbaum and the organism found in these cases in England seem to be quite insufficient to establish them as distinct species. If this view is accepted, we shall henceforth look upon posterior basic meningitis as a disease comparable in certain points to pneumonia, which, while as a rule a sporadic disease, occasionally presents itself in epidemic form. The causes which determine this variation are in both cases still to be discovered.

Gastric Hemorrhage and its Surgical Treatment.—By A. W. Mayo Robson. The conclusions the author reaches concerning the treatment of gastric ulcer are the following:

(1) All cases of acute uncomplicated gastric ulcer should be submitted to thorough medical treatment in the shape of long-continued rest and attention to diet, the patients not being allowed to get up or to resume solid food until at least a fortnight after all disappearance of pain. (2) When the ulceration persists and proves intractable to medical treatment, or when relapses occur, gastro-enterostomy should be performed so as to secure physiological rest and relieve the hyperacidity of the gastric juice nearly always found in such cases. (3) Perforation demands immediate surgical treatment. (4) The complications of disabling adhesions around the stomach and pylorus, pyloric contraction, and hour-glass contraction due to chronic ulcers leading to pain, dilatation, loss of flesh, and general impairment of health, now often treated as chronic indigestion, should be treated surgically. (5) In recurring, or so-called chronic hæmatemesis from gastric ulcer, surgical treatment is decidedly called for. (6) In acute hæmatemesis, further accuracy in diagnosis as to the size of the bleeding vessels is urgently needed; and the co-operation of the physician and surgeon is advisable in all cases of hæmatemesis, so that if relief be not obtained by medical and general treatment surgical means may be adopted if the bleeding is believed to occur from a large vessel; but seeing that capillary hemorrhage is capable of relief by medical means alone, medical should always precede surgical treatment. Abstracts of five clinical histories are given.

A Plea for the More Careful Study of the Symptoms of Perforation in Typhoid Fever with a View to Operation.—By William Osler. Early diagnosis and early operation may save from thirty to forty per cent. of cases of perforation. There are three groups of cases: (1) Those with infiltration and necrosis of the gut, so that the patient is not in a fit condition for operation; (2) those cases fit for operation in which it is successfully done, but the patient dies in the due course of the disease from the intensity of the fever or in a relapse; (3) those cases in which complete recovery takes place. The vital question is really not one of perforation, but one of consecutive peritonitis. The nurse should carefully note any complaint of abdominal pain, of hiccough, of vomiting, of sudden rise in pulse or respiration, of unusual sweating or of collapse. Careful attention should be paid, then, to the occurrence of abdominal pain, to the state of the abdomen, to the general condition of the patient, and to the blood count. Sudden pain, increasing in intensity and recurring in paroxysms, is perhaps the most constant symptom of perforation. With an increase in pulse rate, distention of the abdomen, increasing pain on pressure, and increase of leucocytes, the diagnosis is rendered probable. In a doubtful case, operation is indicated. A general anæsthetic may not be needed. In many cases cocaine has been used, with the occasional help of a whiff of chloroform.

Primary Carcinoma of the Ampulla of Vater with Report of a Case Presenting Some Special Features of Interest.—By H. D. Rolleston. The ampulla of Vater is the common channel inside the biliary papilla into which the common bile duct and Wirsung's duct from the pancreas open before entering the duodenum. We must distinguish cancer of this structure from (1) cancer of termination of the common bile duct, (2) of the termination of the duct of Wirsung, and (3) of the duodenal surface of the biliary papilla. Rolleston's patient was a man aged sixty-six years, with jaundice, enlarged liver, and some abdominal distention, but no ascites. The urine contained bile and some albumin, but no sugar. A diagnosis was made of cancer of the head of the pancreas. While in the hospital he was taken with symptoms of sudden collapse and died in eighteen hours. It was supposed that the gall bladder had ruptured. The autopsy showed a flat growth limited to the ampulla of Vater and occluding both the orifices of the common duct and the duct of Wirsung. The microscope revealed it to be a columnar-celled carcinoma invading the smooth muscular tissue about the ampulla. Additional points of interest in the case were the sudden onset of acute symptoms followed by death in eighteen hours, an extremely fibrotic condition of the pancreas, due probably to obstruction of Wirsung's duct, and an absence of glycosuria or diabetes.

On the Uses of Formalin in Glycerin.—By A. C. Jordan. The author finds that the use of glycerin as a vehicle for formalin overcomes to a great extent its irritating effect on the tissues. He uses a solution varying from one to four per cent. Under these conditions he has found formalin useful in applications to the throat, as a mouth-wash, as an application to the skin, and for urethral injections.

Foreign Body in the Abdomen.—By E. H. Ellison. The body proved to be a pair of catch forceps unknowingly left in the abdomen in an operation done some eight or nine months previously. Part of the blades had protruded through the integuments which had healed around them. This was removed in two different portions. The patient refused a cutting operation.

A Case of Pelvic Sarcoma with Chylous Ascites; Abdominal Section and Drainage; Patient Well Four and a Half Years after Operation.—By Arnold W. W. Lea.

Observations Based on the Probable Mode of Formation of Urinary Stone, Relative to its Recurrence and Prevention.—By Reginald Harrison.

A Case of Cerebellar Hemorrhage Presenting Well-Marked Early Cervical Opisthotonos and Kernig's Sign.—By William Thyne.

On a Case of Myasthenia Gravis Pseudo-paralytica; Death; Necropsy; Remarks.—By L. G. Guthrie.

A Case of Subacute Glanders.—By J. Fawcett and W. C. C. Parkes.

Remarks on Agglutination in Plague Blood.—By E. Klein.

Outbreak of Typhus Fever in Manchester.—By H. Coates.

Ptomain Poisoning or Perforation?—By E. K. Brown.

Craniology.—Hunterian lecture by N. C. Macnamara.

Maternal Impressions in Lower Life.—By A. Wilson.

Reflections on Therapeutics.—By Harry Campbell.

A Case of Cephalhæmatoma.—By H. H. Borland.

French Journals.

Arthritic Syndromes in Children.—M. Comby states that the three clinical syndromes—headache, vomiting, periodical fever—are indisputably of arthritic origin. The course of the paroxysms, the analyses of urine which have been made, the hereditary antecedents, and, finally, the treatment, confirm this pathogenic conception. For the attacks themselves there is little to do. There should be ordered prolonged rest in bed, liquid diet, warm baths, enemata, and injections of artificial serum. In the intervals between attacks, life in the open air, a sojourn in the country, in the mountains, at the sea-shore, physical exercises, practical hydrotherapy, friction, massage, alkaline cures, in some cases arsenical waters, and various other mineral waters, should be prescribed. The diet should be in greater part vegetable; bread, milk, eggs, vegetables both dry and green, fish and white meats, cooked meats, etc. For drinks, water or milk. There should be no excesses of any kind. Finally, hygiene of the lungs, digestive tract, brain, muscles, and skin should be observed.—*La Presse Médicale*, January 30, 1901.

The "Phototherapeutic" Cure of Lupus Erythematosus.—Levedde speaks of Nils R. Finsen's method of utilizing the chemical rays of the spectrum. The method is simple, consisting in leaving the patients exposed to the action of the luminous rays during two consecutive treatments of an hour or an hour and a quarter each. Since the writer began to apply phototherapy to dermatological complaints, he has had eleven patients afflicted with lupus erythematosus of the face; five of them are no longer under treatment, three being cured, and two improved in a remarkable manner. Six are under treatment, four of whom are improving greatly, while two have not yet received any real benefit. All of the patients were affected by a severe form of the disease. Almost all had been treated by all other known methods, with persistence, but without appreciable result. This method of Finsen's would appear to be the best treatment for severe forms of lupus erythematosus.—*Bulletin Général de Thérapeutique*, January 23, 1901.

Malaria and its Propagation by Mosquitos.—R. Bosquier believes that the theory of the transmission of malaria by mosquitos has so many proofs that there is a good chance of its being true and passing definitely into science. It must be recognized that the "mosquito-malaria theory" is in harmony with the greater part of the sayings of the old authors and the traditional precautions observed in malarial countries: not to travel by night, not to sleep in a room with open windows, to avoid the neighborhood of stagnant water where insects develop. But even if the mosquito theory cannot explain all the facts, nor even certain exceptional cases, nevertheless it can explain the great majority of facts and answer the problem of the habitual transmission of malaria. Prophylaxis inspired by it has already given proofs.—*Journal des Sciences Médicales de Lille*, January 12, 1901.

Cysticercus of the Eye.—Gallemaerts states that in certain cases it could be determined how long the cysticercus remained living in the interior of the eye; the longest period was seven years. The diagnosis is difficult in the beginning. The presence of the cysticerus is positively demonstrated only by the presence of movements. De Vincentiis has proposed to excite these movements, so as to render them more apparent, by applying a faradic current

to the temple. As soon as the diagnosis is made the extraction of the cysticercus must be proposed. This is the only way to preserve the organ and preserve vision. If the operation be performed early, the vision will be preserved in great part. As a prophylactic measure, meats should be more carefully inspected.—*La Policlinique*, January 15, 1901.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LATE QUEEN AND THE PROFESSION—SPECIAL MEETING OF MEDICAL AND CHIRURGICAL SOCIETY—LORD LISTER'S SPEECH—MEDICAL SOCIETY'S DEBATE ON TREATMENT OF TYPHOID—A MEDICAL ELECTION—BEER POISONING—OBITUARY.

LONDON, February 8, 1901.

THE funeral of Queen Victoria and the accession of King Edward with the attendant consequences have occupied more attention during the week than all other subjects. But your newspapers will have given you full details of these events, and I will confine my remarks about them to their medical aspect. I mentioned in my last the way in which the profession marked its feelings on the death of the Queen and, among the indications, how the Royal Medical and Chirurgical Society, meeting on the evening of Her Majesty's death, at once adjourned. Since the funeral, on Tuesday evening to be exact, a special meeting of this society was held to consider an address to the new sovereign. This was appropriate, as in the charter granted by King William IV. he declared himself and his successors, if they should think fit, the patrons of the society. The president (Dr. Pavy) said the late beloved Queen on her accession followed her predecessor and became patron, and the society now met to give expression to the feelings of all in an address of condolence, associated with the hope that his Majesty King Edward would in turn declare himself patron of the society.

Lord Lister, in moving the address, said that in common with the whole world, the society lamented the loss of a sovereign pre-eminent in wisdom and virtue, whose long reign was one constant, consistent effort to promote the good of her people and of all mankind. The signal success of her efforts was shown in the tributes to her goodness and greatness from all quarters at home and abroad. It was fit that the only royal medical society of her metropolis should give expression to their sense of grief at her death. The work of the profession, the relief and prevention of suffering always appealed to her warm, sympathetic heart. All her medical advisers would testify of the confidence she reposed in them.

Lord Lister here mentioned that he was, he believed, the only one who had had to exercise on her sacred body the art of surgery. The occasion was a critical and anxious one, but nothing could exceed her kindness and consideration, while she treated him with queenly dignity. But there was, he continued, another side to this address. In the night of sorrow they could see an auspicious dawn. The King in his first council meeting promised, in words characterized equally by dignity and pathos, to tread in the footsteps of his beloved mother, and had already repeated his promise in his messages to the entire empire. Various kindly acts indicated that the King inherited the grace and tact of the departed sovereign, and that he loved and honored the profession was evidenced in what he had done for Guy's Hospital and in establishing his "Prince of Wales' Hospital Fund."

The motion was seconded and carried unanimously, and the meeting separated.

The debate on typhoid fever at the Medical Society was opened with a paper by Dr. F. J. Smith, whose experience in the wards of the London Hospital and as senior pathologist gives importance to his views. The paper and discussion were on the treatment of the disease, the etiology and pathology being passed over. Dr. Smith is convinced that the lines laid down in our text-books are too strictly directed to the intestinal lesions, and he does not attribute the dangers of this solely to departures from routine milk dieting. The first thing he would prescribe would be rest in bed, with or without an aperient. He lays it down as a golden rule carefully to examine one stool at least in every twenty-four hours. The presence of undigested food would lead him to stop all food for twenty-four hours and then to begin with small quantities. If curds be present, milk in a raw state should be prohibited. Blood in small quantity should induce caution; in larger quantity indicates opium—say ten minims of the tincture every two hours for eight or ten doses, or till drowsiness is produced, all food being stopped for twenty-four or forty-eight hours. Sloughs without blood in quantity merely indicate a natural state of affairs in the third or fourth week of a severe case, but they suggest caution in feeding for a day or two. Feculent *débris* is the desirable constituent, and the less of the other substances named the better. Dr. Smith gives a fairly free range to the patient's appetite, making it almost the sole arbiter, in the absence of vomiting, hemorrhage, or tympanites. On the other hand, when there is no appetite he does not give food—but lets the patient have cold water—the only thing the latter craves. Dr. Smith then described more fully the dietary he advised in various conditions. Properly made beef tea or beef juice, he thought, could not be equalled by the commercial substitutes in vogue. He would not withhold beer from a patient in the typhoid state who craves for it, but other forms of alcohol are drugs for emergencies.

Turning to the complications, Dr. Smith said vomiting was generally due to putting food into the stomach when there was no appetite, and restriction to water should be enjoined. Tympanites and constipation should not occur if the dietary is right and aperients are employed. If the bowels are not opened once in twenty-four hours sodium sulphate in two-drachm doses is given every two hours until it acts. Perforation gives a chance to surgery, but it is a poor one. Diarrhœa if excessive is often due to extensive ulceration of the colon, and is then a very fatal complication; but it may also depend on undigested food. This will be shown by careful inspection of the stools, and must be treated by stopping everything except water. Six to eight motions a day do not constitute diarrhœa; they are part of the natural history of the disease and they occur in most cases that end in recovery. In hyperpyrexia he prefers tepid baths. Hemorrhage needs only starvation and opium. Tannin and other drugs are useless or worse. With regard to anti-inoculations Dr. Smith's attitude seems to be one of hopeful expectancy.

Dr. Sidney Phillips endorsed much of Dr. Smith's view. He had brought forward cases in which no intestinal lesion was present before the bacillus was discovered. The stress of the disease might fall on the kidneys, lungs, or central nervous system. For hemorrhage hamamelis was sometimes useful, and it did not paralyze the intestines.

Dr. Isaac had been disappointed with tepid sponging in pyrexia. Dr. Pope suggested suprarenal extract in hemorrhage.

Dr. W. Hunter held that the disease had been milder of late years, but not as a result of treatment. He believed that septic inflammation played a part in perforation as well as the bacillus, and agreed with Dr. Smith that calomel was the best intestinal antiseptic. Dr. Hadley thought pulmonary lesions were more often fatal than intestinal, and that cardiac failure was the result of toxæmia and pyrexia.

Dr. F. J. Smith in his reply repeated that he had seen benefit follow the continuous bath at 99° to 100° F. He doubted whether solid food had ever caused perforation.

There has been an election to the General Medical Council in Ireland, for the seat held by Sir W. Thomson. He has been re-elected for a further term by an enormous majority over Dr. Laffan, who opposed him on a medical-reform platform.

Beer poisoning is exciting further interest. Selenium has been detected as well as arsenic, and would add to the virulence of the liquid.

Dr. Leslie Ogilvie died on the 2d inst., aged forty-eight years. He was lecturer on comparative anatomy at the Westminster School and physician to one of our children's hospitals. He translated Fehleisen's "Erysipelas Narcosis" and contributed various papers to the journals.

Dr. John Edward Pritchard, of Bristol, died on the 2d inst., aged fifty-one years. He was an Oxford graduate and surgeon to Horfield prison. He belonged to a medical family and was much esteemed.

CATARRHAL PNEUMONIA IN CHILDREN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The MEDICAL RECORD quotes Dr. H. Illoway as being certain that "pneumonia, both catarrhal and croupous, in infants and children," can be aborted by the use of aconite and veratrum viride. For the past twenty-five years I have used both these remedies in the treatment of pneumonia of adults, as well as of infants and children, and always with eminent satisfaction. I, however, give aconite only in the initial or chilly stage. I have found the remedy par excellence, in all these cases, to be veratrum viride and mercury bichloride, combined in syrup. For the first twenty-four or forty-eight hours I repeat the dose hourly; and if the disease is not aborted (as it often is) in that time, the way is made easy to a quick recovery.

JOHN R. MACKENZIE, M.D.

WEATHERFORD, TEXAS.

Clinical Department.

THE PUPIL AFTER DEATH.

By J. E. COURTNEY, M.D.,

POUGHKEEPSIE, N. Y.

ORDINARILY the pupils are quite widely dilated and about equal after death, and shortly become fixed in a position of moderate dilatation. But whoever has done many autopsies and looked carefully at the pupils will certainly have noticed that there are many exceptions to this rule. My own observations convince me that in certain cases of disease of the brain or its membranes the pupils may retain after death the impress of the condition imparted to them by the disease which caused dissolution. If this fact could be established, and the data formulated, it would be highly interesting and of use in immediately suggesting the cause in cases of persons found dead, and in cases of persons dying without having had a physician in attendance. There appears nothing inconsistent in the idea of the muscular fibres of the iris becoming fixed in about the position in which they were at the time of death. I have seen this phenomenon in the following conditions, commented upon the size of the pupils before autopsy, and seen the condition which they suggested found.

1. In persons dying of large cerebral hemorrhage, the pupils were large on the side opposite the lesion and remained perceptibly so at autopsy ten or twelve hours after death.

2. In cases of death from paretic dementia with a general meningo-cerebritis and adhesions of the pia to the convolutions, the pin-point pupils seen in life were unchanged at autopsy.

3. In the condition of pachymeningitis hæmorrhagica the pupil contracted on the side of the hemorrhage has been repeatedly found so at autopsies.

ANEURISM OF THE PULMONARY ARTERY, WITH REPORT OF CASE.

By B. C. LOVELAND, M.D.,

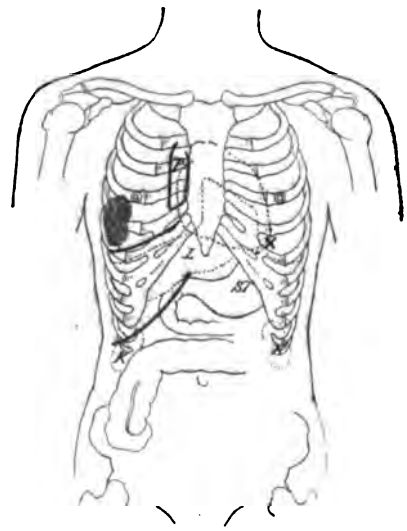
SYRACUSE, N. Y.

MR. A. D. H——, forty-one years of age, native of the United States, came under my observation May 2, 1900. His previous illnesses were gonorrhœa, catarrh, cankers in the mouth, and blood poisoning, which occurred two years ago. He denied ever having had a chancre, but his family physician told me that he undoubtedly had specific disease at one time. His heredity was good. He dated his present illness from a sharp attack of pain in the right side of the chest, extending into his right shoulder and arm, which occurred on January 15, 1900. His pain was attributed to a strain in trying to catch an armful of clothing which fell while he was handling it, his business being that of a clothing merchant. There was no swelling of the arm, nor any pain on motion. Pain was very severe for two or three days and nights, and was attended with great dyspnœa, so much so that he was obliged to sit up night and day to breathe. He had not been entirely free from pain since for any length of time, and I was consulted especially in reference to this pain. He had lost no flesh, and was apparently well nourished. He had occasional cough but no expectoration. Both cough and dyspnœa could be produced by walking a little fast, or climbing a few steps. He said he had never been able to run like other men, on account of shortness of breath. The tongue was coated on the back portion. Pulse 82, regular and compressible; bowels regular; urine scanty and high colored; pupils equal and normal.

Physical examination of the chest showed dulness on percussion over a portion extending from the second to the fifth rib, and for two or two and one-half inches to the right of the sternum; over this area also a distinct bruit could be heard. There was some dulness also on percussion, and many small râles could be heard near the axillary line and extending as low as the seventh rib. The area of liver dulness was slightly enlarged. A small mitral murmur could be detected. The bruit was not conveyed to the carotid artery (see diagram).

Pulsation could be felt over a much larger area than that described as an area of dulness, and could be seen easily on looking across the chest. The *x*-rays gave negative results in this case.

A diagnosis of aneurism was made, and the patient was made to rest, put on a diet of concentrated food,



and given iodide of potassium. After two or three visits he ceased to come, as he lived in a neighboring city, and I heard nothing further from him until he died suddenly on September 19, 1900, and I was asked to assist at the autopsy, which showed results as follows: The body was well nourished. Slight bulging was noticeable under the right clavicle, and an apparent fulness in the right side of the chest. Subcutaneous fat was moderate in amount. The undertaker, in attempting to tap the heart, drew off a large amount of fluid blood. The left lobe of the liver extended to the line of the left nipple. The pericardium was adherent. There was a large blood clot, about three quarts, in the right pleural cavity. The right lung was somewhat pigmented, and much compressed in the middle lobe; otherwise normal. The pulmonary artery was dilated throughout, its walls were thin, and it had a gritty feeling from calcareous deposit, and a clot extended into the lung. There was an aneurism of the right pulmonary artery, before its entrance into the lung, which had ruptured, causing fatal hemorrhage into the right pleural cavity. This sack was situated somewhat transversely to the artery, and was three and one-half or four inches in its longest diameter, by two or two and one-half inches in its short diameter. Its walls were thin, semi-transparent, and partially covered with organized clots. The heart was normal in size, the tricuspids were normal, and there was a slight mitral insufficiency. Both aortic and pulmonary valves were normal. There was atheromatous deposit in the aorta, pulmonary artery, and both mitral and tricuspid valves. The diameter of the pulmonary artery at the cardiac end was about one and one-half inches, and at its entrance into the lung nearly an inch.

The rarity of this case and its interesting character

have prompted a brief study of pulmonary aneurism in its various forms.

Pulmonary aneurisms may be divided into four classes or varieties.

First. General dilatation of the artery and its branches. This variety may not always prove the cause of death.

Second. Sacciform or fusiform aneurism, situated within the pericardium, in which variety death results from rupture into the pericardium.

Third. Sacciform or fusiform aneurism, situated between the bifurcation and the entrance of the artery into the lungs. In this class rupture occurs into the pleural cavity.

Fourth. Those cases of aneurism, mostly small, in connection with tuberculous cavities in the lungs, which terminate in uncontrollable and fatal hæmoptysis, and which have been so well studied by West[1] and Kidd,[2] of London, and Osler[3] in our own country.

Pulmonary aneurism of the first variety mentioned, general dilatation, is not common; only one case being reported among those I have had opportunity to look up; though some of the earlier writers thought it was comparatively common it has not proven so in the autopsy room. The case reported by Sydney Coupland, M.B.,[4] is worthy of notice here, as it belongs to this class, and has been misquoted by Williams[5] as a case of sacciform aneurism. Coupland's case was one of extreme dilatation of the pulmonary artery, disease of the pulmonary valves, patent foramen ovale, bronchitis, emphysema, and partial hemiplegia, in a man seventy-five years old. No diagnosis of aneurism was mentioned as having been made before death, and the patient died in a comatose or semi-comatose state, and no rupture of a blood-vessel was found at the autopsy. He had albuminuria and general atheromatous degeneration. In this case the emphysema made it impossible to outline the cardiac area by percussion.

The second variety, sacciform or fusiform dilatation, situated within the pericardium, is referred to by several of the writers on the practice of medicine and physical diagnosis, and the signs and symptoms are clearly given. However, the proposed differential sign between aortic and pulmonary aneurism, by determining whether the left or right side of the heart is hypertrophied, would not always be of value, for in Coupland's case, referred to, emphysema altogether obscured the cardiac dulness.

The earliest case of this variety I have found was reported in a French publication in 1822,[6] and occurred in a man of robust constitution, thirty-eight years of age. No symptoms of aneurism preceded his fatal illness, which followed a severe attack of seasickness and gastritis, accompanied by much and severe vomiting and straining. Autopsy showed the pericardium full of blood from the rupture of an aneurismal sack which had developed from the pulmonary artery.

The third variety, sacciform or fusiform aneurism, situated between the bifurcation of the artery and its entrance into the lung, is very rare, and is illustrated by the case reported at the beginning of this paper. It is not described in any of the text-books, so far as I can find. The first case of the kind reported is found in the works of Ambrose Paré,[7] for the translation of which one may refer to a Sydenham Society publication of 1844.[8] On account of the careful description and quaint language, as well as the rarity of the case, I will quote from the report of Paré:

"Aneurisms that occur in the internal parts are incurable, happening frequently in those who have had the pox, and have been sweated several times, by which means their blood has been very greatly heated, and rendered thin, which occasions that within the arteries to escape, and to dilate the body of the vessel, sometimes to the size of the fist. Which I have seen in the body of a man named Belanger, a master tailor, living on the bridge of St. Michael, near the sign of the Cock, who had an aneurism of the pulmonary artery of which he suddenly died, in consequence of the artery bursting whilst he was playing ball. On dissecting him I found a large quantity of blood effused into the thorax, the body of the artery dilated to the size of a fist, and its lining membrane quite ossified. This I exhibited shortly afterward at the School of Medicine, where those who saw it were greatly surprised, and on this account I keep it in my museum as a monstrous thing. Belanger while he lived had a very strong pulsation in his arteries, and he felt extreme heat in the body, and often fainted. M. Sylvius, the lecturer on medicine, had ordered him to discontinue his wine, and only drink boiled or pure water. He chiefly lived on fresh cheese, and the same was applied in the form of a poultice to the seat of pain. In the evening he took pearl barley, mixed with barley flour and poppy seeds. Occasionally refrigerant clysters were administered, or simply bruised barley." He adds, "and he told me that from no other physician had he received so much benefit as from Sylvius."

It will here be seen that, at so early a time as the report of Paré, the rôle of syphilis in the etiology of aneurism was well understood, and here also we find that, while he regarded internal aneurisms as incurable, he attributed much benefit to abstinence from stimulants, sedative remedies, and a concentrated albuminous diet.

The only other case belonging to this variety, which I have been able to find, is that reported by Rosner,[1] which was the same in location and termination, but differed in that it was caused by tuberculous ulceration, Rosner believing that it was the seat of primary tuberculous lesion. It may be well to state as an odd fact that no report has been found of an aneurism of this class in the left pulmonary artery.

As this variety of aneurism is not described in the text-books, I will briefly mention the signs which should lead to a diagnosis. Pain, in character like that accompanying other aneurisms, but not so deep-seated as in aortic disease, not increased by breathing or motion; cough on slight exertion, but no expectoration; either congestion, with râles, or emphysema of the lung—these should lead to a thorough physical examination with suspicion of disease of the pulmonary artery. Physical examination should reveal a bruit, not conveyed above the clavicle, more or less dulness on percussion, and pulsation if the tumor has reached sufficient size, diminished respiration where the lung is compressed, and râles, either mucous or whistling, in other parts of the affected lung. The pulsation will be felt, and the bruit heard, to the right of the sternum, just above or below the third rib, if the aneurism is of the right artery, and if the left is the seat of disease it will be to the left of the sternum, not far from the position noted in the descriptions of aneurism of the common pulmonary artery.

The pain, in the case that I have reported, was described to me as very much like the pain of angina pectoris except that it affected the other side and arm.

The fourth variety, aneurisms, generally small, in connection with tuberculous cavities, is very frequent,

[1] S. West: Tr. Lond. Path. Soc., 1878, xxix., 41; *ibid.*, 1881, xxxii., 67; also *Lancet*, 1884, i. 70.
[2] Percy Kidd: Tr. Lond. Path. Soc., 1884, xxxv., 98.
[3] W. Osler: Tr. Path. Soc. of Phila., 1891, xiv., 116.
[4] Sydney Coupland: Tr. Lond. Path. Soc., 1875, xxvi., 22.
[5] C. B. Williams: Col. and Clin. Record, Phila., 1890, xi., 49.
[6] Rec. de Mem. de Méd., Paris, 1822, xi., 259.
[7] "Les Œuvres d'Ambrose Paré," fol. liv., chap. 34.
[8] "Observations on Aneurism," 1844.

[1] M. Rosner: Wien. med. Wochenschr., 1889, xxxix., 1043.

has been abundantly studied, and comprises by far the greater portion of the reported cases, some eighty in all, that I have found, in looking up the subject. They are usually not larger than a cherry and occur singly, but there are exceptions, both as to size and the number in the same person, as for example the case reported by Kime,[1] in which the aneurism was large enough to be diagnosed by physical means, more than a month before death; and the cases of Kidd, to whose work I have already referred, who found, in two hundred and thirty cases of fatal hemorrhage, twenty-six aneurisms, and in four of these there were multiple aneurisms. All agree as to the difficulty of diagnosing these small aneurisms, and both Kidd and West consider severe and uncontrollable hæmoptysis the only sign which may probably point to the rupture of one of these small aneurisms, as they are generally too small to be discovered by physical methods of exploration.

Sufficient has already been said in relation to the diagnosis of these cases, and as the pathology, etiology, and treatment are much the same as in other internal aneurisms, it is not necessary to go into those divisions of the subject in this paper.

November 26, 1900.

BLUNDERS IN CARING FOR PARTS OF THE BODY INTENDED FOR CHEMICAL EXAMINATION.

By EDWARD BARTOW, Ph.D.,

UNIVERSITY OF KANSAS, LAWRENCE, KANSAS.

During the past two years it has been my fortune to do the analytical work in some cases of suspected poisoning. Some of the physicians who performed the autopsies apparently lacked knowledge of proper methods of caring for the organs removed. For this reason, the publication of the mistakes made, together with a brief outline of the correct methods, may prove of use, for when the organs are placed in the hands of the chemist, there should be no possible chance to suspect contamination.

In one case that was brought to me, a case of suspected arsenical poisoning, the physician in charge had a can specially prepared from sheet tin for the reception of all the organs removed. I examined the organs submitted (stomach, liver, and heart), finding no poison except arsenic, and that in only a small amount, as follows: 0.96 mgm. to 100 gm. of tissue of stomach, 0.72 mgm. to 100 gm. of liver, 0.21 mgm. to 100 gm. of heart. Nothing in the contents of the stomach.

Since it is well known that sheet tin contains more or less arsenic, I thought it advisable to examine it. By dissolving the tin in nitric acid a trace of arsenic was found on submitting the solution to the Marsh test. When the tin was kept in contact with water or an alkali for several hours, there was extracted nothing that would show arsenic by the Marsh test.

In this case the body had not been embalmed, therefore it was possible to have it exhumed and other organs obtained for analysis. It was thus unnecessary to rely on the probable non-solution of the arsenic in the fluid accompanying the organs. This time I found 0.70 mgm. in 100 gm. of the kidneys and traces in the brain.

I learned afterward that the attorney for the defense had sent some tin, supposed to be of the same kind, to a chemist for analysis, and that that chemist had reported no arsenic.

In another case there was an absurd error which proved to be of no moment since no poisons were found in the organs examined. This time the coroner and a druggist took the glass fruit jars containing the organs, closed and sealed them; then for some unexplainable reason, they wrapped them in cotton soaked in embalming fluid. When asked as to the possibility of the fluid containing poison, the druggist said it might be poisonous to drink, but not to touch, as they sometimes used it for washing their hands. An examination of the cotton showed large quantities of arsenic. To prevent, if possible, the arsenic on the cotton from reaching the contents of the jars, the jars were thoroughly washed by allowing a stream of water from a faucet to flow over them for five minutes, then the contents were removed without allowing them to come in contact with the mouth of the jar. An examination of the contents then failed to reveal the presence of any poisons. If arsenic had been found, there would have been grave doubt as to its source.

Probably not many physicians are called upon to take charge of a case of homicidal poisoning. If possible an expert should be employed. Nevertheless, every physician ought to know what to do if such a case should come to him.

A brief summary of the directions for caring for the parts removed, as given in the "Medical Jurisprudence and Toxicology" of Witthaus and Becker, vol. iv., p. 113, is as follows:

Each of the parts removed should be placed in a new glass jar, which has been well rinsed out with water, and which is to be closed with a glass cover or stopper, or with a cork tied over with moistened bladder or parchment paper. A cord or tape is then to be tied about the jar, then so fastened by sealing-wax bearing a private imprint that it is impossible to gain access to the contents without breaking the seal or cutting the tape. No preservative should be added unless the parts must be kept for several days before transmission to their destination. Under these undesirable conditions alcohol only may be used, and if used, a sample of at least a litre should be separately submitted for analysis.

In removing and transmitting the parts destined for analysis the examiner should exercise the minutest care to prevent the possibility of error, contamination, or loss.

[1] J. W. Kime: Medical Record, October 12, 1889.

ISCHIO-RECTAL ABSCESS, COMPLICATED WITH GANGRENE AND PRIAPISM.[1]

By H. H. HARALSON, M.D.,

VICKSBURG, MISS.

James W——, white, male, aged sixty-eight years, became ill about the 25th of August, and was seen by his family physician. He complained of pain in the region of the anus, and had some fever, not high, and a slightly accelerated pulse. This condition continued for several days. Frequent rectal examination by his physician revealed nothing. Pain in the region of the anus continued with increased severity.

September 1st: No induration could be felt in the rectum or around the anus by the attending physician. On the second day of September, at the morning visit, the temperature had gone up, the pulse was much more accelerated, and the pain was greatly increased. Induration and redness existed around the anus. Another rectal examination revealed nothing more. In the afternoon the temperature had reached 105° F. in the axilla, the pulse was weak and rapid, there was retention of urine, and a very painful priapism had developed.

September 3d: Temperature, 105.5° F.; pulse very much weaker; priapism still present. An incision about an inch long was made to the left of the anus

[1] Read before the Vicksburg Medical Association.

and a quantity of offensive pus and fecal matter evacuated. The temperature rapidly declined to normal. The priapism continued, and retention of urine changed to incontinence. September 4th the patient was in about the same condition as on the 3d.

I saw the patient on September 5th at 10 o'clock P.M. in consultation. The temperature was then 101° F.; pulse, 100 and very weak. The patient was in a semi-unconscious condition, involuntary discharges had occurred from the bowels and bladder, and priapism was still present. Examination per rectum gave no evidence of induration; the prostate was very much enlarged. I introduced my finger into the wound, and found a large cavity extending in front and behind the rectum. I enlarged the wound, making it about three inches long, and found an opening into the rectum some two or two and a half inches above the anus. The discharge was extremely offensive and characteristic. The entire surface of the cavity was thickly covered with a dark gray mould, or "decomposed tissue, retaining some of its histological or anatomical properties"—moist gangrene. I scraped and cut away as much of this dead tissue as possible and washed out the cavity, first with hydrogen peroxide and then with a solution of bichloride of mercury 1:2,000, and dressed with iodoform gauze.

September 6th: 6 o'clock A.M., the patient was still unconscious; the temperature was slightly above normal; pulse, 80 and weak; involuntary discharges continued from the bladder and bowels, and priapism continued. On the opposite side of the anus I noticed a dark spot about the size of a silver dime. With the end of a probe pressed against the centre of this spot an entrance was easily gained. With a bistoury I cut about one inch backward and then an inch forward. This opened up a large subcutaneous sac, also covered with a dark gray mould, and connecting by sinuses anteriorly and posteriorly to the rectum with the one on the opposite side. This was treated in the same manner as the cavity on the opposite side. The extension of the gangrenous process continued until almost the entire perirectal tissue became involved. The patient died thirty-six hours after I first saw him.

Gangrenous periproctitis is not an uncommon affection, but usually follows traumatism. In this case, however, there was no history of an injury, but an indistinct history of a prostatitis extending over several months. If the clinical evidence obtained by the attending physicians, and upon which the foregoing notes are based, is correct, this was doubtless a case of chronic ischio-rectal abscess of probable tuberculous origin, which became infected with pyogenic organisms, and on September 2d gave the first evidence of acute symptoms.

I would not undertake to account for the priapism unless it was due to vesical or pelvic irritation, which is sometimes the cause.

The Effect of Local Hyperæmia Produced by Heat on Chronic and Infectious Ulcerations.—K. Ullmann ascribes great value to the application of dry heat of high degree to sluggish ulcerations of all kinds. The temperature should range from 80°–150° C., and is to be applied by special apparatus which allows accurate graduation of the temperature and the rapid absorption of all moisture. As long as the skin is kept dry no pain is caused, and the sensation is even said to be an agreeable one. The method is especially adapted for use in cases of venereal and other affections of the genitals, and while acute and mild lesions are more conveniently treated by the ordinary means, in chronic, obstinate, serpiginous, or gangrenous cases the effects are extremely satisfactory.—*Wiener klinische Wochenschrift*, January 3, 1901.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Sixty-first Regular Meeting, Held on Friday, February 1, 1901.

A. ALEXANDER SMITH, M.D., PRESIDENT, IN THE CHAIR.

A Case of Universal Peritonitis following Ruptured Duodenal Ulcer: Operation Twenty-seven Hours Later; Recovery.—Presented by DR. ROBERT ABBE. The patient was a young man who was returning home from business on November 8th last, and was apparently in perfect health when he stepped off the train of the elevated railroad. As he started to walk across the platform of the station he was suddenly seized with an intense pain in the abdomen, which doubled him up and was so severe that he had to be help downstairs. He was given a little whiskey and then assisted to a friend's house, where he remained until evening. He vomited the whiskey which he had taken, and as his pain did not improve, he sent for his family physician, Dr. J. Harvie Dew, who suspected that the case was one of acute appendicitis, and gave him some morphine. The patient passed a bad night, and when Dr. Abbe saw him, about noon on the following day, his condition was exceedingly grave. The entire abdominal wall was rigid and distended, and there were well-marked evidences of a universal peritonitis, with tenderness everywhere, but most pronounced in the epigastrium. The diagnosis lay between acute appendicitis with rupture, and perforating gastric ulcer. On account of the nearly hopeless condition of the patient, Dr. Abbe asked Dr. Bull to see him with the speaker, and upon consultation it was decided that the patient was entitled to the slight chance which an operation held out. At this time his pulse was 120 and weak; his temperature was 102° and had remained stationary for three hours, which was looked upon as somewhat hopeful. The abdominal distention had increased.

Operation: Without further delay a median incision was made from below the umbilicus downward, and when the abdominal cavity was opened a large quantity of turbid fluid presented. This was not offensive, but the pelvis below was filled with yellow pus. The intestines were angry and inflamed in appearance, and this condition was shared by the appendix, but this was not perforated. In order to be on the safe side, however, it was removed. It was found to be absolutely solid and distended with lymphoid tissue. Dr. Abbe said this was the only specimen of the kind that he had ever seen. The removal of the appendix was accomplished through a small lateral incision. As it was evident that this organ was not the cause of the trouble, a third incision was made in the median line, from a point just above the umbilicus upward. The omentum was crowded up against the half-empty transverse colon. When the colon was drawn down a quantity of foul matter was seen coming from below the stomach, and this also filled the space between the liver and stomach. The liver was coated with lymph and separated from the diaphragm by a space of air. The entire abdominal contents showed evidences of infection. About an inch and one-quarter below the pylorus a rupture of the duodenum was found; it was about the size of an ordinary lead pencil and was freely discharging gas and a slimy secretion. After the tissues around it were cleansed, it was surrounded by a double row of purse-string sutures, the second row being inserted so as to bury the first. The peritoneal cavity was then thoroughly cleansed, large quantities of hot salt solution being thrown into the three openings

through a Chamberlain tube. After both surfaces of the liver and all the fossæ of the peritoneal cavity had been irrigated and both the upper and lower surfaces of the omentum had been cleansed, the latter was drawn downward, in order completely to cover the small intestines, and thus prevent the interference with peristalsis, which was so apt to occur when the intestines were covered with gauze. A large tube was inserted into the upper opening and kept there by liberal iodoform-gauze packing, and a glass tube with gauze tamponade was left in the pelvic opening. The patient made an uneventful recovery from the operation. His temperature on the day after the operation was 101.5°, and rapidly fell to normal. The glass tube was left in several days, and the last piece of gauze was removed in two weeks.

Dr. Abbe said that in a recent paper on this subject by Dr. Robert F. Weir, there was a report of fifty-one cases of perforating duodenal ulcer which had been operated on, with seven recoveries. In twenty-five of the fifty-one cases the ulcer was found and closed; in the remaining cases it was not found at the time of operation, and all the patients died. Of the seven recoveries, all were operated on within thirty hours—most of them within six hours. The most striking symptom in the majority of these cases was the very sudden onset of the pain; it was violent and instantaneous, coming on without premonitory symptoms, while the patient was walking or straining, or upon making a false step. In most of the cases vomiting was a prominent symptom. The symptoms progressed rapidly to a fatal termination. If an operation was done within the first six hours, about twenty-five per cent. could be saved.

A Case of Exophthalmic Goitre with Suppuration of Both Corneæ, Ending in Total Blindness.—Reported by Dr. Charles Stedman Bull. The patient was a married woman aged thirty-two years, whom he had first seen in November, 1894. About one year before he had seen her, she had been prematurely delivered of her third child at the eighth month of pregnancy, and was very ill with what was probably, from her account, post-partum hemorrhage. She had prolapsus uteri, which required some operative interference for its relief, and she almost immediately became pregnant again. During the fourth month of this pregnancy, both eyes took on a staring appearance and began to protrude, and, as she expressed it, her throat began to swell. She became very nervous and short of breath, having at times attacks of dyspnœa which were asthmatic in character. Her heart beat very rapidly, and her general health failed. When Dr. Bull saw her, she presented all the signs of a typical case of exophthalmic goitre. Both eyes were very prominent, the protrusion being directly forward. Von Graefe's sign was present, an important symptom in the early recognition of the disease. Dalrymple's sign was strongly marked, the upper lids being retracted, and the conjunctiva oculi was very hyperæmic. The media were clear, the vision was normal, and the retina was very hyperæmic. Both lateral lobes of the thyroid gland were very much enlarged, the right more than the left, and evidently exerted some pressure on the larynx and trachea. The respiration was very rapid, 30 to the minute, and shallow. There was marked tachycardia, and a loud blowing murmur was heard over the base, which was probably anæmic. She was advised to come into the hospital for treatment, but as she was near her confinement she decided to remain at home. She was immediately put on iron and pilocarpine internally, and carefully watched. She passed through her confinement safely, and at the end of the third week persented herself again for treatment. The tachycardia was somewhat less marked, and the respiration less rapid and deeper, but the exophthalmos was unchanged. She presented herself once a week for treatment until April, 1895, when the speaker went off duty, and he did not see her again until February, 1896. She was then again pregnant, and came with a severe inflammation of both eyes, which had evidently begun as ulceration of the cornea, which had rapidly gone on to suppuration. The abscesses had involved the entire cornea in each eye, and both corneæ had sloughed. There was, of course, total loss of sight, and as there was no perception of light in either eye, there had probably been total detachment of the retina as a result of the perforation of both corneæ, and the sudden loss of intra-ocular tension. The eyeballs were still very prominent, the upper lids in a condition of extreme retraction, the thyroid was about in the same condition as when he had last seen her, and the tachycardia very marked (160). The ruptured eyeballs had nearly healed up by new masses of exudation when he saw her, but the case was of course hopeless. During the time that she was under treatment at the infirmary she was advised to enter the hospital wards, and have an operation for tarsorrhaphy performed for the purpose of narrowing the widened palpebral fissure, and thus diminishing the dangers resulting from the lagophthalmos, but this was declined.

The Treatment of Chronic Rheumatic and Allied Joint Lesions, with Deformity as Complication.—Dr. V. P. Gibney read this paper (see page 321). In connection with his paper, Dr. Gibney exhibited a Campbell knee brace, and the apparatus known as the kyphotome, which is used in the correction of a rigid spine.

Dr. George L. Peabody said he was a little disappointed with Dr. Gibney's wholesale condemnation of the hot-air treatment, which the speaker said he had employed in quite a number of cases of chronic rheumatism with very happy results. In rheumatoid arthritis, which was a totally different disease, the hot-air treatment had not proved very helpful.

Dr. Walter B. James said there were few fields in medicine where our therapeutics were less satisfactory than in the class of cases discussed by Dr. Gibney. The speaker said that in his own experience these patients usually received more benefit in the long run from passive motion, regularly carried out, than from fixation and inactivity of the affected part. Of course, such a method of treatment could prove beneficial only in chronic rheumatism with ankylosis, rather than in rheumatoid arthritis. Dr. James said that another plan of treatment which he had found of some value was the use of vapor baths, taken in the india-rubber cabinets. These had been tried in cases of chronic rheumatism at the Presbyterian Hospital with very gratifying results. Even the slightest aid in the treatment of these rather hopeless disorders should be welcomed.

Dr. Charles L. Dana said his experience in the treatment of this class of disorders was limited chiefly to cases of rheumatoid arthritis in some of its forms; for in its earlier stages the symptoms of this disease were often obscure and associated with nervous disturbance. In the treatment of its resulting deformities, the employment of much force or the use of plaster of Paris had not been successful, and he had given it up. Rheumatoid arthritis being a degenerative trouble, not an inflammatory one, the adhesions were secondary and breaking them still left the degenerated joint. Baths, massage, and all sorts of active manipulation were usually only of temporary use. Under tonic treatment and rest, however, with plenty of fresh air and improved hygiene, these patients often did remarkably well. In the traumatic class of cases, or those associated with psychoses, the symptoms sometimes proved most obstinate and puzzling. Such pa-

tients were usually best left alone, and encouraged to keep their minds away from their joints.

Dr. Beverley Robinson said he would be very glad to learn of any mechanical device which would prove helpful in the deformities resulting from rheumatoid arthritis or chronic rheumatism. The speaker said that in the treatment of these cases he had always relied upon proper medication, with fresh air, good food, massage, and a limited amount of motion of the affected part. This treatment usually proved unsatisfactory, but it was the best he knew of. Dr. Robinson asked Dr. Gibney whether he applied the plaster of Paris directly over the skin, or whether an ordinary bandage was interposed between the two.

Dr. Gibney said he preferred to put it next to the skin, which should first be well greased with some sterilized salve. If the plaster produced an eruption, as it did at times, it could be applied over a thin cheese-cloth bandage. When it was applied directly to the skin, it fitted more closely than when it was put on over a bandage, and we got more perfect immobilization of the part and consequently there was less likelihood of further adhesions. Dr. Gibney said he had kept the plaster next to the skin for a period of six months without doing any harm.

Dr. Robinson asked Dr. Gibney what he thought of the so-called douche-massage treatment, which was practised extensively at Aix-les-Bains and also at Hot Springs.

Dr. F. P. Kinnicutt asked Dr. Gibney whether he applied similar methods of treatment to cases of chronic rheumatism and what was known as rheumatoid arthritis, or whether he made a distinction between the two.

Dr. Gibney said that in rheumatoid arthritis the treatment should be less forcible than in chronic rheumatism, in order not to excite further inflammation of the bone, and the immobilization should not be kept up so long. The speaker said he usually immobilized the affected part until he thought passive motion could be employed with safety. Dr. Gibney said he fully realized the difficulty in the management of cases of rheumatoid arthritis, which he agreed with Dr. Dana was a degenerative disease. Still, when these patients were practically helpless, with distorted limbs, at least an effort should be made to straighten the latter so that they might serve some useful purpose. In the neurotic class of cases, to which Dr. Dana referred, very little could be accomplished by mechanical treatment, and such patients might get well over night. The speaker said he had in mind a woman who belonged to this class of cases, and whose lameness was rapidly cured by insisting upon her receiving daily treatments from a masseuse whom she cordially hated. Dr. Gibney said he had had no experience with the douche-massage treatment referred to by Dr. Robinson. The hot-air method he had given a very fair trial, both in private and hospital practice, and he had been led to the opinion that it did not do much good either in chronic rheumatism or in rheumatoid arthritis; at least, it was no more beneficial than massage or hot fomentations or hot steam baths.

Dr. Peabody said he felt quite sure that he had seen good results from the douche-massage treatment in cases of chronic rheumatic arthritis—not in rheumatoid arthritis. He recalled one case in particular, that of a man suffering from chronic rheumatism, in whom the disease had progressed to such a degree that he had to be carried to and from the steamer. After several visits to Aix-les-Bains he came back apparently cured and was able to resume his business.

Dr. Kinnicutt said he was familiar with the case referred to by Dr. Peabody, and could corroborate the statements regarding the beneficial effects of the treatment by the douche-massage method at Aix-les-Bains. Before the patient went to Europe, he was absolutely helpless, being unable to rise from his chair. After undergoing two courses of treatment there he returned home practically cured, and could walk as well as ever. In the course of a year or two, however, his symptoms returned; he again submitted to a course of treatment in France, but without receiving much benefit, and he was now a hopeless invalid, being worse off than he was at the beginning. There was no doubt, Dr. Kinnicutt said, that a certain class of these cases were greatly benefited by the treatment at Aix-les-Bains. It was doubtful at first whether the case referred to was one of chronic rheumatism of a grave type or a case of rheumatoid arthritis; at the present time the patient presented the typical clinical signs of a rheumatoid arthritis in its advanced stage.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 21, 1901.

Robert F. Weir, M.D., President.

The Rôle of the Colon Bacillus in Human Affections.—Dr. A. J. Lartigau read this paper, treating of the different varieties of this bacillus as one form. He said that we now knew that it was one of the most widely distributed micro-organisms in nature. Its presence in the mouth had been frequently demonstrated. Post-mortem invasion of various organs was a constant phenomenon, and this vitiated many of the bacteriological studies made after death. If the colon bacillus were enclosed in a loop of intestine that had become strangulated, it would soon become quite virulent—indeed, some observers stated that almost any abnormal condition of the mucous membrane of the intestinal tract increased the virulence of this organism. The normal intestine provided food in a favorable form for assimilation by this bacillus, but it did not become virulent, because its first force was spent upon the process of fermentation. Not a few instances had been recorded in which the bacillus had been present throughout the body, and had given rise to a general infection. Numerous cases of hemorrhoidal phlebitis had been reported as a result of infection with this bacillus. Endocarditis had been shown by certain French observers to result occasionally from infection with the colon bacillus. It had been thought to be a factor in the diffused diseases of the intestine, especially infectious enteritis, because of its presence in such cases in considerable number. In traumatic lesions of the intestine, the colon bacillus evidently played an important part. There had been a disposition to look upon this bacillus as the cause of peritonitis, but within the last few years the opinion had gained ground that the infection of peritonitis was multibacterial. It was now generally accepted that most cases of appendicitis began as a local inflammation of that organ, excited by some of the ordinary intestinal flora. The speaker said that he believed that the ordinary pyogenic cocci were probably the primary factors, and the colon bacilli played a secondary part. Any alteration in the biliary ducts would often result in an ascending inflammation and an infection with the colon bacillus. His own experiments had shown the colon bacillus in about twenty-five per cent. of the gall stones examined. Adami had suggested that the colon bacillus might be an important factor in certain forms of cirrhosis of the liver, but this theory still lacked confirmation. The colon bacillus readily gained access to the kidneys and the bladder, and was apparently important in the causation of infectious nephritis. All observers were agreed as to its being a very common organism in cystitis, and his own ex-

perience seemed to indicate that it was more common in women than in men. The relationship of the colon bacillus to urinary fever had often been suggested. A few cases were on record in which respiratory affections had been associated with the colon bacillus. Practically all the diseases of the nervous system associated with this micro-organism were meningeal affections, which showed nothing different from that observed when the ordinary pus-forming organisms were present. The colon bacillus had been found in some cases of suppurative diseases of the nasal sinuses, and in three cases of purulent otitis. The organism was present in numerous localized suppurative processes. On the whole, the rôle of the colon bacillus might fairly be said to be quite secondary in character.

The Rôle of the Colon Bacillus as a Causative Factor in Inflammation of the Bladder.—Dr. S. Alexander discussed this part of the subject. He thought too much attention had been given of late to the pathogenic bacteria, and too little to the other causes. It could not be denied that the colon bacillus was frequently present in purulent urine, but it was generally of very moderate virulence. After referring at length to the controversy which had been waged between the schools on the question of the bacteriology of cystitis, the speaker came to the conclusion that bacteriology had added almost nothing to our knowledge of the genito-urinary diseases except the principles of antiseptic and aseptic surgery. A careful study of the published writings seemed to indicate that the colon bacillus was rarely found in cases of cystitis, except when the urine was acid. The colon bacillus seemed to be the cause of a certain number of cases of cystitis, but we could not assert that it was the most prominent cause. What we needed most in future research in this field were an accurate record of the clinical features of cases of cystitis, and the separation of the two sexes in addition to exact bacteriological work.

Dr. W. H. Park emphasized the statement that the colon bacillus was often given too much prominence in connection with disease processes. This was often because this bacillus grew so easily on all sorts of culture media, and overgrew all the other varieties. In his opinion, the colon bacillus was not, under ordinary conditions, pathogenic, but if because of anæmia or trauma or something of the kind the resistance of the tissues was decreased, the pathogenic action of the colon bacillus became apparent. There was little ground for hope that even in the future we would be able to get an agglutinating serum test for the colon bacillus or a method of serum therapy with which to combat the action of this organism.

Dr. Lartigau, in closing, said that he felt sure that the colon bacillus had been given too great prominence in all the infections, particularly in gastro-intestinal disorders.

President of Lunacy Commission.—On motion of Dr. C. L. Dana, the Academy of Medicine unanimously adopted the following resolution:

Resolved, That the New York Academy of Medicine is opposed to the repeal of the existing law which requires the president of the Commission in Lunacy to have had five years' experience in the treatment of the insane, and condemns any clause which would do away with this restriction.

SECTION ON SURGERY.

Stated Meeting, February 11, 1901.

John B. Walker, M.D., Chairman.

Radical Cure of Inguinal Hernia in a Child Two Weeks Old.—Dr. John F. Erdmann said that a child thirteen days old had been brought to him by Dr. Harry L. Purdy, with an irreducible strangulated inguinal hernia. He had operated immediately, relieving the strangulation and effecting a radical cure at the same time. The wound had healed by primary union, and the child's recovery had been rapid and uneventful.

Operation for Inguinal Hernia in a Diabetic Subject.—Dr. Arthur L. Fisk presented a youth of seventeen who had come to him one year ago seeking relief from an inguinal hernia. There had been at the time two per cent. of sugar in his urine, and this had continued ever since then; but recovery from the operation had been uncomplicated, and the subject's general condition had remained good.

Wiring of a Fractured Patella.—Dr. Fisk also presented a man who had fractured his patella by a fall on shipboard in 1868. The fracture had been treated at that time by the use of Malgaigne's hooks. Recently the patient had sustained another fracture of this patella, and accordingly, on December 24, 1900, Dr. Fisk had operated. He had found the old fracture, and also a rupture of the lateral ligament. He had cut out the fibrous union between the two sections of the patella, and had wired the fragments with silver wire. Since that time the limb had been kept up in a plaster cast. At present there was slight movement only, as he had not been anxious to have the limb used much as yet.

Chronic Intussusception; Resection and Recovery.—Dr. H. Lilienthal presented a man thirty years old, who had been referred to him by Dr. Morris Manges on November 6th. The patient had been perfectly well up to three months previously. After a severe exertion, he had drunk cold beer, and this had been followed by severe cramps in the region of the umbilicus, and these had persisted for several days, and had been associated with vomiting. After a few days the vomiting had been succeeded by diarrhœa and rapid emaciation. On dilating the colon with air, a mass, which had been observed over the colon, seemed to recede to the right side. On palpation, the mass would slip up beneath the ribs. On November 10th an operation had revealed the presence of a large intussusception, which was absolutely irreducible. He had incised it, pulled out the intussusceptum, and united the parts by Maunsell's suture. No Lembert's sutures were used externally. All drainage had been removed in a few days, and on the ninth day the bowels had been moved. The specimen was also presented.

Strangulated Hernia in a Child Eight Days Old; Successful Operation.—Dr. Lilienthal also presented an infant of a few months, whom he had first seen on July 1, 1900, in the practice of Dr. H. Heiman. At that time it was only eight days old. Since birth there had been present a hernia, and this had now become strangulated. At the operation he had found the ascending colon, the sigmoid, and the appendix, with a great deal of the small intestine. The canal was slit up and the hernia reduced with difficulty. Recovery had been very rapid, the parts having been practically healed at the first dressing, six days after operation. A hasty search through the literature led him to believe that this was the youngest child that had ever been successfully operated upon for strangulated hernia.

Dr. John B. Walker said that he had never seen a child under two weeks old in whom it had been necessary to resort to operation, because in all such cases that he had seen, suspension and taxis had succeeded in reducing the strangulation of the hernia.

A Cause of Strangulation in Infantile Hernia.—Dr. A. V. Moschcowitz said that last summer he had been called to see a case of strangulated hernia occur-

ring in a child of four months. Strangulation had lasted for four hours, and reduction could not be effected by taxis. It had been operated upon successfully. Another child had been seen by him three months after its birth. It had been born at the seventh month, and at that time, he had been credibly informed, it had weighed only one pound and a half, and had measured nine inches and a half in length. At the time of operation it had weighed five pounds. When brought to him, there had been a strangulated hernia, upon which he had immediately operated. The child had recovered well from the operation, but had subsequently developed pneumonia and mastoid disease, and although operated upon for the latter, it was now rapidly convalescing. He had found in these cases evidence of an unsuccessful attempt on the part of nature to close the tunica vaginalis. This had resulted in the formation of a constricting ring, and it was here that the hernia had become strangulated.

Dr. Robert T. Morris said that he had at present under his care a child in whom there was a similar ring, but he had supposed up to this time that this was a secondary formation. He was inclined, however, to accept the explanation just given.

Dr. Walker said that in some works on hernia this variety had been described as the encysted form.

Operations on Diabetics.—Dr. Morris said, regarding operating on diabetics, that the tissues were dry because the sugar in the blood was hygroscopic, and withdrew fluid from the tissue cells. It was this, he believed, which constituted the danger of operating in cases of diabetes. If the quantity of sugar were so small that its hygroscopic action was not sufficient to cause undue dryness of the tissue cells, and so interfere with the reparative process, an operation could be undertaken with safety.

Dr. Lilienthal said that while this was undoubtedly one danger, another and, he thought, a more important one, was the fact that the presence of the sugar afforded a medium favorable for the development of bacteria. Dr. E. Libman had shown that the addition of even a minute portion of sugar to culture media caused a striking change in the bacterial growth.

Dr. Fisk said that a search through the literature seemed to indicate that the mere presence of sugar was not to be considered a contraindication to operation, though operations in such cases must be carried out under the strictest antiseptic precautions.

Dr. Morris, referring to Dr. Fisk's case of fractured patella, said that in his last case he had used chromic catgut with good result. He had had to remove the silver wire in two or three cases because of the amount of irritation induced by the silver wire just beneath the skin. It seemed to him that in recent cases the chief reason for non-union was that the capsule was apt to be folded over the face of the lower fragment, and became adherent in this position. If this interposed tissue were removed it was not necessary to bring the fragments into close apposition.

Dr. Erdmann said that in the last case upon which he had done the open operation, he had used ordinary No. 2 catgut, and had obtained a perfect result. In a case of multiple fracture presented some months ago, he had simply stitched the capsule with ordinary catgut, and had obtained an excellent result.

Dr. John Rogers said that he had found it difficult to understand why silver wire should be used to hold bones together. The idea seemed to be that it was especially suitable to secure their close apposition, but while this was true, he knew from an unfortunate experience that the parts might be very closely apposed and fastened with silver wire, and yet in a short time the wire would cut through the bone.

Dr. Lilienthal remarked that he had used silkworm gut in two cases, with good result.

Dr. Fred. Kammerer said that he was not in favor of using silkworm gut, because he had found it especially irritating when employed as a buried suture. He thought catgut sutures were preferable to silver wire for uniting bone, and he had often made use of them for this purpose.

Dr. George E. Brewer said that the only object of having any suture at all was to keep the parts in place until union had begun, or, perhaps, until a plaster dressing could be applied. In the last two cases of fracture of the patella he had made use of the chromicized catgut and with complete satisfaction.

Dr. Walker said that his own preference was for a fine strand of kangaroo tendon, as it was a common experience that the silver wire must be subsequently removed.

Dr. Fisk said that he had been in no hurry to take off the splint in the case presented, because authorities generally recommended that it should be kept on for six weeks, and because the man had had no sense of security until very recently. In his cases of recent fracture of the patella, he had commonly made use of absorbable sutures, but this being an old fracture, requiring resection of the bones, the tension had seemed too great for the use of catgut, and hence he had employed silver wire.

Experience with Tracheotomy.—Dr. John Rogers read a paper with this title, in which he reported seven remarkable cases. In this series were four laryngotomies and eleven tracheotomies, without a death which could be ascribed to the operation. Most of his cases had suffered division of the cricoid cartilage, and experience seemed to show that this led almost invariably to bad cicatricial contraction. Laryngotomy, except for tumor, was absolutely useless. The use of ether had proved disastrous in tracheotomy cases; chloroform should be selected for this operation if any anæsthetic were required. With a low tracheotomy there was risk of wounding some of the large veins at the upper border of the sternum. Death from asphyxia might occur before the bleeding could be controlled. If the stenosis were not chronic, and a careful section were practicable, the low operation was to be preferred, but in cicatricial chronic stenosis the low operation was very troublesome. For emergencies and for chronic stenosis the high operation was safer and better. It was not always possible instantly to locate the exact seat of obstruction, but if a short tube did not give relief, a longer one should be tried.

Dr. W. K. Simpson said that in cases of chronic stenosis he thought intubation should be the operation of choice, as tracheotomy must always be looked upon as the more dangerous procedure. Experience had pointed out that if the nature of the obstruction were not known tracheotomy should be done, or one should be prepared to do it immediately after intubation. Tracheotomy should always be done with the idea of doing intubation very shortly; hence the high tracheotomy was distinctly preferable to the low operation. The longer the tracheotomy tube remained *in situ* the greater the difficulty of reaching the larynx with the intubation tube. He preferred the rubber tube because it did not become coated with calcareous matter. Dr. Rogers should receive the thanks of the profession for the modified tube he had devised. The "elbow" on this tube effectually prevented the tube from being coughed out.

Dr. Emil Mayer reported a case in which the tip of an atomizer had been thought to have been swallowed by a child. Eight days later it had been discovered in the larynx. The introduction of a probe into the larynx had revealed at first no foreign body, and from the history he had felt disposed to believe that the stenosis was diphtheritic. Forty-eight hours

later, on attempting to introduce an intubation tube, the stenosis had become extreme, so he had administered chloroform, preparatory to doing a tracheotomy. Before this operation could be begun, respiration ceased, and although the operation was hastily performed and the foreign body removed, the child could not be resuscitated. Dr. Mayer had always felt disposed to think that the chloroform had killed this child. Another case which he reported was that of a man who had been shot in the forehead at the battle of El Caney. An incorrect diagnosis had been made at one of our large hospitals, in spite of the laryngeal stenosis; but on coming under his observation he had been led to look for the foreign body, because of a punched-out hole which could be plainly seen in one side of the curtain of the palate. This man had ultimately been relieved by treatment with Schroetter's tubes. It was surprising that, in this country, so little post-typhoid stenosis was observed. This was probably to be explained by the fact that specific diseases in general were not so severe in their ravages in America as in some other countries.

Dr. Kammerer said that he would not think of using ether as the anæsthetic for a tracheotomy. He had done this operation two hundred and eighty times, for the most part in cases of diphtheria, and he had always found that the moment chloroform was administered the asphyxia was greatly increased. One of the most important things to remember in doing a tracheotomy was to perform it without undue haste. This was especially true in the case of children, and even if breathing should cease it could almost always be restored by artificial respiration. His experience had been that the inferior operation was much easier than the high operation. He had always found that if the double cannula were worn for any length of time, granulations would form and cause trouble on attempting to remove the cannula. It was strange that so few of those who had been subjected to tracheotomy in infancy lived beyond the age of twenty years. The fact could not be denied, but it was not so easy of explanation.

Tracheotomy a Dangerous Operation.—Dr. Brewer said that at one time he had seen a great many tracheotomies, for the most part for diphtheria, done at the Boston City Hospital. On account of the strong feeling there against chloroform, nearly all of these children had been given ether, and he recalled very vividly the awful struggles under the ether. Finally they had come to do the operation in many instances without any anæsthetic, and although it was certainly a very painful procedure, he thought these children had suffered but little more than they would have done under ether. Since that time he had made use of chloroform, and had found it a great aid. He was of the opinion that all tracheotomies were dangerous, whether done for diphtheria or as a preliminary to some other operation. His experience had led him to dread septic pneumonia after all tracheotomies.

Dr. Francis J. Quinlan spoke of a case in which he had removed a double-headed screw-bolt by tracheotomy, and had immediately sutured the wound, though urgently advised by his colleagues against what they thought to be such a dangerous procedure. However, primary union had occurred, and recovery had been most satisfactory, the cosmetic effect being all that could be desired.

Dr. A. A. Berg spoke of the method of treating cases of marked cicatricial stenosis by the use of epithelial grafts, rather than by continued tubage.

Dr. Rogers replied that this method of grafting could hardly prove effective in many of these cases, and it was without doubt quite dangerous. On the other hand, the wearing of an intubation tube would effect a cure.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, February 5, 1901.

Joseph Collins, M.D., President, in the Chair.

A Case of Locomotor Ataxia Trained by the Fraenkel Method.—Dr. A. Wiener presented this man. He had been under this system of training for about one year, and while ataxia was still present, he had been very greatly improved, and was now able to go about even at night unaided. There had been no other treatment for the tabes.

Sarcoma of the Brain.—Dr. A. Wiener also presented a pathological specimen from a person seventeen years of age, who had first come to him about November 1, 1898. There was an absolutely negative history of alcoholism or syphilis. About two years before this time the patient had suffered from a severe fright, and almost immediately thereafter had had a severe convulsion. Nothing further had been noticed until the summer of 1898, when she had suddenly developed a difficulty of speech, with right facial palsy. She had suffered from bad headaches frequently, for three months previously. On coming under observation there had been excruciating pain over the occipital region, complete deafness in the right ear, and a bulging of the tympanic membrane. The right sterno-mastoid muscle had been in a state of constant contraction, and there had been a double optic neuritis, most marked on the right side. The voice was hoarse. Neither the upper nor the lower extremities had suffered any loss of power. There was no swaying when the eyes were closed, nor was there any bladder trouble. Her temperature was 100° F. The seventh, eighth, ninth, tenth, eleventh, and twelfth nerves were affected on the right side, and the sixth nerve on the other side. On November 8th a slight ptosis had been noticed, and the twelfth-nerve palsy had become more marked. On November 28th there had been vomiting, vertigo, and an increase in the ptosis of the left eye. On December 8th there had been complete third-nerve palsy on the left side, and the headache had been very severe. A tumor of the brain having been diagnosticated, the patient had been sent to the Mount Sinai Hospital. A mass had developed behind the ear, and on aspiration of this it had been found that the case was one of congenital sarcoma. On January 11, 1899, the third-nerve palsy had entirely disappeared on the left side, and the swelling behind the ear had grown larger. On January 21st the patient had suddenly become confused, and blind in both eyes. In April it had been decided to open the mass to relieve the pain. By June 30th the patient had been up and around again. In October there had been a complete brachial-plexus palsy on the right side. The tumor had kept on growing until it was almost the size of the patient's head. The patient had died on February 2, 1901, and an autopsy had been performed. The whole tumor had been found below and outside of the brain. In front was a large giant-cell sarcoma which had completely destroyed the sphenoid bone. At the back the tumor had destroyed the occipital bone. The brain was exhibited, and it showed that only the pons had suffered pressure. The tumor had apparently started in the mastoid portion of the temporal bone.

Tendon Transplantation for Deformity of the Hand.—Dr. W. R. Townsend presented a case of this kind, which had been exhibited to the society about one year ago. It was a case of infantile cerebral palsy. Instruments had been used at the time of birth, but no damage had apparently been done to the exterior of the skull. The boy had never been able to use the right hand, and it was a typical "claw hand" when he came under observation at the age of fifteen years.

On December 21, 1899, an incision had been made over the wrist, exposing the tendons. The flexor carpi radialis, the flexor carpi ulnaris, and the palmaris longus were divided just above the annular ligament. The hand was then turned over and an incision made on the dorsum of the wrist, and the extensor communis digitorum exposed. A dissection having been made through the interosseous space, the extensor tendon was pushed through, and being too long, was doubled upon itself. It was then attached to the tendons previously mentioned. The union of the tendons had been satisfactory and permanent. The tendons had not shown any tendency to unite to the surrounding tissues. The patient was now able to write fairly well, whereas formerly he could not even grasp a pen.

Dr. B. Sachs said that he had been deeply interested in this subject, and it was certainly the best procedure that had been suggested for these cases of contracture, whether of spinal or cerebral origin. The problem was to split the tendons of the over-acting muscles and unite them to the tendons of the under-acting muscles, and so restore the equilibrium of power. It had been found prudent not to allow the patient to exercise much, or to use electricity, until the tendinous union had become very firm. It was unfortunate that this boy was not able to extend his fingers, yet he had secured good extension of the wrist. In spite of the tendon transplantation, the boy experienced no difficulty in producing flexion when he desired to do so.

Dr. Schlapp remarked that it seemed to him that the boy's hand was decidedly larger now than when he had seen the case a few months ago.

Dr. Creighton presented a young woman, of neurotic temperament, who four years ago had had hysteria and typical attacks of grand mal. One year ago she had had the grippe followed by pneumonia, and this had been succeeded by headaches, aching spine, and numbness in the left side. There were severe contractures in the left arm. A small, painful tumor had appeared in the left palm, and had been removed by the family physician, under cocaine. It had returned, and had been again removed. A galvanic current of 10 M.A. had brought out a slight redness on the palm. Three days before menstruation a large red spot had appeared on the back of the forearm, and soon afterward several similar spots had made their appearance on the arm. A few days before the next menstruation these spots had returned, and in addition, a number of large blotches on the left shoulder and on that side of the neck. The whole side was very hyperæsthetic. There was slight narrowing of the visual field, and there was left-sided sweating. The speaker said that the case was very similar to one recently reported from Erb's clinic.

Dr. Joseph Fraenkel asked whether there had been a history of malaria, and whether the case might not be looked upon as one of morphœa.

Dr. Creighton replied that there was no history of malaria, and the family physician had stated that the tumor which he had removed, grew on the nerve. The microscopical examination had been made at the laboratory of the Presbyterian Hospital, and the report had been that there was a slight round-cell infiltration only, no nerve degeneration having been found. The thyroid gland was not enlarged.

Dr. C. L. Dana said that he had seen cases presenting just this appearance, but entirely free from hysteria.

Dr. W. B. Noyes said that four or five skin lesions were closely associated with nervous troubles. Herpes zoster, erythema multiforme, Raynaud's disease, all were distinctly related to the nervous system, yet it was very difficult to state the exact relation. It had occurred to him that the element of suggestion, regarding the connection with the nerve, might be responsible for some of the phenomena present.

Dr. E. D. Fisher said that this could not be properly described as simple hysteria, or as the result of mere suggestion. The eruption was not characteristic of an hysterical state.

Dr. M. G. Schlapp said that these cases had been described before; they had been brought on by suggestion. In this case an injection had been given in the arm, and shortly afterward this dermatitis had first appeared. The eruption was not characteristic of any particular skin lesion, but it closely resembled cases that had been described as hysterical skin manifestations. In typical zoster there was frequently a degeneration of the nerve fibre itself.

Dr. Sachs said that the case was a very unusual one, and he did not regard it as belonging to the class of hysterical hyperæmia. It was certainly a distinct form of skin neurosis. The closest resemblance in the anatomical distribution was to herpes.

Dr. Joseph Collins said that if the girl should develop a pneumonia, he would not be willing to call it an hysterical pneumonia; neither was he willing to call this an hysterical skin disease. He was inclined to think it was closely related to morphœa.

Dr. Creighton said that a case had been reported very recently in which the gangrenous form had ultimately developed. This case had been described as hysterical. Dr. J. C. Johnston, the dermatologist, had seen this patient, and had looked upon the case as hysterical.

Paralysis of the Spinal Accessory.—Dr. Pearce Bailey read this paper. He said that the chief interest in this nerve was surgical. Within the past year two instances of accidental section of the nerve had come to his notice. In most cases the paralysis which resulted from section was not particularly disabling, but such had not been the case in the instance referred to. When the sterno-mastoid was completely paralyzed, the freedom of movement of the head was interfered with, but not totally abolished. In the two cases referred to, the disability had been unusually great, and had led him to study more carefully the nerve supply. The nerve was now regarded as a spinal nerve, pure and simple. The spinal portion of the nerve, represented by the external branch, sprang from the upper five segments of the cord. Paralysis of the nerve presented a varying symptomatology, according to the site of the lesion. An injury outside of the skull, to cause symptoms referable to both branches, must be situated directly at the base of the skull. The extracranial lesions of the spinal accessory were confined to the external branch, and were nearly always traumatic. Neuritis in this nerve was rare. A case was cited, to illustrate the possible traumatic origin of spinal accessory palsy, from injury with a blunt instrument. In two other cases reported, the paralysis had been directly the result of an operation. In the second case the resulting incapacity had been so great that the right arm had been rendered practically useless for any heavy work. Neurorrhaphy had been performed about six weeks after the operation at which the nerve had been injured, and the ends of the divided nerve had been found separated over one inch. The improvement in motor power had been slow. A reference to the literature showed conflicting views regarding the nerve supply. Dr. Bailey said that the spinal centre between the first and fifth cervical segments of the cord was fixed and constant, but occasionally all the axons passed to the muscle by the spinal accessory. Under these circumstances, the motor impulses reached the trapezius through the spinal accessory and, hence, section of it meant total palsy.

Dr. W. M. Leszynsky said that he had seen a patient two months ago who had been operated upon for torticollis. Over one inch of the spinal accessory nerve had been removed on the left side without relief,

and the function of the muscle had remained perfectly normal. He had seen over an inch of the other spinal accessory nerve removed subsequently, yet the muscle had not been affected at all; hence he had held that it was useless in these cases of spasm to operate upon the spinal accessory nerve.

Dr. J. Arthur Booth said that he had had a case of spasmodic torticollis operated upon by section of the spinal accessory nerve. A little more than one inch had been excised, and the sterno-mastoid and part of the trapezius had been paralyzed as a result.

Therapeutic Hints.

Pruritus Vulvæ in diabetes.—

℞ Acid. boric..... ʒ i.+3 ivss.
Sodii biborat..... ʒ i.+gr. xv.
Aq. destil..... Oij.
M. S. Use as lotion.

—Lutaud.

Hyperidrosis of Phthisis and Exophthalmic Goitre.—

℞ Bals. Peru..... 1 part.
Formic acid,
Chloral hydrat.....āā 5 parts.
Spt. vini rect. (absol.)..... 100 "
M. S. Apply.

—Heusner.

In Pronounced Acidity of the Stomach.—

℞ Sod. sulphat.,
Sod. chlorid.....āā 30 parts.
Calcii sulphat..... 5 "
Sodii carbonat..... 25 "
Sodii borat..... 10 "
M. S. Teaspoonful before each meal.

—*Settimana Medica.*

Spasmodic Croup.—

℞ Sodii carbonatis..... ʒ ij.
Aquæ..... ℥ iv.
M. S. Use for half an hour in a steam atomizer.

—Wharton.

Pleuritis with sero-fibrinous exudation.—

℞ Ammon. carb..... ʒ ss.
Aquæ laurocerasi..... ℥ ss.
Syr. lactucarii,
Syr. senegæ.....āā ℥ i.
Syr. tolutan.....ad ℥ iv.
M. S. Tablespoonful every two hours.

—Matas.

Malaria.—

℞ Methylene blue..... gr. ij.-iij.
Quinin. sulphat..... gr. ij.
Ferri carbonat..... gr. i.
Ac. arsenosi..... gr. 1/10
M. ft. caps. No. i. S. In acute fevers one three times daily; in chronic forms one every four to six hours.

—Dunn.

Sycosis.—

℞ Creosote..... ♏ xv.
Ammoniated mercury..... gr. xv.
Oil eucalyptus..... ♏ x.
Zinc ointment..... ℥ i.
M. S. Rub into the surface night and morning. After a time use tar soap.

Internally:

℞ Arsenious acid..... gr. 1/10
Iron pyrophosphate..... gr. i.
Ext. nux vomica..... gr. 1/10
M. S. One such pill after meals and at bedtime.

—Shoemaker.

Chronic Arteritis.—

℞ Hydrochlorate of hydrastinine..... 0.10 gm.
Iodide of sodium..... 2. "
Anisette of Bordeaux..... 100. "
Distilled water..... 200. "

About an ounce each morning, to be increased according to results obtained. Interrupt treatment one week in each month. Or—

℞ Hydrochlorate of hydrastinine..... 1 gm.
Sterilized water..... 10 c.c.
S. Inject from half a syringeful to a syringeful twice a day.

—Boix.

Acute Tonsillitis.—

℞ Quinin. sulph..... gr. xlviij.
Dilute sulphuric acid,
Tinct. aconite.....āā ♏ xlviij.
Syrup wild cherry..... ℥ i.
Water.....enough to make ℥ iij.
M. S. 3 i. in water every four to six hours, for an adult.

Locally:

℞ Spts. chloroform..... 3 iij.
Eucalyptol,
Glycerin.....āā 3 i.
Tannic acid..... gr. ij.-v.
M. S. Apply with brush three times daily.

Influenza.—

℞ Acetanilid..... 3 i.
Spir. vini rect..... q.s.
Tinct. gelsemii..... 3 ss.
Syr. zingiberis.....q.s. ad ℥ ij.
M. S. Teaspoonful every two or three hours.

—*Medical Summary.*

Potassium bicarbonate, gr. xxx. in milk or water every four hours, is almost a specific.—Harsherger.

In the respiratory form to relieve chest oppression and cough:

℞ Ammon. carb..... gr. v.-x.

in two ounces of milk.—Wilcox.

Influenza in Children.—

℞ Sodium benzoate,
Salol,
Acetanilid.....āā gr. iss.
Caffeine..... gr. ¼
S. One such powder every three hours to a child of six years.

—Sheffield.

Capillary Bronchitis.—

℞ Vini antimon.,
Spir. chloroformi.....āā 3 iv.
Spir. ammon. arom..... ℥ i.
Liq. ammon. acet..... ℥ ij.
Aquæ.....ad ℥ viij.
M. S. Tablespoonful every hour.

—Whitla.

Tuberculous Laryngitis.—In the first stage place a dessertspoonful of the following in a pint of water kept slowly boiling and let the patient inhale:

℞ Tinct. canellæ,
Tinct. bellad.,
Tinct. opii.....āā 30
Tinct. eucalypti..... 100

In the second period lactic acid gives excellent results, but its application must be energetic and repeated.—Bommier.

When there is pain:

℞ Di-iodoform..... 8.
Hydrochl. cocainæ..... 0.08
Hydrochl. morphinæ..... 0.04
Give four to eight aspirations daily.

—Leduc.

For an insufflation or gargle:

℞ Cocain. hydrochl..... 1.
Morphin. hydrochl..... 0.80
Acid. phenic..... 1.
Antipyrin..... 4.
Glycerini puri,
Aq. menthæ pip.....āā 50.
Aq. destil..... 300.
M.

—Bommier.

Pruritus Ani.—A rectal injection of ergot, hydrastis, and carbolized oil is first given. If the skin is hard it is painted with a saturated solution of silver

nitrate every third day for three visits. Then every day citrine ointment is used and bound on with a cotton pad. The itching at night may be relieved by extremely hot water followed by black ointment or calomel salve, being careful not to scratch the skin. This daily routine is followed for six weeks, then at longer intervals for six months, never stopping in less time, but occasionally persisting longer.—L. H. ADLER.

Stimulant for Children.—Musk, five or ten minims of a ten-per-cent. tincture every half-hour until upward of a dozen doses have been taken if necessary.—JACOBI.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 23, 1901:

	Cases.	Deaths.
Tuberculosis	250	179
Typhoid fever	28	5
Scarlet fever	437	24
Measles	198	5
Diphtheria and croup	257	37
Smallpox	43	9

Professor Chiene on Enteric Fever in South Africa.—Professor Chiene, speaking recently in Edinburgh, gave some of his views with regard to the state of affairs from a medical and surgical standpoint in South Africa. He said, in part: "To a great extent in Kimberley, Bloemfontein and Kroonstadt, and almost entirely in Johannesberg and Pretoria, the sick and wounded were in hotels, churches, and halls, and if there was free ventilation and the rooms were large they made excellent hospitals, but tents and hospital huts were better than houses. The purification of buildings must be very thorough. Many South African friends expressed to me their fear for the coming year and they anticipate a great outbreak of enteric in the near future. This would be a very serious affair, looking to the flood of emigrants who would rush north whenever they got the chance. There should be no delay in sending out the best incinerators and compelling the authorities to burn the dejecta. Burying was common in Cape Colony, in the Orange River Colony, and the Transvaal. In the three large hospitals in Natal, Estcourt, Mooi River, and Howick the dejecta were burned. At Johannesberg all the Kaffirs who removed and burned the dejecta were in good health, and in a very short time the earth in the trenches in which the burial had taken place resumed its normal appearance. Still, burning was infinitely preferable. There should certainly be incinerators at all the railway stations to burn the dejecta from the hospital trains. Phlebitis of the common femoral vein was a frequent complication in enteric delaying recovery, but not causing a fatal issue. Patients with typhoid died from exhaustion or hemorrhage, rarely from perforation. There was much difference of opinion as to the merits of typhoid inoculation. It would be some time before the results could be tabulated; the medical sheets of the soldiers did not accompany them and no definite data could be obtained, more especially from those who were admitted into hospital in a moribund condition."—*British Medical Journal.*

Sir Dyce Duckworth on the Drug-Taking Habit.—Sir Dyce Duckworth, in a recent lecture on mental disorders dependent on toxæmia, refers to the increasing habit of drug-taking in the following plain-spoken terms: "We have to note the mental aberrations due to the vicious use of agents, such as morphine, chloral hydrate, paraldehyde, ether, and cocaine, and to remark concerning all of them that their abuse increases in frequency in what we are pleased to call the advance of knowledge and civilization. That our profession is in part to blame for some of this mischief I entertain little doubt. The resort to these and similar agents under conditions which hardly justify their employment, and which might often be met by other and simpler therapeutic measures, has often led to habits of secret intoxication by patients who indulge in them. The frequent handing over of hypodermic syringes and these poisons to nurses is also to be blamed. The too ready sale of such agents by pharmacists and other tradesmen is a matter so serious that it now calls for some special legislation to restrict it. The danger lies in the special seduction of such agents for women and persons with unstable brains, and no cure and precaution can be too great in prescribing for them. We are all familiar with the disastrous results of yielding to the cravings for hypnotics and sedatives, and know too well our impotency to do any permanent good in the great majority of such cases. We certainly find that the average patient is singularly intolerant of any pain in these days, and that he clamors for relief at any price. Our forefathers had to suffer more than we do, and I am not sure that they were always the worse for it. They certainly escaped the modern terrors of morphinism, chloralism, and cocainism, and the women of those days bravely endured their catamenial discomforts without recourse to stupefiants. I think a good deal of plainer living and higher thinking would avail much to abolish the too common resort to anodynes which unhappily now prevails so largely in several strata of society, both in this and other countries."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended February 23, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
California, Los Angeles	February 2d to 9th	1	
San Francisco	February 2d to 9th	7	
Florida, Jacksonville	February 9th to 16th	5	
Illinois, Chicago	February 9th to 16th	14	
Kansas, Wichita	February 9th to 16th	9	
Louisiana, New Orleans	February 9th to 16th	4	4
Michigan, Manistee	February 9th to 16th	3	
Minnesota, St. Paul	January 26th to February 9th	8	
N. Hampshire, Manchester	February 9th to 16th	1	
New York, New York	February 9th to 16th	25	6
Ohio, Ashtabula	February 9th to 16th	3	
Cleveland	February 9th to 16th	48	
Youngstown	February 9th to 16th	1	
Pennsylvania, Allegheny City	February 9th to 16th	3	
Erie	February 9th to 16th	1	
S. Carolina, Greenville	February 9th to 16th	1	
Tennessee, Memphis	February 9th to 16th	19	1
Nashville	February 9th to 16th	9	
Wisconsin, Green Bay	February 10th to 17th	1	
Milwaukee	February 8th to 16th	1	
SMALLPOX—FOREIGN.			
Belgium, Antwerp	January 19th to 26th	..	1
Great Britain, Bradford	January 6th to 13th	15	2
Italy, Naples	January 20th to 30th	26	2*
Mexico, City of Mexico	January 27th to February 3d	..	1
Russia, St. Petersburg	January 19th to 26th	8	1
Odessa	January 19th to 26th	13	8
Scotland, Glasgow	January 25th to February 8th	..	34
Straits Settlements, Singapore	December 22d to 29th	..	1
* Officially reported.			
YELLOW FEVER.			
Cuba, Havana	February 2d to 9th	3	1
PLAGUE.			
China, Hong Kong	January 5th to 12th	..	2
Japan, Formosa, Tainan	January 1st to 16th	28	22
CHOLERA.			
Straits Settlements, Singapore	December 22d to 29th	..	16

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Original Articles.

THE PERIOD OF INCUBATION OF YELLOW FEVER: A STUDY FROM UNPUBLISHED OBSERVATIONS.[1]

BY HENRY R. CARTER, M.D.,

SURGEON, UNITED STATES MARINE-HOSPITAL SERVICE.

FOR a vessel to receive free pratique at a quarantine station the quarantine officer must be satisfied of two things:

(1) That the vessel and cargo, including baggage, are free from the infection of a quarantinable disease.

(2) That none of her personnel, passengers, or crew have such disease, either already developed or in the stage of incubation.

For the first part, if the vessel be judged infected, the officer disinfects; for the second, the sick, if any, are removed, and those who are adjudged liable to have the disease in its incubative stage are detained under observation to cover the period of incubation of the disease in question, counting from the last exposure. Since the time of detention of those adjudged exposed to infection depends on the period of incubation of the disease to which they have been exposed, it is obvious that a knowledge of the period of incubation of the quarantinable diseases is a matter of first importance in maritime quarantine. It is to set forth some data not hitherto presented on the period of incubation of yellow fever that this paper is submitted. First, let me say that in the systematic treatises on yellow fever there are less certain definite data on this subject than its importance demands. True, all give a period of incubation within limits, generally "from one to fourteen days"; but do not in general give the data on which this statement is based.

Of course there are exceptions, and some very valuable data are found in some of the works alluded to; still the number of yellow-fever cases in which the period of incubation has been positively ascertained and definitely and reliably recorded is small.

There are three classes of observations of value in determining the period of incubation of yellow fever:

Class I. A person goes from a clean into an infected environment and remains there more or less continuously until he develops the fever. The time from his entrance into the infected locality to the development of the fever is named by a number of writers as the period of incubation of the case in question. Thus Bemiss writes:

"The periods of time which may intervene between exposure to yellow-fever poison and attacks of the disease are extremely variable. The shortest period of incubation which has come under my observation was about twenty hours. In three cases in which I was able to fix the hours of the first exposure with precision, attacks followed in 72 hours, 83 hours, and 101 hours respectively. Of 55 unacclimated physicians who exposed themselves at Memphis during the epidemic of 1878, 54 suffered attacks of yellow fever. In these cases the incubation varied from 1 to 25 days, the average duration being 10 days. These physicians all remained steadfastly at their posts of duty; consequently the attack which occurred on the 25th day was postponed for that length of time, during constant exposure in a locality most intensely infected."

And so say not a few of the older writers—Rush, Dutrolan, Blair, and others.

This deduction, as Wilkinson has shown, is unwarranted. A patient (take for example one of Bemiss') is first exposed one hundred and one hours before development of the fever, but he is continuously exposed up to that time, and we have no reason to claim that the first exposure was the one at which he received infection. It may have been received at any moment from the first exposure up to the development of the fever. These observations do give, however, the maximum limit of the incubation in each case. Thus, in the three cases given by Bemiss, we can say that the period of incubation was not greater than seventy-two, eighty-three, and one hundred and one hours respectively. It might have been anything less than that. Similarly for the cases quoted as occurring in Memphis. The case developing twenty-five days after first exposure had a period of incubation not more than twenty-five days; it may have been one day. It is fair to say that in a virulently infected place, a place one visit to which usually results in an attack of yellow fever, the first exposure for a considerable proportion of people would be the infecting exposure, and that this maximum limit would be the true period of incubation. Still, for a particular case we cannot claim this. If we have very many such cases, it is obvious that some of them will give the inferior limit of the period of incubation. Beyond that, nothing can be determined from this class of observations, and for maritime quarantine the inferior limit of the period of incubation is comparatively of no great importance.

Class II. A person goes from an infected environment into a clean one and there remains until the development of the fever.

We have instances of this kind in the personnel of infected vessels at quarantine, moved to clean quarters or having their quarters made clean; in people leaving an infected town for a detention camp or for any other place known to be clean, etc. The vessels at quarantine and the detention camp offer peculiar advantages, because there should be no question of infection by anything carried from the infected place (vessel or town), and from the frequent inspection the exact date (usually hour) of the attack of sickness is known. In using these observations for the determination of the period of incubation, we must assure ourselves that what is given as the date of last exposure to infection is this in truth, and not count time on a possibly infected vessel, or while the patient is exposed to anything capable of conveying infection, as "time since last exposure." Most of the very long periods of incubation reported have been due to a disregard of this principle. Thus a case of yellow fever developing at a quarantine station aboard a vessel sixteen days out from Havana is reported as showing a "period of incubation of sixteen days, longer than has generally been believed." Although the case may well have

[1] Read before the Third Pan-American Medical Congress, held in Havana, February 4, 5, 6, and 7, 1901.

been contracted aboard the vessel, yet it is generally improper to accuse the clothing worn by the individual, if worn some time in the open air and sunlight, as a source of infection to the wearer, the evidence being overwhelming that clothing thus worn does not convey the infection of yellow fever save in very exceptional circumstances. The only cases ever reported as thus conveyed have been from the clothing of those who had been in intimate contact with the sick, nursing, etc. And even these cases are, in the writer's opinion, not more than very probable.

Yet we have no more right to say that the time from the leaving of the infected environment to the development of fever is the period of incubation of that case than we had to make the converse statement for one going from a clean to an infected environment, under Class I. These people have been exposed to infection a more or less extended time, and to claim that the last possible exposure, the date of leaving the infected environment, was the infecting exposure, is no more allowable than to claim that the first exposure of those going from a clean into an infected environment was the infecting exposure.

The conditions are exactly the converse of those occurring under Class I. Just as with one going from clean to infected environment the period of incubation is not greater than the time between his coming into an infected environment and the date of the development of the fever, so with one going from infected to clean environments, the period of incubation is not less than the time between his coming into a clean environment and the date of the development of the fever. Thus a case occurred at the Louisiana quarantine station aboard the steamship *William Clift* from Vera Cruz, forty hours after the completion of disinfection (Wilkinson). The fever may have been contracted aboard, an indefinite time before the disinfection, and even about six days before the vessel left Vera Cruz. Of a case occurring in the detention camp at Camp Perry three days after admission, we say that its incubation period was not less than three days; the fever may have been contracted an indefinite time before the patient left Jacksonville. If we have a large number of such cases some of the patients will have contracted the disease at the last exposure, and the period since that time will give the true time of incubation. Again, for vessels which have gone long periods without any sickness aboard and are a long time from the port of departure, if yellow fever develops aboard such a vessel soon after disinfection, it is, in general, reasonable to ascribe its contraction to the period of disinfection, on account of the general overhauling of the ship—whether from the overhauling of dunnage or visiting parts of the vessel (hold, etc.) for the purpose of cleaning, which were not visited en route. In these cases the time from the disinfection to the development of the fever is probably the true time of incubation of the case. Only for wooden ships, the cleaning of which may take a day or several days prior to the disinfection, it is more correct to say that the period of incubation is not greater than the time from the beginning of the cleaning to the development of the fever, and not less than the time from the completion of the disinfection to the development of the fever. For example, the British ship *Curlew* left Rio Janeiro May 19, 1890, having had no sickness in port, *en route*, or on arrival; the ship was cleaned July 22d to 23d, and disinfection completed July 25th. One case developed among the crew on July 27th.

Now, this vessel had a crew of about eighteen non-immunes aboard her, with no sickness from May 19th to July 25th, sixty-eight days. It seemed fair to believe that this condition would have continued indefinitely if the condition of life aboard the vessel had remained unchanged. It seems reasonable, then, to ascribe the contraction of this case to the period from July 22d to 25th, with an incubation of between two and five days. Nevertheless the writer has seen one case on a wooden ship, in which a first case of yellow fever developed at sea, without the ship having been cleaned, thirty-eight days out from Rio, so that the above deduction though reasonable is not absolute.

Class III. Cases in which there is only a single short exposure to infection, followed by development of yellow fever. In these the person living in a clean environment goes into an infected one, stays only a short time, and returns to a clean environment where he remains and develops yellow fever.

If we can assure ourselves that nothing capable of carrying infection accompanied the patient from the infected environment (*i.e.*, that the clean environment is in truth clean), we have a definite, single exposure, and the time from that exposure to the development of the fever is the period of incubation of that case.

Unfortunately the cases of this kind hitherto recorded, on which we can rely because the details are given with such fulness, clearness, and definiteness as to be fully trusted, may be counted on less than the fingers of one hand.

Class I. A large number of cases of persons leaving clean environment for an infected one, and there developing yellow fever, are on record. On this account, and because the only finding possible from this class of observations—the minimum period of incubation—the writer has made no systematic attempt to collect this class of cases. He did, however, in 1898 collect all such cases as occurred at the Gray House at Orwood, Miss., which are given below. All except the last one, D. C., were from the writer's own notes. It was unquestionably a virulently infected place. Of forty-six non-immunes who lived in or visited it after August 21st, all developed yellow fever, although some of them had other exposures as well, and two most probably contracted the fever elsewhere.

Mrs. M. C. K—— came to Gray House to nurse, August 28th, at 1 A.M. She sickened there August 31st, 2 A.M. Incubation not more than three days.

Mrs. M. McC—— came to Gray House to nurse, August 27th, 2 P.M. She sickened September 1st, 9 A.M. Incubation not more than four and three-quarter days.

Dr. W. T. M—— in Gray House August 29th, afternoon; went back on the 30th, and remained until taken sick, September 3d, 2 P.M. Incubation not more than four and one-half days.

P. D—— (colored) went to Gray House to nurse, September 27th. He sickened October 3d, at 2 P.M. Incubation not more than seven days.

G. W. S—— at Gray House from August 29th, 10 A.M. He sickened September 2d, 3 P.M. Incubation not over three and three-quarter days.

P. S—— at Gray House August 25th to 29th, when he sickened at 3 P.M. Incubation not more than four days.

D. C—— (colored) at Gray House, for outdoor work, from August 25th to September 20th, when he sickened. Incubation not more than twenty-six days.

The shortest period of incubation here given is three days, the same (seventy-two hours) as given by Bemiss for those cases of which he has "definite knowledge" of the first exposure; but there are many observations of record which give the minimum period as less—some even less than twenty-four hours.

It will be observed (Class III., pages 365, 366) that except for the last case, which was about, rather than in, the house, the periods given for the maximum limit of the periods of incubation are not essentially different from those which are given as the true periods (obtained from a single exposure) for this house. It would seem, then, that those living in this house after it became infected, the whites at any rate, generally

contracted the fever very soon after entering it, and that in cases of those in which the incubation is given between limits—as P. S. and some others of Class II. —it is probable that the higher limits of the period of incubation are more nearly correct than the lower ones.

Class II. On the other hand, the cases under Class II., those of persons who after a more or less continuous exposure in an infected environment move into a clean environment, and there develop yellow fever, merit consideration in detail, and no pains have been spared to observe and record suitable cases.

It may seem remarkable that the observations of this class have been so little used for determining the period of incubation of yellow fever. The data they supply are far more valuable practically than those from Class I., and are complementary thereto. Yet, save Wilkinson, who reported and thus used five cases from three vessels at the Louisiana quarantine station, I think no writer has availed himself of this material for the purpose in question.

It is only recently, however, that this class of data has become available. Detention camps began in 1888, and even at that time and after, the data from a number of quarantine stations would have been not acceptable on account of doubt of the efficiency of their disinfection.

The number of cases under this class which occurred at all the quarantine stations South was small. Thus the Mississippi River station of the State of Louisiana, far the largest, gave only five such cases in the sixteen years ending 1896. About the same showing is made by the United States refuge stations, which received all the vessels adjudged to be infected, from ports between New Orleans and Baltimore and some Texas ports.

As before stated, only those cases can be considered which we are sure are exposed to nothing capable of imparting infection after the time we count as the period of last exposure.

Class II. (A) From maritime quarantine stations. Here I will say that I have used only cases which occurred at stations where I believe good disinfection work was done, the officers in direct charge of the stations being all well known to me. I believe I have excluded some cases which should have been used; I do not believe I have used any which should have been excluded.

1. Steamship *William Clift* from Vera Cruz, arrived August 7, 1891, afternoon, with two cases of yellow fever aboard, attacked the 5th and 6th of August respectively; she was disinfected the same afternoon. Another case was found ill in the early forenoon of August 9th. Incubation not less than forty hours.

2. Steamship *Denia* from Havana, arrived in the forenoon of August 26, 1892. There was no record of sickness in port or *en route;* she was disinfected the same forenoon. Two men were attacked with yellow fever within eight hours after disinfection. Incubation not less than eight hours for both.

3. Steamship *Vesta* from Vera Cruz, arrived and was disinfected August 26, 1894, forenoon. On arrival she had one case of yellow fever, ill three days. One man was taken sick within two hours after completion of disinfection. A second man was found ill next morning, August 27th, within eighteen hours after the completion of disinfection. Period of incubation of first case not less than two hours. Period of incubation of second case not less than eighteen hours.

These three vessels are reported by C. P. Wilkinson, quarantine officer, State of Louisiana.

4. British ship *Curlew* from Rio Janeiro, with rock ballast, sixty-eight days out from Rio. No sickness was reported *en route*, in port, or on arrival. She was cleaned July 22 to July 23, 1890, and disinfection completed July 25th, in the afternoon. One case of yellow fever developed July 27th in the early morning, before day. Incubation not less than one and one-half days. The disease was probably contracted between August 22d and August 25th, *i.e.*, incubation between five days and one and one-half days. (Carter, United States quarantine officer, Chandeleur Island.)

5. British ship *Chippewa* from Rio Janeiro, with rock ballast, sixty-four days from Rio. No sickness was reported in port, *en route*, or on arrival. She was cleaned July 26th and July 27th, and disinfection completed July 28th. One man, the quartermaster, developed yellow fever July 29th at night. Incubation not less than one day. He probably contracted the disease between July 26th and 28th. Incubation three and one-half to one day. (Carter, United States quarantine officer, Chandeleur Island.)

6. American schooner *Eva Douglass*, with swept hold; four days from Havana (lay at Tallapiedra wharf) to Mullet Key quarantine station. Certainly she had three cases, probably four, in Havana. All were well *en route* and on arrival. She arrived August 3, 1892, and was disinfected August 4th. The captain developed yellow fever in the afternoon of August 5th. The mate and two seamen were found sick in the morning of the 7th (they had probably sickened the night before. H. R. C.) Incubation of captain not less than one day; of mate and seamen not less than two or two and one-half days. (J. Y. Porter, State health officer of Florida; and D. M. Echemendia, State quarantine officer, Tampa Bay quarantine.)

7. Schooner *Jno. R. Bergen* left Havana August 10th, arrived at Tortugas quarantine August 12th in early morning; in bluestone ballast, small amount. One man, sick in Havana, was left in hospital. Another man, the mate, attacked in Havana, was brought to Tortugas for care. The vessel was emptied, cleaned, and disinfection completed August 16th, late in the afternoon. One man, the engineer, developed yellow fever on the night of August 20th, when he woke up with a chill after he had turned in. Incubation not less than four days and two hours. This man was the only member of the crew who assisted in cleaning the rooms which were occupied by the engineer who died in Havana. (Carter, United States quarantine officer, the Dry Tortugas station.)

8. Schooner *Louis V. Place* left Havana August 25, 1894. She had no sickness in Havana, and arrived at Tortugas August 26th, with two cases of yellow fever who had sickened *en route.* The crew was removed ashore to clean quarters, with sterilized clothing and bedding, August 27th, just before noon. The vessel was cleaned and handled the same day, exclusively by quarantine employees. One case of yellow fever developed aboard her August 30th at 2 P.M., a sudden attack, "coup-de-barre." Period of incubation not less than a little over three days. This man, an Italian, had a very thick head of hair, to the washing of which, with bichloride solution, extra attention was paid. He ascribed his attack of fever to this washing. (Carter, United States quarantine officer, the Dry Tortugas station.)

9. Barge *Henry L. Gregg* moved over into the open bay, Trisconia, from Tallapiedra wharf, Havana, with a case of yellow fever just removed, August 13, 1899, and swept hold. She was disinfected August 13th to 16th, by the writer. One man developed yellow fever August 20th at night. He was well at inspection at 6 P.M. Incubation not less than four and one-half days. She was again disinfected and pratique for Havana given September 1st. No other cases occurred up to the time of her leaving port, September 9, 1899. (Carter, quarantine officer, Havana.)

10. Schooner *R. D. Spear* from New York to Key West, where she lay unloading during the epidemic of 1899. The crew was not allowed ashore, but the

captain went ashore every night. She left Key West September 15, 1899, and arrived at Mullet Key quarantine September 19th. Disinfection was completed September 20th, 4 P.M. The captain sickened and had a chill on September 24th at 2 A.M. Incubation not less than three days and ten hours. (D. M. Echemendia, quarantine officer, Tampa Bay quarantine, Florida board of health.)

Class II. (B) Cases under Class II. from detention camps. A detention camp will not be described further than to say that the persons entering one have first their hand baggage (containing at least one complete suit of clothing and underclothing) disinfected, and then change the clothing they wear for that. The rest of the clothing they bring is sterilized later.

These camps have one advantage over vessels at quarantine—there is always a chance of failing to disinfect all aboard a vessel, especially a vessel in cargo, let the officer take what pains he may. Sailors hide clothing, and while a good officer and trained attendants will seldom fail to find it, yet they may sometimes fail. In sugar cargoes it is not possible—I speak advisedly—for any disinfectant applied to this cargo *in situ* to reach all parts of the outsides of the bags or of the sides of the vessel. The risks can be minimized by sufficient pains, but from such risks the detention camp is free. The applicants are taken one by one and with reasonable care; nothing can enter save with the knowledge of the officer in charge. Also since the camps are used only in times of epidemics, and are close to the infected city, and large numbers come to them only a few hours from the infected city, a considerable number (although a very small proportion) of those who come develop fever.

Cases from Detention Camp Perry, 1888. The hour of entrance into Camp Perry, which marked the time of last exposure, is not given, but the special train from Jacksonville arrived before noon, and at least one suit of clothing was sterilized for each person, and the applicant admitted that afternoon, the remainder of the baggage being disinfected later. We will not be wrong then if we take the afternoon—say to 6 P.M. —as the time of entrance. When the hour of attack is not given, as occurs in some cases, we are in a quandary, as the two ends of a day are twenty-four hours apart; however, as we preface by the words "not less than—days," we must use only the lesser limit, as if the attack had come at the beginning of the day, say before 1 A.M., although about one-half of the attacks do come in the early evening. Allowing thus for imperfect record as well as for the natural difficulties of the problem, our figures for some of these cases then may be about a half or three-quarters of a day too small. They will be marked +.

CAMP PERRY, 1888.

Patient.	Entered.	Taken Sick, Hour.	Incubation Not Less Than
1. Mr. McC——.	Aug. 29	Sept. 3 (?)	+ 5¼ days.
2. R. F——	" 29	" 3 (?)	+ 5¼ "
3. W. H. J——.	Sept. 1	" 5 (?)	+ 3¼ "
4. Mrs. B—— ..	Aug. 28	" 5, 3 P.M.	8 "
5. C. G. S—— ..	Sept. 6	" 7 (?)	+ ¼ day.
6. E. D——	" 8	" 10, 6 P.M.	2 days.
7. F. N——	" 13	" 16, 1 A.M.	2¼ days.
8. Dr. P——	" 10	" 14, 9 P.M.	4 days.
9. Mrs. M—— ..	" 17	" 19, at night	Over 2 days.
10. J. J. L——	" 22	" 29, morning	¼ day.
11. E. T. C—— ..	" 19	" 25, 1 P.M.	5¾ days.
12. B. T——	" 25	" 28, 2 A.M.	2¼ "
13. W. H——	Oct. 2	Oct. 6, 7 A.M.	3½ "
14. L. H——	" 2	" 5, 8 P.M.	3 days.
15. L. H——	" 2	" 6, at night	Over 4 days.
16. A. B——	" 13	" 14, at night	Over 1 day.
17. N. McC—— ..	" 11	" 18, morning	6½ days.
18. Mrs. S—— ..	" 27	" 28, 1 P.M.	19 hours.
19. F. L——	" 28	" 31, noon	2 days 18 hrs.

One case included in the reports from Camp Perry I have not used, viz., "C. H——, admitted October 2d, developed yellow fever October 15th at noon." This child, aged eight years, was suspected at the time (I quote Drs. John Guiteras and Geddings) to have been exposed to infection after entrance, and it will be noticed that she was detained with her mother more than the ten days at which pratique was given the remainder, probably from this reason. It is in accordance with my principle to use no doubtful cases in this paper that I do not use this.

The dates of entry are the official record of the camp; the dates of attack and the diagnosis are given by Passed Assistant Surgeon John Guiteras and Dr. Faget. The disinfection was performed by Assistant Surgeon Geddings. The discipline of the camp and general direction were under Surgeon Hutton.

Camp at Dry Tortugas, 1899. This was a maritime quarantine station used as a detention camp, the camp being perfectly isolated from the vessel work. There had been no suspicious vessel even at Tortugas that season, and there was no suspicion of infection of the camp or any part of the station within the walls of the fort.

Passed Assistant Surgeon Smith was in command; Assistant Surgeon Clark, a most careful and painstaking officer, was in charge of the admission and disinfection.

DETENTION CAMP TORTUGAS, 1899.[1]

No. and Name.	Entered.	Taken Sick.	Incubation Not Less Than
1. A. P.	Sept. 10, 9 A.M.	Sept. 13	2½ days.
2. S. L.	" 10, 9 A.M.	" 10, evening	8 or 10 hrs.
3. W. H. Y.	" 12, 9 A.M.	" 14	1½ days.
4. J. W. W.	" 10, 9 A.M.	" 16	5½ "
5. H. P.	" 12, 4:30 P.M.	" 19	6¼ "
6. J. W.	" 26, 9:30 A.M.	" 28, night	2½ "
7. C. H. B.	Oct. 6, 4:30 P.M.	Oct. 6, night	Few hours.

The camp at Waynesville, 1893, had only two cases of yellow fever develop there: (1) One with an incubation not less than 1 + days. (2) One with an incubation not less than three days.

I regret to be unable to obtain the records of Camp Fontainebleau of 1897 in time for this paper. "Only one case developed over four days after arrival," "the vast majority within twenty-four hours," "there were twenty cases." (Surgeon White's report.) This camp in 1898 yielded no cases of yellow fever. The same is true of Avondale in 1898. Both were small affairs. In 1897 Avondale was a considerable camp, having slightly over one thousand refugees at one time. I cannot get its statistics in time for this article, but my recollection is very clear that there were only two, both on the third day from admission, *i.e.*, incubation not less than two days.

Class II. (C) From the epidemic of Orwood, Miss., in 1897 and miscellaneous sources. Orwood was a country neighborhood, not a town or village; the houses being seldom less than a half mile apart; with a well-disposed, intelligent population, nearly all white. The fever was discovered early, its method of introduction discovered beyond cavil. The conditions were eminently well suited for this class of observation, as well as for that for cases under Class III.

The fever spread primarily from the "Gray House" and the bulk of the cases were contracted at this place. All these save one were observed by Dr. Gant, of the Mississippi board of health, and myself personally, in the beginning of September, and bedside notes made. Much pains was taken to insure accuracy of the dates given, the family at Mr. Gray's and other neighbors

[1] As in Camp Perry table, the shortest time is given.

being questioned as to the dates of the visits as well as the family of the sick. Later on, the record was confirmed by Dr. Mathews in an independent investigation. I believe that every doubtful case has been excluded. The record of No. 7, at Orwood, was made by Dr. Mathews, representing the Mississippi board of health, according to a plan mapped out and agreed on between him and the writer.

1. S. W. G——, exposed to infection at Dr. Gray's in Taylor's, Miss., from July 29 to August 2, 1898, at 6 P.M. He developed yellow fever at the Gray House, Orwood, August 6th, at 11 P.M. Incubation not less than two and a quarter days or more than eight days.

2. P. S——, exposed at Gray House four nights, August 24th to 27th inclusive. He sickened August 29th, 1 P.M. Incubation not more than four and three-quarter days nor less than one and three-quarter days.

3. J. T——, exposed at Gray House several days to August 30th, 7 P.M. First exposure August 25th. He sickened August 31st, 10 A.M. Incubation not less than one-half day, or more than five and one-half days.

4. W. E. S——, exposed at Gray House several times. Last exposure August 30th, 10 P.M. He sickened August 31st, "in the night," *i.e.*, after bedtime. Incubation not less than one day.

5. W. E. S——, Jr., same exposure as above, except that the last exposure was August 30th, at 4 P.M. He sickened September 1st, 2 A.M. Incubation not less than one and one-half days.

6. T. J. R——, exposed at Gray House all night of August 25th and the evening of August 27th. He sickened September 1st, "before day"—near midnight. Incubation a little over four days, or nearly six days, according to which exposure was the infecting one.

7. W. N. W——, exposed at Gray House August 27th, 1 to 6 P.M., again August 29th, 3 to 8:30 P.M. He sickened September 2d, 1:15 A.M. Incubation not less than three and one-quarter, nor more than five and one-quarter days. (Mathews.)

8. Mrs. A——, after being for over a week at Ocean Springs, Miss., where yellow fever was epidemic, returned to her home, a country house near Edwards, Miss., August 8, 1897. She sickened a few hours after reaching home, two days after leaving Ocean Springs.

9. E. A——, a little child of the above, who was with her mother, sickened the next day, two and one-half or three days after leaving Ocean Springs. Period of incubation for Mrs. A. not less than two days. Period of incubation for child not less than two and one-half or three days.

It is reasonable to believe that Mrs. A—— brought clothing from Ocean Springs. Yet, as of ten other people in the house who had not been to Ocean Springs, none developed yellow fever until August 22d, and all had it by August 26th (about the time for the cases developing from the infection from Mrs. A. and child to show), it is simply unreasonable to believe that the fomites in the house should have infected these two. It is fair to assume that they contracted it at Ocean Springs, then badly infected. Still if any one judges that these two are not properly cases under Class II. they may be omitted from the count.

Class III. Here we have not, as in Class II., both dates generally of official record, yet the date of attack usually is; and the date of exposure and the fact of there being no other exposure can in some instances be determined with a high degree of positiveness. I confess, however, that I have not used over one-sixth of the cases reported as of definite incubation, many by good men, on account of some detail not observed or not recorded; or from the information being second-hand; or from merely taking the account from the patient without confirmatory evidence, or collecting the evidence some time after the event, etc. Many of these accounts I believe to be true, but I do not know which ones are not. In the main they agree with the reports which are believed to be without flaw.

1. O. F——, quarantine employee at Chandeleur, considered immune, who had not been exposed to any source of infection that season, went aboard the Spanish bark *Gran Canaria*, July 8, 1890, as ballast master. He left at dinner time, about 1 or 2, changed his clothes, and went aboard a tug, all of whose crew were non-immune, and which did not go about infected vessels. He developed yellow fever, and had a chill on July 11th, in the late evening, 8 or 9 P.M. Incubation a little over three days.

This vessel was from Havana, Cabelleria wharf. None reported sick in port, none was sick *en route* or on arrival; the crew were probably all immune to yellow fever, and consisted of a Manila man and eight Spaniards in the Havana trade for years. The vessel had a rubbish ballast and was dirty; the forecastle was below decks. (Carter, United States quarantine officer.)

2. Schooner *New South*, from Bay St. Louis on June 28, 1891, ran into quarantine limits in a fog and was close to a house in which a case of yellow fever was being treated. About 7 A.M. the vessel was disinfected, that afternoon lay one and one-half miles from the fleet, and a guard was placed aboard. There were only two in the crew. One man developed yellow fever on the evening of June 30th, about 8 P.M. Incubation three days.

This vessel was out for pleasure and the man who was taken sick was immediately from Michigan. The case here given, there being only a single short exposure, fell in Class III., although from a vessel at a maritime quarantine. The date of leaving Bay St. Louis, which was the day before I saw her, was verified. There was a guard on her the whole time from disinfection to the development of the fever. (Carter, Chandeleur Island quarantine station.)

3. G. McM——, exposed at Gray House, Orwood, an infected locality, August 23d, 2 to 6 P.M. He sickened at 12 noon, August 29th. Incubation five and three-quarter days.

4. Mrs. J. T——, exposed at the same place less than an hour, once only, August 29th, 4 P.M. She sickened Septembed 1st, 4 P.M. Incubation three days exactly, a clear definite case, very carefully observed and investigated. This was the wife of J. T——, No. 3 of "C, Class II."

There were eight children in this house, three of whom, the youngest, slept in the room with Mr. and Mrs. T——. None of the children developed fever until twenty-nine days after the sickness of Mrs. T——, when the house had time to become infected from Mr. and Mrs. T——; then all who were about the house developed it within a few days. It is not reasonable, then, that Mrs. T—— should have contracted the fever from the clothes worn by Mr. T—— from the Gray House, else some of the children would have taken it earlier from the same source. He wore his working-clothes, and they were hanging up in the room when I was in the house, the children being in the same room.

5. A. J——, exposed at Gray House, the night of August 27th to 7 A.M. August 28th. He sickened August 31st at 8 P.M., but aching began about noon. Incubation not less than three and one-half days or greater than four days.

6. P. R——, at Gray House August 25th, 5 P.M. to 8 A.M. August 26th. He sickened August 29th, 9 to 10 A.M. Incubation three days.

7. L. O——, at Gray House August 13th and the evening of August 18th. He sickened August 22d, 3 P.M. Incubation four days or nine days. The former is more probable, as we have no record of any one who had

been exposed at this house developing fever as early as the 13th.

8. Mrs. R. J. C——, at Gray House, 10 A.M. to 4 P.M. August 29th. She sickened September 2d, 11 A.M. Incubation three and three-quarter days.

9. L. M. W—— went from Clinton to Col. Champion's funeral at Edwards, Miss., September 7, 1897, arrived about 11:30 A.M., and left that afternoon. He developed yellow fever at Clinton, September 10th at night. Incubation a little over three days.

10. M. C—— went to Col. Champion's funeral at Edwards, Miss., September 7, 1897; left for Nita Yuma, Miss., the same evening. He carried nothing but the clothes he wore. He developed yellow fever, the first case at Nita Yuma, September 11th at night. Incubation four days.

11. R. F——, exposed at Taylor's, 8 P.M. August 29th to 5 P.M. August 30th. He sickened September 3d, 2 A.M. at home, about nine miles distant. Incubation three and one-half days. (Dr. Mathews.)

12. Mrs. J——, exposed to infection at hotel in Taylor's, Miss., from noon of August 27th to 6:30 P.M., when she left for home, a country house near Waterford, Miss., thirty or thirty-five miles distant. She sickened September 1st, in the morning before day. Incubation four and one-half days. (Haralson and Carter.)

The following four cases, one family at Taylor's, were reported by Dr. Haralson. They were copied from his note-book by the writer on the morning of September 9th, within fifteen minutes of his leaving Mr. L——'s house. The visits herein recorded as made to the hotel of Mr. Williams were investigated by the writer and found to have been made at the dates and hours specified.

Misses L. and E. (aged five years) and G. (aged one year) went in the morning of Wednesday, August 3d, about seven o'clock to Mr. Williams', a badly infected place. Mrs. L——, Mr. L——, and Gladys went in the afternoon of the same day to the hotel at Taylor's, also a badly infected place. After going home, about one-fifth of a mile distant, they heard that the fever was announced as yellow fever, and the children and Mrs. L—— remained strictly within their own premises and Mr. L—— kept away from the other houses. Earl developed yellow fever early in the morning (5 A.M.) of September 8th, the other three during the night following: Mr. L—— about 8 P.M., Mrs. L—— about 11 P.M., and Gladys about midnight.

13. Incubation: Earl, eight days or little less.

14. Incubation: Mrs. L——, eight days, or eight and one-quarter days.

15. Incubation: Mr. L——, eight days.

16. Incubation: Gladys, eight and one-quarter days.

Frank (aged six years), the only other member of the family, and who was not with the others on August 31st, did not develop fever until in October.

With reference to the above the writer has disregarded a principle which he had followed strictly in other cases in this paper, *i.e.*, he has accepted a case as of only one exposure when there were several foci of infection accessible to the person developing yellow fever. There were unquestionably several foci of infection at Taylor's, besides the two visited by the L's on the 31st, some of them not then recognized. Yet as there were none on their side of the railroad save Williams', and as they tried to isolate themselves from all neighbors, and especially as we have a very clear history of an exposure of four people and all of the four developed fever practically at once, while the fifth not exposed with them did not develop it until the house had had time to become infected, it seems fair to accept it as genuine in spite of the above principle. The case, too, is strengthened by the fact that two of the patients were babies and could have gone to a neighbor only with their parents. They kept no servant.

CLASS I.

1	case	of	not	more	than	3	days' incubation.
1	"	"	"	"	3¼	"	"
1	"	"	"	"	4	"	"
3	cases	"	"	"	4+	"	"
2	"	"	"	"	5½	"	"
1	case	"	"	"	6	"	"
1	"	"	"	"	7	"	"
1	"	"	"	"	8	"	"
1	"	"	"	"	16	"	"
12							

In these cases we have included four cases given in Class II., using the superior limits of their possible incubations, as is legitimate.

Ten cases developed within less than twenty-four hours after the last possible exposure to infection.

CLASS II.

4	cases	of	not	less	than	1	day's incubation.
6	"	"	"	"	1+	"	"
2	"	"	"	"	2	days'	"
11	"	"	"	"	2+	"	"
2	"	"	"	"	3	"	"
5	"	"	"	"	3+	"	"
1	"	"	"	"	4	"	"
4	"	"	"	"	4+	"	"
0	"	"	"	"	5	"	"
4	"	"	"	"	5+	"	"
0	"	"	"	"	6	"	"
2	"	"	"	"	6+	"	"
0	"	"	"	"	7 or 7+ days' incubation.		
1	"	"	"	"	8 days' incubation.		
52							

The cases of this table give eight days as the longest period of incubation recorded for any one of them. This case is from Camp Perry.

CLASS III.

2	cases	with	3	days'	incubation.	
6	"	"	3+	"	"	
2	"	"	4	"	"	
1	"	"	4½	"	"	
1	"	"	5¾	"	"	
2	"	"	8	"	"	
2	"	"	8¼	"	"	
16	cases					

Here twelve cases in which, it is believed, that we can claim without cavil that there was only a single exposure, give periods of incubation of from three to six days. The four which give eight days' incubation are believed also to be reliable, but the matter has already been set before the reader, who can judge for himself. In the opinion of the writer, this table is more valuable than either of the others. It is worthy of note that of twenty-eight cases which give us a chance to determine the minimum period of incubation, none gives it below three days, three giving that figure, and ten not more than 3+.

This ends my article. The writer has been engaged in collecting these observations since 1887, and it was his intention to combine with them all such as he could find reported by others to be reliable, before giving them to the public. To have waited to do so, however, would have missed this opportunity of presenting them to an audience, of all others the most interested and the most competent to judge of this subject and thus most capable of correcting such errors as he has fallen into. For the same reason, lack of time, the records of Camp Fontainebleau were not used. The complete work yet remains to be done. Save the five cases which Wilkinson published, none of these cases has been previously used for this purpose. Yet they are believed to be by much the most complete data to this date on this subject, the impor-

tance of which to maritime quarantine we all recognize.

Of the cases from these notes the shortest incubation recorded is three days, the longest eight and one-quarter days, while very few of the cases show over six days. It is not claimed that cases of longer or shorter incubation than any one recorded here may not occur; or, in spite of the pains taken, that there are no errors in any of the cases I have given, yet it is believed that there is none which will vitiate any general conclusion which can be drawn from this paper.

To conclude, while it may be that this question can be determined more readily, certainly with far less time and labor, simply by observing the time between the inoculation of the disease by an infected host and the development of the fever in the subject; yet, even if so, it is well to compare the findings of observations on nature's experiments with those from direct experimental research, although the first lack the precision of the latter when we choose and control all the conditions of the problem, and the making of them is certainly less satisfactory.

A CONTRIBUTION TO THE BOTTINI OPERATION FOR THE RADICAL RELIEF OF PROSTATIC OBSTRUCTION.[1]

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The treatment of prostatic obstruction continues to be of unflagging interest. Inasmuch as about one-third of all men have, after the age of forty-five or fifty, evidences of this affection, the question of what we shall do for them becomes correspondingly great. It seems to be such an inevitable malady that measures of relief may have attached to them a personal interest which no other circumstances can arouse. The observation of distress in other men may stir our sympathies and provoke our professional enthusiasm for their relief, but when we reflect that possibly we ourselves, young and old alike, may be sufferers also, the objective lesson will become real and vigorous.

Many a man who has worked hard all his youth and laid the foundation for success in mid-life, finds himself brought face to face with a series of symptoms which gradually undermine his vital force by loss of sleep and by repeated attacks of prostatitis and cystitis. Furthermore, when he ought to be free to do his best work unhampered and untrammelled by any consideration of bodily discomfort, he finds himself subjected to the tyranny of that palliative means, which we call "catheter life." Of course, many a man compelled to this means of palliation goes on comfortably for a time, but he is always liable to infection of his bladder and kidneys, and on the whole, even at the best, it is a life of continuous slavery.

In my opinion, enlargement of the prostate is not a senile condition at all; its effects may not show themselves till mid-life or later, but it really begins in early life. It is a common experience that the premonitory symptoms of this malady begin shortly before or at fifty years of age, but they are made light of by the patient, and no attention is paid to the cause of them till other and more serious secondary conditions have begun to manifest themselves. Hence it would be well if we could impress upon the community the wisdom of attending to these early symptoms; for, even if palliative measures only are employed at first, it may be that radical means will be demanded later, and, therefore, the earlier we know this the better. In general it may be affirmed that the younger the subject the less the risk of these radical measures; but, anyhow, if radical relief can be had, all questions relating to it become highly important and merit our most careful consideration.

Any surgical attack upon the prostate gland is a serious matter. It is especially so when undertaken after the pathological changes due to hypertrophy have ensued. Hence it should not be undertaken lightly, but with careful consideration of the factors in each individual case. Observation of results, not only of my personal work but of the work of others, convinces me that this statement is not too emphatic. Indeed, the operation which thus far has promised the most for the patient and which seems the most satisfactory to the surgeon, namely, prostatectomy, is, even in the hands of the most skilful, followed by a grave mortality. The more radical the operation, the greater the risk. That this is so is strongly substantiated by a moment's consideration of the function of the gland, of its relation to important nerve centres, and also of its abundant lymphatic endowment which, together with the free anastomosis of its veins with the great portal circulation, renders the gland a peculiarly dangerous focus of infection. In view of the anatomy of the organ and of accumulated clinical facts, I have been extremely conservative in my treatment of prostatic cases, and have reserved operative measures for such as imperatively required it. Hence, when the galvano-cautery operation, devised by Bottini and practised by himself since 1875, came to my knowledge, it did not appeal to me as a scientific surgical measure. I followed the teachings of the "English school," and gave no attention to it, but since its revival and improvement by Freudenberg, of Berlin, I have watched and tested it with great interest; for if we can radically cure, or even improve, the conditions from which so large a proportion of men suffer, without serious risk and with a minimum of detention, we should welcome such a means, and test its claims without prejudice.

After an experience of nearly three years with the improved Bottini operation, I feel warranted in stating that we have such a means; but, in making this statement, I wish to state also that my experience does not contradict or invalidate the proposition which I have just made. Notwithstanding the statements which have from time to time appeared in the journals regarding this operation, it is to be regarded as a serious matter. Persons to be subjected to it should be as carefully prepared as for any other important operation, and the state of their vital organs more carefully considered than for operation upon a region not in relation to the urinary apparatus. Nor is the operation itself so simple as it would appear; it is an operation of skill. Its technique is not multiform, but each detail requires care and unrelaxed attention of the operator on each occasion. Furthermore, the number, locality, and length of the incisions are determined largely by the tactile skill of the operator. Preliminary measurements must be made. Preliminary cystoscopy is a material help, but in some cases cystoscopy is an unnecessary instrumental irritation, and in others impossible or unwarranted.

The choice of the anæsthetic is important. To determine this a careful study must be made of the subject; a phlegmatic, insensitive individual, in whom the incisions to be made are short ones, may easily have it done with local anæsthesia; but as in my opinion the operation is best when very slowly done, the majority of cases should have a general anæsthetic. The

[1] Read at a meeting of the New York County Medical Association, February 18, 1901.

Since the above paper was read I have had two more operations, making thirty-six in all. One of these patients died from sepsis on the fifth day after the operation, making two deaths directly due to the operation.

slowness with which the operation is done is the best guarantee against the serious secondary hemorrhage which operators have reported from time to time. The majority of patients operated upon under local anæsthesia suffer more or less pain during the operation.

There are certain symptoms following the operation. Some of these may be regarded as almost constant, and others as occasional, but which may occur. The first of the more constant is frequent urination. This is variable. In some individuals immediately after the operation, and for twenty-four or forty-eight hours thereafter, the demands to urinate may be every half-hour or hour, gradually diminishing in frequency. There is usually scalding during each act of urination, but this is also variable in degree of severity and gradually diminishes, rarely lasting over three or four days. Some blood mixed with the urine may be expected immediately after the operation. It rarely lasts over forty-eight hours, and but one of our cases had a small amount for four days. If the operation has been slowly done, the admixture of blood is very small. One-third of our cases passed bloody urine, and the rest had no blood. In from one to three weeks after operation a certain amount of secondary hemorrhage may be expected, at the time when the destroyed tissue makes its appearance. It is apt to occur at the end of the act of urination, and be enough to tinge the urine. In one of my patients, on two occasions, there were some drops of free blood. Pain after the operation may be expected. This is of a burning character, and is relative; the degree of suffering varying with the susceptibility of the individual. Ten of my thirty-four cases required morphine hypodermically for the relief of this pain. It rarely lasts over a few hours. At the end of the first week, but usually from the tenth to the fourteenth day, burned tissues may be expected to appear in the urine. They are generally in minute particles, black or brown, having a distinct burned odor.

In my experience a rise of temperature after the operation occurred with sufficient frequency to warrant me in classing fever among the symptoms to be expected. Ten of my thirty-four cases had fever. Six of these had distinct chills, coming on about twelve hours after the operation, and three of these had a temperature of 103° F. In all cases the fever subsided at the end of the third day. As to the symptoms which may be called occasional, but which may occur: First, is a slight grade of shock. This happened to one of my patients—a weak old man of seventy-one. Secondly, macroscopic masses of tissue will occasionally slough off (sometimes causing obstruction to urination), and be ejected from the urethra with difficulty and only after straining efforts. In one case, in order to quiet the patient's bladder, I was obliged to pump out some of these masses in the same way that fragments of stones are evacuated after a litholapaxy. Thirdly, epididymitis may occur. This took place in two cases.

In my opinion, the post-operative period is more nearly three weeks than two. Many patients may with safety be allowed to sit up at the end of a week, but they should not be allowed to resume their ordinary mode of life for at least two weeks, and many not for another week. Moreover, and this I wish to emphasize, the after-treatment of all these cases is almost as important as the operation itself. A large granulating surface is to be healed, and in most cases an old cystitis is to be treated. These demand careful local attention for an indefinite time, and the patient should not be allowed to pass from observation till the urine is clear, and the urethra free from all sense of burning and irritation. If possible, the patient should finally be explored with the cystoscope.

Are there accidents or complications following the operation as a result of it?

Yes, there are. Incontinence of urine has followed two of my operations. These patients are still under observation and are slowly improving, but the annoying involuntary escape of urine persists, especially while they are standing or walking. In one of these individuals there has been apparently an occlusion of the seminal ducts.

The cases upon which this paper is based are commonplace as regards their symptoms and diagnosis. Therefore it is unnecessary to weary you with a recital of them, but my first case was so instructive in its relation to the technique of the operation that you will permit me to present its principal features as a matter of interest.

This patient was aged seventy at the time of the operation. He has suffered extremely from repeated formation in the bladder of phosphatic calculi, which have been removed by various forms of operation. At this time, although he can pass a small quantity of urine spontaneously, he is entirely dependent upon the catheter, its use being necessary at intervals of from one to three hours. There is a marked grade of vesical catarrh, which persists in spite of systematic irrigations. He has also a number of calculi in the bladder. The possibility of performing upon him the radical operation of prostatectomy had been repeatedly considered; but in view of his poor general condition and of a marked chronic nephritis, this was rejected and the advisability of the Bottini operation was decided upon.

In view of the presence of stone and the severe cystitis, it seemed best to open the bladder above the pubes, remove the stones, at the same time do the Bottini operation, and then give the bladder the benefit of rest by prolonged drainage. This accordingly was done in May, 1898. After the removal of the stones, the wound was held widely open by retractors, and the Bottini-Freudenberg instrument introduced through the urethra. The prostate was unequally enlarged to about the size of a small lemon, projecting into the cavity of the bladder. Two grooves were cut into the prostate with the blade of the instrument, one inferiorly and the other horizontally. The inferior one was three centimetres in length. Before the horizontal incision was completed, the battery gave out. I said to myself, "If it is only a question of cauterization, why not use the Paquelin cautery?" and accordingly the operation was completed with the latter instrument. Here come the instructive features of the operation:

It was observed that when the blade of the electric instrument, heated to a white heat, was brought in contact with the tissues, it immediately became of a dull red; and when the action of the battery fluctuated, it became of a still duller hue. There was also a remarkable difference between the action of the galvano-cautery and that of the Paquelin cautery—a difference not easy to describe, but unmistakable when seen. The action of the galvanic instrument was, so to speak, subtle or refined, leaving a very fine, delicate eschar; but another effect, which I cannot put into language, extended into the contiguous tissue beyond the eschar formed by immediate contact with the knife. On the other hand, the Paquelin instrument seared grooves in the structure of the prostate, but it left a thick, leathery eschar, and there was none of that secondary effect which accompanied the action of the galvanic instrument.

Continuous bladder drainage was established through the suprapubic wound. The patient had no hemorrhage at any time, but required suppositories of opium for the relief of pain. From that time till the present he has remained so comfortable, as compared with his

previous existence, that he has absolutely refused to have the suprapubic tube removed, contentedly bearing with its discomfort. I am unable to say whether anything has been gained for him by the Bottini operation, and his case is included among my percentage of failures. I narrate his case thus in detail only to illustrate what it taught me in the way of technique:

1. That the flow of electricity must be maintained to a degree which will keep the blade at white heat.

2. That in measuring a given case for the length of the incisions, allowance must be made for the action of the galvanic cautery beyond the distance at which the knife shall actually penetrate.

3. That the operation must be done with great slowness, in order to prevent hemorrhage and to get the best results.

Now, what results have been obtained?

I have had thirty-four operations; three patients have been operated upon twice; one had only what is termed a "bar" at the vesical neck; the others were all cases of prostatic enlargement. One patient had had a previous prostatectomy. Another patient, two years before the Bottini, had been subjected to castration; but when he came to me he still had six ounces of residual urine, and, in addition, calculi in the bladder. After the Bottini operation, which was done in May, 1900, he had two ounces of residual urine, which is still diminishing in quantity, and he is now able to void all but one ounce of a measured quantity of fluid injected into his bladder. He is classed among those who have been improved only.

The ages of my patients varied from forty to seventy-five years, and the longest catheter life was fifteen years. About fifty per cent. were wholly dependent upon the catheter; about twenty-five per cent. could urinate a little spontaneously, but were obliged to use the catheter chiefly. Six patients had not begun the use of the catheter regularly or systematically; they had residual urine varying from two ounces to eight ounces, but all had more or less catarrh of the bladder requiring the use of the catheter on the part of the physician, for purposes of treatment. Sixty per cent. of those operated upon have discontinued the use of the catheter, either having no residual urine or but an inconsiderable amount, varying from a few drops to a drachm or two. Twenty per cent. have an increased amount of spontaneous urination, and are able to reduce the use of the catheter from one-half to only that which is required for occasional treatment. Twenty per cent. received no benefit; or, if any, but very little. The largest percentage of cures was among the patients wholly dependent upon the catheter; that is to say, eighty per cent. of the fifty—forty per cent. of the whole number of cases. Of the three patients upon whom the operation was repeated, but one received benefit. He had had almost maximum relief from the first operation, and requested the second operation because he was subject to attacks of prostatic congestion, during which his residual urine increased. Since the second operation he has discarded his catheter altogether, and has residual urine of half a drachm or a drachm, the variation in quantity apparently dependent upon the attention which he bestows upon the act of urination. The other two were not benefited by either operation.

The time for voluntary urination to appear after the operation has varied, the shortest period being immediately following the operation, and the longest two months thereafter; the latter apparently depending upon the contraction of the cicatrices. I have had one death directly attributable to the operation; the patient died of acute sepsis twenty-four hours after the operation, the posterior incision having probably opened the deep urethra. There were two other deaths which occurred about three weeks after the operation; whether they had any relation to the operation or were hastened by it, I cannot say; I will narrate them to you and leave you to judge, but as they took place within what I call the "post-operative period," I think they ought to be reported.

The first was that of a patient who, five days after the operation, developed "cardiac attacks" to which, it was ascertained, he had been subject for years. As he told me, he often had to lie down on the ground, sometimes on the snow, till the attack passed away. He had a rapid pulse, stertorous breathing, livid lips, cold extremities, and was partially unconscious. On the twenty-fifth day after the operation he died in one of these attacks.

The second was a death from uræmia, following an alcoholic debauch. The patient left the sanatorium ten days after the operation and went upon a spree; his old nephritis lighted up, and death ensued on the twenty-second day after the operation.

Now, then, as to the permanency of results, of course, time only will tell. While I do not believe that the destroyed tissue can ever be regenerated, it may be possible that, the causes of prostatic enlargement still operating, some of these patients may have a return of their symptoms. But it seems to me that the subject is so important, possibly to some in this audience, that if any patients who have been operated upon by this method should come under our notice, we ought to go into their former and recent histories carefully, examine them without prejudice, and, if possible, communicate with the operator, in order that we may not only determine the cause of failure, if any, but also candidly and frankly ascertain the merits or demerits of the operation.

In regard to my twenty per cent. of failures, I am unable to explain them; the same care was applied to them as to the patients who were cured. I offer the explanation that possibly that portion of the prostate which we call "extravesical," to the action of which I called the attention of the profession some years ago, and which cannot be reached by the galvano-cautery knife, may be the cause of failure in these cases.

In all these operations I have been assisted by my associates Drs. Pedersen and Squier, and to them I am indebted for aid in the preparation of this statement of my experience.

ACUTE GASTRIC ULCERATION.

By Prof. H. NEWTON HEINEMAN, M.D.,

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In 1889 I made an autopsy at the Mount Sinai Hospital, New York, upon a woman twenty-two years of age, who had died after twenty-four hours' illness of sudden and large hemorrhages, the nature of which was doubtful, but which were supposed to be hæmoptyses. At the autopsy some blood was found in the lungs, and the stomach contained over a litre. Although my notes say that a superficial erosion, nearly two centimetres in diameter, was found near the cardiac end of the stomach involving the mucous membrane only, it was attributed to post-mortem change, and for want of a better diagnosis, bronchial congestion with resultant hemorrhage was entered upon the record with a question mark.

Recently, while spending my winter in Paris, a series of accidents brought me: first, an opportunity of studying the pathological conditions in a case of gastric ulceration; and secondly, contact with Dr. Cazin, who had in the absence of his superior, Professor Duplay, of the Hôtel Dieu, been called on to operate upon

the case of Professor Dieulafoy, which operation had proven a success. Dr. Cazin, who besides being surgeon is likewise a pathologist of high rank, repeatedly discussed the pathological condition of this and similar cases with me, and the opportunity of carefully studying all his private notes of this case, together with the specimen mentioned above, at the laboratory of Dr. Latteux, has interested me sufficiently to induce me to publish the results of my review of the subject.

Then, too, the discussion upon the subject recently held in New York and reported in the MEDICAL RECORD of December 8, 1900, seems to have called forth from Dr. Einhorn the remark that Dieulafoy's cases were of an infectious nature. Dr. Einhorn is, in my opinion, both right and wrong. He is correct in adhering to the quotation from Dieulafoy, who believes for the most part that a toxic infection was probably at the bottom of his cases. He is incorrect according to my views—and I also believe that even Professor Dieulafoy should not be quoted too literally in his conclusions in this instance—for I cannot help thinking, first, that Dieulafoy has by an inadvertence been led to incorporate certain clearly infectious cases with his own cases and those of others of a non-infectious character. That this is probably so I am led to believe, since Dieulafoy has in certain of his clinical records[1] alluded to these ulcerations as possibly being "early stages of the chronic ulcer."

The cases of "acute gastric ulceration," for such Dieulafoy suggests calling them, as distinguished from the well-known "gastric ulcer," have up to within a few years been overlooked, but because of their importance deserve consideration.

Whether Dieulafoy be correct or not in his etiology, his masterly description of the condition and his records of his own cases and those of others deserve rehearsal, since we must give him credit for having first "clearly" set forth the condition.

Professor Dieulafoy's first case is briefly as follows: On the eve of November 13, 1896, a man, twenty-seven years old, was carried into his ward in Hôtel Dieu. He was deathly pale and appeared exsanguinated, as one who had suffered from serious hemorrhages. In a feeble voice he stated that since the preceding morning, started by an effort at lifting, he had vomited a total quantity of two or three litres of blood. Although the condition of the young man pointed to a profound loss of blood, the reported quantity was considered exaggerated. After careful questioning the diagnosis of a commencing ulcer of the stomach was made. Besides rest, the usual medication was resorted to, acidulated cold drinks were given, and ergotin was injected. Despite this, during the night he raised (by measure) two litres of fluid and clotted blood, which was followed, as was his first attack, by jaundice. As the patient estimated the quantity as being the same as on the preceding occasion, it represented a loss of four litres of blood in less than twenty-four hours. Recognizing the gravity of the case, intravenous injections of artificial serum were made. His condition improved, but in the early afternoon another hemorrhage of one litre followed and the patient died.

The autopsy presented the following result: The outer aspect of the stomach was normal except for an ecchymotic spot, about 2 cm. from the cardiac end, nearer the greater curvature, and a few slight adhesions of the omentum near the gastro-hepatic and gastro-splenic folds. Both ends of the stomach having been ligated it was taken out, cleared of one and a half litres of blood, and despite careful search nothing was found. The mucous membrane was now subjected to a careful washing, when a very superficial ulcer was discovered 2 cm. from the cardiac end, circular in shape and involving nearly the area of a silver dollar[1] (five-franc piece). The stomach was normal throughout except at the seat of the ulcer, which was without indurated base, of a grayish-white color, and presented two or three small ecchymotic spots and crater-like erosions. One of these erosions showed a small arteriole with gaping mouth, into which a pin could be introduced. Microscopic examination demonstrated that the mucus coat and muscularis mucosæ alone were involved, the latter only in places. It was in one of these erosions (owing to the disappearance of the muscularis mucosæ) that the gaping arteriole was located. This arteriole and the arteries in the vicinity were absolutely free from endarteritis or periarteritis and every possible degeneration, so that obliterating endarteritis could be excluded. The neighboring veins were dilated and thrombosed, and explained the ecchymotic spots referred to. All that could be discovered was a superficial ulceration which had directly eroded and eaten its way into the arteriole, from which the patient bled to death.

It was this case and the autopsy findings which induced Professor Dieulafoy to decide upon operative measures at the next opportunity, and not to rely upon medication and serum injections alone. The opportunity came on October 13, 1897, when a man, twenty-two years old, entered his service in the Hôtel Dieu with the following history: Six days previously, after a hearty evening meal, he was seized with nausea, and vomited, as he thought, one or two litres of pure, bright blood. He went to bed and slept well. The succeeding night, having eaten well during the day, he again vomited a considerable quantity of blood, partly fluid and in clots. Since then he had not raised any blood, but was so weak that he sought hospital aid on the evening of October 13th. His appearance on the following morning was very striking and his pallor extreme, involving the skin and all mucous membranes; the pulse was small, temperature 38° C. (100⅘° F.), and the patient extremely weak. The statement that three or four litres of blood had been lost was borne out by the serious red blood globule diminution (1,600,000 to the cubic millimetre). Careful investigation of the history and of the lungs and the absence of all cough excluded hæmoptysis, and cirrhosis and its consequent pathological conditions were also excluded, limiting the diagnosis to ulcer or cancer of the stomach. The latter was finally excluded, and the diagnosis was limited to simple ulcer, although the patient up to the time of the hemorrhage had never had any gastric symptoms. Professor Dieulafoy then recorded his impressions, which were that he felt he would not again be justified in seeing a patient bleed to death without an operation. But, inasmuch as no bleeding had taken place in seven days, he decided upon medical treatment, with the reservation that, inasmuch as the red blood globules were reduced to less than one-third the normal, he would insist upon surgical interference at the first renewal of severe hemorrhage. All went fairly well till the night of October 15th to 16th, when the hemorrhages suddenly supervened, and in the morning a basin containing a litre (by measurement) of fluid and clotted blood was shown Professor Dieulafoy. The patient had a cadaveric hue and was completely exhausted, almost dead. Feeling there was no time to be lost, and in the absence of the superior surgeon Professor Duplay, his chief assistant Dr. Cazin was asked to operate without delay. Dr. Cazin was so little sanguine that he asked Professor Dieulafoy to try and build up the patient first before operating. Professor Dieulafoy felt that the patient's only chance for his life was immediate surgical intervention, for he had come to the end of medical resources, and was certain that serum injections alone could never stop the hemorrhage.

[1] Clinic of Professor Dieulafoy, Hôtel Dieu, 1897–98.

[1] Both pieces have about the same size.

Dr. Cazin's notes, placed at my disposal, describe the operation as follows: Preparations for a laparotomy and for coincident intravenous serum injections were made at once. The patient having been chloroformed, an abdominal incision 12 cm. long was made parallel with the left border of the free edges of the false ribs (left side), following Labbé's line. The stomach was drawn out, and despite careful examination not an adhesion, nor induration, nor any mark of any kind was found anywhere on the surface. The stomach, which contained some liquid, was carefully emptied by manual compression, the contents being gently forced into the intestine; a clamp, guarded with rubber, was placed close to the pylorus to prevent regurgitation into the stomach. The stomach was kept outside the body, covered with warm compresses, and an incision of 6 or 7 cm. was made, following the line of curvature and nearer the lesser than the greater curvature, so as to avoid the larger gastro-epiploic arteries. For want of room to explore the stomach, the incision was increased up to 10 or 11 cm. A few hæmostatic clamps were applied to both lips of the wound, and the stomach was carefully sponged out with long-handled sponges. Now, despite careful examination, nothing was at first found when the stomach was carefully turned inside out over the hand, like a glove. Not until the mucous membrane was everywhere carefully dried with sterilized gauze, which demonstrated the pyloric portion to be absolutely healthy, was the lesion found in the cardiac portion. On the posterior wall of the cardiac end, near the greater curvature and near its upper extremity, an ecchymotic spot, somewhat elongated and of the size of a pea, was found, in the centre of which was a small ulcer from which a little blood exuded. This formed the approximate centre of a superficial ulcer, 1 cm. in diameter, which contained three other recognizable bleeding points, each in the centre of a more marked erosion, each of which had a diameter of 1½ to 2 mm. The entire ulcer was enclosed by a circularly arranged catgut ligature and suture, involving and transfixing the mucous membrane all about the ulcer. Three layers of suture closed the wound: the deepest muco-muscular layer being a continuous catgut suture; the other two layers, the sero-muscular and serous layers, separate silk sutures. The abdominal wound was closed with silver wire.

During the operation 1,500 gm. of serum were injected into the veins of the arm, 500 gm. subcutaneously during the succeeding night, and upon each of two succeeding days 500 gm. Champagne and water were allowed on the day following the operation and continued, and two peptonized enemata were given, with three on the second day after the operation. The patient rapidly improved, and on the ninth day after the operation the sutures were removed, the abdominal wound being firmly united. Following this semi-solid food was allowed, and after the twentieth day meats were given. The patient's appetite was voracious; he rapidly recovered strength, and at the end of five weeks was discharged cured. He reported some months later and again recently (autumn, 1900), and was in perfect health.

Professor Dieulafoy adds a case, personally reported by Professor Michaux, in a washerwoman twenty-three years old. She had always been well, with the exception of stomach cramps lasting a few days, up to October 20, 1897. On this day, though having stomach pain, she went to work, was seized with vertigo, and soon vomited a large quantity of blood (estimated at two litres). This was followed by jaundice. She was treated medically at home, but on the 23d new hemorrhages and renewed jaundice followed, and on the 25th she entered Professor Michaux's service. Her mucous membranes were absolutely without color; pulse, 130; temperature, 39° C. (102° F.). Medical treatment failed entirely. Operative procedure was decided upon and carried out, and nothing was found; nor were there any adhesions or spots of induration. It is fair to state that the operation was hurried and had to be prematurely completed on account of the desperate condition of the patient. The fever continued and was followed by delirium and nervous symptoms and renewed jaundice, evidence that internal hemorrhage continued, though no blood was vomited, and on the 31st of October the patient died.

The stomach, which was placed at the disposal of Professor Dieulafoy, was examined by him, and was described as follows: In the posterior wall of the mucous membrane, nearer the lesser curvature, a superficial simple ulcer was recognized only when the stomach folds were obliterated or flattened out. This was about 2½ cm. in its entirety, and by the aid of a pocket lens one could see a central erosion with an open gaping arteriole, surrounded by slight ecchymotic spots.

Microscopic examination demonstrated the ulcer to have been formed at the expense of the mucous and muscularis mucosæ layers, all other layers of the stomach wall being healthy; nor was the artery involved at all degenerated, except for the eroded point. These cases were all thoroughly investigated, and in the case operated on and in those in which autopsy was made no evidence of anything was anywhere found either in the stomach or in the body, beyond the ulceration and its eroded arteriole. That this was sufficient to give rise to such severe hemorrhage is carefully dwelt upon by Dieulafoy, who calls attention to the fact that the gastric arterioles involved are quite as large as the small arteries of the fingers, whose readiness to bleed freely we well know.

In this same category belong the following cases, referred to by Dieulafoy himself, which were communicated to him personally: one by Gilbert, in a woman, who died, and at the autopsy the assistant reported he could find nothing. Upon searching carefully Gilbert himself found a simple ulceration, 1¾ cm. in diameter, with an eroded arteriole.

Gilbert reports a previous case of a woman of thirty years, who was operated on and nothing was found at the operation, to which she succumbed after a few days. At the autopsy only a minute search revealed the source of hemorrhage, which proved to be a small, simple ulceration with an eroded arteriole.

The case of Luys[1] is next referred to. A man, thirty-five years old, who was indisposed, complaining only of gastric pains of a few weeks' duration. He admitted having drunk excessively for some months, and died suddenly on the day succeeding his admission to the hospital, in an attack of syncope preceded by sudden pallor. The autopsy revealed a simple ulceration, involving only the mucous and muscularis mucosæ layers, and the stomach was filled with over two litres of fluid and clotted blood. The walls of the stomach were normal in other respects, and there could be no question but that the ulceration was of recent date.

In reference to the following cases, which Dieulafoy quotes under the same category, I must say that I do not regard them as of the same nature beyond the fact that gastric ulceration was found.

Thus the case of Lepine and Bret, referred to, is that of a man sixty-five years old, with extensive endarteritis which involved all the gastric arteries as well, and in whose stomach several of the degenerated arteries were the seat of ulceration.

Much less should the following cases, whose nature is infectious beyond any question, have been included under the category of cases of simple acute gastric ulceration.

Thus in the case of Brault, referred to by Dieulafoy and communicated to him, extensive glandular ulcera-

[1] Luys: Bullet. de la Soc. Anatomique, 1896, p. 660.

tion, infiltration of the mucous membrane by young lymph cells about the ulcer and at some distance from the ulcer, was also met with, the case evidently being one of infection.

Similarly a case by Girardeau,[1] referred to, must be regarded as belonging to the decidedly infectious, for the bleeding vessel was surrounded by miliary abscesses containing numerous micro-organisms.

Pathology.—Attention has already been called to the fact that even when an arteriole only is involved, we are dealing with an artery whose hemorrhage may become serious. The great source of danger arises from the fact that the arteriole is eroded only to a small extent of its circumference, thus keeping it patulous and preventing retraction within the sheath of the vessel or formation of clot which would arrest hemorrhage. The arteries involved were, in twenty-three cases collected by Savariaud,[2] the splenic in seventeen cases and the coronary gastric arteries in six cases.

Having been favored with the opportunity of reviewing the gross and microscopic lesions in two of the cases referred to, I failed to find any lesion of the gastric mucous membrane beyond those already mentioned; and a careful review of the bacteriological work left nothing to be criticised, so that the lesion can be described only as an acute ulceration of the mucous membrane, or of this and the muscularis mucosæ, unaccompanied by any bacterial invasion and without other recognizable lesion in the walls of the stomach. A suggestion which will prove of service in microscopic examination is the employment of carbolated xylol instead of oil of cloves. The former preserves the tissue about the edges of the ulcer, and by causing less translucency permits of the recognition of any young cells which may be present. The seat of the ulceration involves an area ranging in size from a pea to nearly three-fourths of an inch. When small it is easily overlooked; and all the more so because it is without indurated edges. The situation of this ulcer may be anywhere, though it is most often found near the cardiac end, in the grand cul-de-sac, or the anterior wall near the greater curvature. The chronic ulcer affects these parts less.

Etiology.—The causes have been ascribed to gastric hyperacidity. Again it has been maintained that we are dealing only with an acute stage of the chronic ulcer. Chronic alcoholism has been given as the cause, and finally some toxic or infectious influence.

In reference to the question of hyperacidity, in only one case of Dieulafoy was an examination made and decrease of acidity found; in one other case a moderate hyperacidity was noted, but it is far from satisfactory to accept this as the cause of the trouble, at least for the present. It is true that most men in whom the ulcer was met with were hard drinkers, but no proof exists that alcohol in the form of even the strongest beverages can produce such a condition.

In reference to toxic or infectious causes Dieulafoy mentions the following facts: that Letulle produced gastric ulcers in guinea-pigs by overdistending the stomach with bicarbonate of sodium and then injecting staphylococci into the peritoneal cavity; and that Guiquez and Hallion[3] did the same thing by injecting diphtheritic toxin beneath the skin of the belly in the guinea-pig.

While admitting and accepting the above, such experiments confirm only the cases in which infection was recognized to be present, but which I do not include in this group; they have no bearing on the class of cases found to be entirely free from infection of every kind. Still Dieulafoy presents this as a possible cause.

Savariaud believes the ulcer to be an early stage of the chronic ulcer; and this would seem to be the most plausible theory were it not for the fact that the ulcer may be found where the chronic ulcer usually is not present. Dieulafoy says that time must elapse before the proof is established that such an ulcer can precede or be transformed into a chronic ulcer.

Clinical History.—Usually the sudden and excessive hemorrhage is the first sign, and sometimes the only sign or symptom of the trouble. Exceptionally nausea and gastric pain, vertigo, and syncope immediately precede and accompany the hemorrhage, the patient being previously in usual good health. Exceptionally there are prodromata, such as nausea and vomiting, accompanied by gastric pain; and if the blood is retained, sudden pallor may alone lead us to suspect the trouble, beside thready pulse and even chills and convulsions. The loss of blood may give rise to a slight elevation of temperature, a condition sometimes found in chlorotic women.

It is in infectious cases, not those here considered, that we have a noticeable rise of temperature, 102° to 103° F. They are the cases in which several erosions may be found, and in which cell infiltration or even bacterial invasion is present. Such cases belong really to the category of cases of acute ulcerative gastritis.

Differential Diagnosis.—Hæmoptysis naturally suggests itself as the first condition from which the gastric hemorrhage is to be distinguished. The existence of cough or its association with the bleeding will aid in the differentiation. The blood is often frothy from air admixture; and unless blood has been swallowed, as in sleep, the raising of large clots point to the stomach. Of course, the recognition of acute or chronic pulmonary tuberculosis, and the presence or absence of pleural congestion with its friction sound, and representing the early stage of tuberculous pleurisy, must be determined. Rarely, except in advanced phthisis, are hemorrhages of such great extent as in these uncommon cases of gastric hemorrhage.

The differential diagnosis from a commencing rupture of aortic or rupture of miliary aneurism should be thought of. From varicose gastric or œsophageal arteries in connection with cirrhosis of the liver the diagnosis is made by the clinical history, together with the recognition of a cirrhotic liver and a large spleen. In cancer and chronic ulcer, from which the actual superficial ulceration is to be differentiated, we have a history of a long existing condition and the well-known symptoms and signs, which I need not here rehearse. Even in obscure cases of cancer or chronic ulcer we always have a history of more or less impairment of health, lasting months or years, whereas in these cases the history is at most one of a few days or weeks.

Diagnosis.—The hemorrhage, its large amount, and the fact that we have excluded all other sources than the stomach, with or without accompanying or immediately preceding nausea, gastric pain, and vomiting, constitute the main elements of diagnosis, and appear to have been sufficient in a considerable number of cases for making the diagnosis, which was confirmed in all but a few instances at the autopsy.

To diagnosticate either the size of the eroded vessel or the exact locality of the ulceration is an impossibility. The difficulty of finding the ulceration at the operation, even at autopsy, may be here again repeated, and only the most careful search and inversion of the entire mucous membrane and drying off of the mucus on its surface enable us to recognize it.

Prognosis.—The prognosis in these cases is exceed-

[1] Girardeau: "Trois cas d'hématemèses infectieuses." Journal des Praticiens, 1898, p. 83.

[2] Savariaud: "L'hemorrhag. de l'ulcère de l'estomac." Thèse, 1898, Paris.

[3] Soc. Méd. des Hôpitaux, 1893, séance December 23d.

ingly grave. It may be of interest to introduce the statistics of Savariaud, of hemorrhage in the various forms of gastric ulcer. "In fifty cases in which hemorrhage was the cause of death and in which autopsies were made, in one-fourth death was sudden by an overwhelming bleeding, in a second one-fourth it occurred within twenty-four to thirty-six hours after the first hemorrhage, in the third at the end of a week, and in the last one-fourth at the end of a fortnight." Savariaud also points out that even in erosion of the splenic artery immediate death does not necessarily follow, for in seven of seventeen cases the patient survived from two to fifteen days.

Treatment.—Medical. After a single large hemorrhage, and until repetition of the hemorrhage has occurred and a count of red blood globules shows a serious diminution in their number, medical treatment should at least be tried. This should consist of absolute physical rest to body and stomach, the patient being put to bed on his back and alimentation being exclusively rectal for three or four weeks. An ice-bag may be applied to the stomach, while nothing, not even water, should be given by the mouth, in order to avoid all gastric peristalsis. Maragliano kept a patient alive for ninety-four days on rectal alimentation, with a loss of only about five pounds in weight. Medication of ergotin, etc., should be given either by rectum or, better still, hypodermically. Intravenous or subcutaneous injections of serum should be used. Professor Dieulafoy recommends 8 gm. of chloride of sodium and 10 cgm. of nitrobenzoate of caffeine added to one litre of distilled water. Melassez advises 7 gm. of chloride of sodium to one litre of water, and Hayem 5 gm. of chloride of sodium and 10 gm. of sulphate of sodium to one litre of water.

Surgical Treatment.—In view of the fact that the first hemorrhage may by continuation be fatal, or that the second may prove so, surgical interference should be thought of and preparations for immediate operation should always be made. In similar manner serum injections should always be resorted to, although no reliance should be placed upon them alone to save life. That an operation should be performed is always difficult to decide, for patients recover even when the blood count goes below one and a half million. If a patient have lost a half to one litre of blood upon several occasions within twenty-four hours, he is certainly in danger if not operated on; so that while the amount of blood lost is our best indication, all clinical signs and symptoms should be considered. The method of procedure of Dr. Cazin, as applied to the case of Professor Dieulafoy, promises the best result, and the inversion of the gastric mucous membrane, careful absorption of the mucus by means of sterilized gauze, and a minute search with a pocket lens for the seat of ulceration should be made.

In determining the prognosis of operation, that of chronic ulcer should not be considered with acute ulceration, for the unhealthy conditions of the gastric mucous membrane, the adhesions to surrounding tissues, and the fact that the chronic ulcer involves all the gastric layers, make the prognosis more serious. Were the diagnosis promptly made, and the ulceration found at the operation and the latter be timely, the prognosis ought to be good.

I append, for the benefit of surgical readers, a list of all surgical interventions for gastric hemorrhages which bear in part, or to a greater extent, upon the consideration of surgical operation for the condition here specially considered and for chronic ulcer. *Archiv f. klin. Chir*, v. 37, p. 79, operator Mikulicz; Gannett, *Boston Med. and Surg. Jour.*, 1889, p. 38 (Mixter); Eiselberg, *Archiv f. klin. Chir.*, 1889, p. 833 (De Salzer); Thèse de Marion, Paris, 1897 (Mikulicz); Mikulicz, 26e Congrès de la Soc. Chir. allemande (Mikulicz); do. (Mikulicz); Roux, Congrès de Chir. franç., 1893, p. 401 (Roux); Thèse de Savariaud, Paris, 1898 (Roux); Cutler, *Boston Med. and Surg. Jour.*, 1897, p. 54; Elliott, Thèse de Savariaud, Paris, 1898 (Hartman); *Berl. klin. Wochenschrift*, 1896, p. 847 (Hirsch); Weir and Foote, *Med. News*, 1896, p. 284 (Abbe); Congrès allem. de Chir., 1897, April (Werner Körte); Dieulafoy, *Presse méd.*, 1898, p. 31 (Michaux); Dieulafoy, *Presse méd.*, 1898, p. 31 (Cazin). The above are taken from Thèse de Savariaud, Paris, 1898, already referred to. Keen and Tinker, *Phil. Med Jour.*, June, 1898; Bennett, six cases, *Lancet*, February 26, 1898; Mayo, MEDICAL RECORD, June, 1898, p. 836; Kocher, *Schweiz. Corres. Bl.*, Bd. xxviii., 20, 1898; Bush, *Brit. Med. Jour.*, November 5, 1899; Warren, J. C., *Boston Med. and Surg. Jour.*, cxxxix., September, 1899, p. 308; Box, C. R., and Thurston, E. O., *Lancet*, April 1, 1899; Hartley, F., MEDICAL RECORD, lv., February, 1899, p. 202; Jones, R., two cases, *Brit. Med. Jour.*, April 22, 1899; Morgan, J. H., two cases, *Lancet*, February 11, 1899, p. 372; Philipps and Silcock, *Lancet*, March 25, 1899, p. 832; Sherman, F. M., *Boston Med. and Surg. Jour.*, cxl., p. 183, February, 1899; Barker, A. F., *Brit. Med. Jour.*, May 27, 1899; Tubby, A. H., *Brit. Med. Jour.*, May 27, 1899; Thomson, R., *Lancet*, August 19, 1899; Maclaren, R., *Lancet*, October 21, 1899; Morison, R., Clin. Soc. Trans., London, xxxii., 1899, p. 142; Got, Thèse, Paris, 1899; Andrews and Eisendrath, *Annals of Surgery*, October, 1899; Eve, F., *Lancet*, June 20, 1900; Mitchell, A. B., *Brit. Med. Jour.*, March 16, 1900; Nicholl, J. H., *Glasgow Med. Jour.*, liii., p. 247, 1900.

TREATMENT OF ACUTE SERO-FIBRINOUS PLEURISY.[1]

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To tap, or not to tap, that is the question. Whether 'tis better that the patient should suffer the pressure and discomfort of abundant effusion, or to take the aspirator against the sea of sero-fibrin, and by evacuating end them? To puncture—to withdraw—no more; and by this step to say we end the heart-displacement and the other dangers that effusion gives birth to, 'tis a consummation devoutly to be wished.

But do we end them? Ay, there's the rub.

For in that aspirator what germs may come, when we have not asepticized this metal tube, must give us pause. There's the microbe that makes calamity of so long life. For who would bear the pains and weight of pleurisy, the compressed lung, the heart's crowding, the pangs of shortened breath, absorption's delay, the sluggishness of lymphatics, and the dangers that patient endurance of the effusion takes, when he himself might its quietus make with a bare bodkin? Who'd these perils bear, to grunt and sweat under a weary life, but that the dread of something after tapping puzzles the will, and makes us rather bear those ills we have than fly to others that we know not of?

Twenty-five years ago the picture here drawn would have fairly represented the mental attitude of the physician. In the late seventies Austin Flint taught us that the means to be employed for the removal of sero-fibrinous effusion were hydragogue purgatives, diuretics, blisters, and the use of certain remedies which have been supposed to act directly as sorbefacients. Only in cases in which the liquid had accumulated sufficiently to endanger life was aspiration advised, that procedure being reserved for chronic pleuritis,

[1] Read before the section on medicine, New York Academy of Medicine, February 19, 1901.

which was stated to be a much more frequent affection than the acute. In the summer of 1880 there were two cases in the medical wards of the New York Hospital in which repeated aspirations had been done, and in which the fluid had undergone change from a serofibrinous to a purulent exudate. My notes include the statement of the visiting physician, that "chest tapping in adults is a good operation for one or two times when the accumulation is dangerous, but repeated tapping converts a pleurisy with effusion into an empyema. Why this is so I do not know, but my experience proves it." At the present time two explanations, other than tapping, would rise to explain this conversion. It must be remembered that those were the days when asepsis was just dawning.

With the advances in medical knowledge and equipment of the last twenty years, this timidity has been thrown—perhaps too far—to the winds. The confidence engendered by aseptic principles has made of chest-tapping a simple and safe operation, and it is resorted to readily, and sometimes needlessly. Given a diagnosis of pleurisy with effusion, and aspiration follows, as a matter of course, in the practice of many. It is well, however, not to promise removal of fluid to a patient until exploratory puncture has actually demonstrated the presence of fluid and its character. While a typical pleuritic effusion gives other physical signs which may be relied upon with great certitude, all cases do not follow the typical text-book course, and embarrassment may follow failure to withdraw fluid which had been confidently predicted. In a recent case the clinical history, the ordinary signs by palpation, percussion, and auscultation, together with a leucocyte count of 34,000, all seemed to point conclusively to empyema following pneumonia, yet repeated exploratory punctures were negative.

At bedside clinics in Bellevue Hospital I have been in the habit of teaching that chest-tapping should be performed in sero-fibrinous pleurisy for three indications: First, when life is directly threatened, or endangered by asphyxia from compression, or by cardiac weakness; second, when fluid has risen to the third interspace in front, since experience has shown that effusions of this size rarely disappear spontaneously; third, in all lesser effusions when spontaneous absorption is unduly delayed. When none of these indications is present, the medicinal treatment of the case is studied. This includes the local application of guaiacol, or of iodine when the effect of guaiacol on the heat-regulating and vaso-motor centres is too pronounced; internally, mild catharsis by sulphate of magnesium in concentrated solution, with limitation of the ingested liquids to as low a point as possible, and the consumption of as much table salt as the patient can be induced to take. Whenever opportunity affords, cases of moderate effusion are treated, side by side, by this plan and by tapping. Our experience would seem to warrant the assertion that progress is more rapid in the cases not tapped.

This paper, however, is not written as a protest against tapping. Tapping removes in a few minutes what nature might require days or weeks to absorb. But the two processes are not identical. Tapping does not cure the underlying causative condition of a pleuritic effusion, be this tuberculous, pneumococcal, streptococcal, toxæmic, or otherwise. Neither does it allow time for those reparative changes in the serous cavity by which reaccumulation of fluid is prevented. Whether we can, in connection with tapping, determine an exudative and reparative inflammation, by the injection of fluids such as methylene blue, as advocated by Charles H. Lewis,[1] is a point of great interest and warrants further study.

On the other hand, the longer nature's efforts at absorption are delayed, the more futile they are likely to be. In protracted cases, pathological changes in the pleura occur, by means of which its absorbent properties become impaired and the mouths of the lymphatics become obstructed. It is difficult to set time limits arbitrarily. Each case must be judged for itself. In general, however, an effusion which has remained stationary for longer than seven days should be partly evacuated by aspiration. It is sometimes surprising to witness the prompt absorption that will follow the withdrawal of a fractional part of a large effusion, which had previously manifested no tendency to diminish. This occurred in three of my own cases in which, after exploratory puncture had been made, further tapping had been refused by the patients.

In the foregoing remarks I have considered only the pathological indication for treatment in a case of pleurisy; namely, the effusion. Of course there are additional etiological indications. It would be as irrational to treat all kinds of sore throat on one principle as to deal with all pleurisies alike, irrespective of their causation. Therefore the underlying tuberculosis, rheumatism, acute infection, septic process, local or general, new growth, gout, Bright's disease, traumatism, or other cause, must each receive its separate consideration. Similarly, symptomatic indications must be met, as they arise, by appropriate treatment, and complications, such as cardiac failure and pulmonary œdema, must be forestalled by attention to rest, and to the rules for paracentesis, and by other necessary steps founded on knowledge of the course of the disease.

During convalescence, in addition to the restoration of bodily health and strength on the principles usual after acute disease, the indications are: first, to protect the patient particularly against chill, by clothing and mild climate; second, to provide respiratory exercises, and, if possible, mountain air, for the re-expansion of the lungs and chest; third, to prevent pulmonary tuberculosis, the remote development of which should be borne in mind, notwithstanding the apparently successful issue of the pleurisy.

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[1] Medical Record, December 30, 1899

Renal Echinococcus.—Ludwig Stein (*Wiener klinische Wochenschrift*, October 25, 1900) concludes that the surgical treatment of renal echinococcus comprises nephrectomy as well as the mere opening of the sac and subsequent drainage; which method is to be chosen, can be determined only at the time of operation, first, after the definite diagnosis has been established; and secondly, after it has been determined how much if any kidney substance is left for the performance of the renal functions. The abdominal route often offers the only way of arriving at positive conclusions. If after abdominal incision it appears that the case is one for incision and drainage, the peritoneal wound is closed and an extraperitoneal lumbar operation performed.

Influence of Chloroform Narcosis upon the Uterine Contractions during Physiological Labor.—Westermark (*Archiv f. Gynäkologie*, 1900, Bd. 61) concludes: (1) Complete chloroform narcosis diminishes the frequency of the pains. (2) Complete narcosis increases the interval between the pains. (3) Complete narcosis has no influence upon the intra-uterine pressure during the interval between the pains. (4) Complete chloroform narcosis diminishes the duration of the pains. (5) On account of the complete narcosis, the intra-uterine pressure sinks during the pains, but rises again after the discontinuance of narcosis. (6) During complete narcosis the pain curve reaches its height

in about the same time as before narcosis. (7) The rapidity of the increase in the pain curve during complete narcosis to that before narcosis is as 3.4 : 4.3. The fall of the curve occurs in both instances with about the same rapidity (2.4 : 2.5). (8) The obstetrical chloroform narcosis diminishes the frequency of the pains. (9) The obstetrical narcosis lengthens the interval between the pains. (10) The obstetrical chloroform narcosis has no influence upon the intra-uterine pressure during the interval between the pains. (11) The obstetrical narcosis diminishes to a great degree the uterine pains. (12) The obstetrical chloroform narcosis diminishes to a slight degree the duration of the pains. (13) The intra-uterine pressure during the pains is not influenced to any material degree by obstetrical chloroform narcosis. (14) During obstetrical chloroform narcosis the pain curve reaches its acme in about the same time as before the narcosis. (15) The rapidity of the rise in the pain curve during obstetrical narcosis to that before narcosis is as 4 : 3.7. The rapidity of the fall during obstetrical narcosis to that before narcosis is as 2.7 : 2.4. Thus, during a normal labor complete narcosis, even apart from its general dangers, is distinctly contraindicated, in that it slows delivery to a marked degree. The obstetrical narcosis diminishes the frequency of the pains, without materially influencing the intra-uterine pressure or the duration of the pains.

Ligature of the Blood-Vessels of the Hilum of the Kidney.—Raffaello Giani concludes that ligature of the renal vein produces stasis with disturbed nutrition of the renal parenchyma, and sometimes small areas of complete necrosis. The collateral circulation soon becomes established, with more or less relief to the condition of the parts. The *restitutio ad integrum* of the parenchyma being usually satisfactory after ligature of the renal vein, it follows that in lesions of this vein the surgeon should ligate it, and limit his ligature to it.—*Lo Sperimentale*, Anno liv., No. vi.

The Implantation of Thiersch Skin Grafts for the Cure of Severe Stenoses of the Larynx and Trachea.—H. Alapy reports a case in which by applying the method first described by Gersuny he was able to relieve completely a high degree of post-diphtheritic laryngeal stenosis. The patient, a child of four, had already been intubated and subsequently tracheotomized owing to the contraction of the cicatricial tissue which finally did not permit the introduction of even the smallest intubation tube. A preliminary laying open of the larynx revealed an almost impassable stricture which did not yield to attempts at dilatation by means of a silk thread carried through the tracheotomy wound and nostril, for although instruments of moderate calibre could finally be passed, even after several months of this treatment respiration was impossible except through the tracheotomy tube. At the second operation the larynx and trachea were split open, the cicatricial tissue was excised, and a skin graft from the thigh, rolled upon a cylinder of gauze with the cut surface outward, was sutured into the circular defect. Eight days later the tampon was removed and the wound closed, and the use of the intubation tube resumed. Finally, eighteen months after admission, the patient was discharged with all fistulæ fully healed and able to speak with a somewhat hoarse but perfectly audible voice.—*Centralblatt für Chirurgie*, December 29, 1900.

Etiology of Acute Rheumatism.—J. W. Springthorpe enumerates four factors which enter into the etiology of acute rheumatism. These are: (*a*) Food proteid of a certain amount and nature; (*b*) an inherited or acquired tendency in duodenal and hepatic metamorphoses to form therefrom pathological irritants, instead of normal pabulum and physiological stimuli; (*c*) exposure of the more or less fatigued body to humidity and atmospheric variations of a certain duration and intensity; and (*d*) the chance thus offered to certain of the intestinal flora to become pathogenic and produce toxins, or, it may be, themselves to circulate in the blood. Suitable combinations of these four variants offer, in the author's opinion, a satisfactory explanation of attacks of rheumatic fever. And in support of this theory he quotes the effect, which he has often noted, of an attack of influenza. Whether the gastro-intestinal form of influenza be or be not due to the presence of Pfeiffer's bacillus in the duodenum he cannot say, but let that form of the disease attack an individual of hepatic temperament, and we have generally a fever either actually rheumatic or with difficulty distinguishable therefrom.—*Intercolonial Medical Journal of Australasia*, November 20, 1900.

Infantile Laryngitis.—Brindel says that there is a form of tuberculosis affecting the larynx of infants and assuming an ulcero-œdematous type. It is always fatal and death comes on rapidly, this rapidity being determined by age, condition of the lungs, and respiratory embarrassment depending on the amount of laryngeal stenosis. He believes that tuberculosis may attack the upper air passages primarily and that it causes intense dysphagia and early vocal troubles. Such symptoms in children should lead us to suspect this form of laryngeal invasion.—*Revue Hebdomadaire de Laryngologie*, October 13, 1900.

Pleuritic Urticaria.—R. Gomez reports a case of this affection, which, while rare, does sometimes make its appearance toward the end of the pleurisy, at the period of absorption of the exudation. The eruption occurs most frequently on the trunk, abdomen, and anal region, and may be most abundant. The early appearance of urticaria is a favorable symptom, pointing, according to Carageargiadès, to a rapid cure of the pleurisy, while its tardy appearance in scanty amount indicates a long convalescence, and possibly tuberculosis. This authority considers the eruption due to the direct action of the toxins in the pleuritic exudate which are thrown into the lymphatic circulation during the absorption process.—*La Riforma Medica*, December 27, 1900.

Cardioptosis.—G. Rummo says that the heart may undergo ptosis from several causes. 1. Increase of size and weight. Yet there are cases of hypertrophy without cardioptosis. 2. From variations in the endothoracic and endoabdominal pressure. If a right pleurisy increases the thoracic pressure on the right, the heart will be displaced to the left. If atelectasis of the right lung diminishes pressure, the heart will go to the right. 3. Impaired tonicity. The only treatment consists in the application of some apparatus or bandage to support the diaphragm and in the administration of arterial tonics, such as ergot, hydrastis canadensis, or nux vomica.—*La Riforma Medica*, December 28, 1900.

Neurasthenia of Otic Origin.—Guiseppe Mendini reports the case of a man of forty years, in good health, who suddenly began to suffer from a sense of heaviness in the head, headache, weakening of memory, impaired vision, insomnia, and vertigo. The etiology was at first obscure, but it was finally found that there was a concavity of the left membrana tympani. Various remedies failing to bring relief, it was decided to perform tenotomy of the tensor tympani. This was done under cocaine. The immediate after-effects were vertigo and unconsciousness, but rest in bed and the administra-

tion of a calming potion overcame these. Eight days later a slight mobility of the membrana tympani when the nose was blown was all that remained of the traumatism, while the symptoms of neurasthenia had entirely disappeared.—*Giornale Medico di Regio Esercito*, December 31, 1900.

Massive Hepatic Cancer.—Virgilio Bolli concludes that the symptoms found in the majority of cases of primary cancer of the liver are identical with those of many other diseases of that organ, a fact which greatly obscures the diagnosis. The intestinal disturbances, the inconstant pain, hypocholia, and fever are certainly not pathognomonic. The hypertrophy of the liver and progressive cachexia are in truth the only symptoms upon which we can base a diagnosis. The author reports a case of *cancer massif* in which even the hypertrophy was lacking.—*La Riforma Medica*, January 26–28, 1901.

A Note on the Early Treatment of the Early Stages of Acne Rosacea, with Special Reference to the Use of Suprarenal Gland Extract Therein.—William J. Munro divides the treatment of this affection into two parts: 1. Measures calculated to remove any general or systemic cause; 2. Those used to remedy the local lesions. All disturbances of the digestive tract must be removed. The patient's own idiosyncrasies must be studied. Regular exercise should be recommended. The bowels must be regulated. Internal antiseptics hold an important place in the treatment. Any gouty tendency must be corrected. Gynæcological troubles should be looked after. The objects of external treatment are: (1) To remove all effects of secondary infection, and prevent its recurrence; (2) to counteract the local capillary inertia, and the resulting tendency to blood stasis. The writer has used a paint consisting of a preparation of suprarenal extract, dissolved in ʒ i. of sterilized water, with a small crystal of thymol added to prevent decomposition. This was applied to the face each night after hot bathing. In the morning a precipitated-sulphur and zinc-oxide lotion was used. The internal administration of the suprarenal extract materially helped the local measures.—*The Australasian Medical Gazette*, December 20, 1900.

Spongifying the Labyrinth.—J. Hollinger advocates the use of this clinical phrase, and states that the process usually starts at about eighteen to twenty or twenty-three years of age. The increase of the deafness is either slow and steady, or at times there are sudden turns for the worse, or finally there are cases in which the deafness sets in suddenly. At the age of twenty-eight to thirty the condition is usually fully developed, and remains unchanged often to the oldest age. Some patients may then have so much hearing left that they can follow a conversation, others a loud conversation, others may be "stone" deaf. It often seemed that those cases which were treated most persistently showed finally the worst function. Whether rest, away from the noise of the great city, will not benefit the patient more than pneumo-massage and Politzer bag, catheter and pressure probe, will have to be decided in future by very careful and persistent functional tests. He comes to the following conclusions: First. Sclerosis and similar words to indicate this disease of the ear are without meaning, pathologically or clinically. Second. Spongifying of the labyrinth is a well-defined disease, clinically and pathologically. Third. The diagnosis can be made in the living in a comparatively early state, from the history and the trio of functional tests: (*a*) Short or negative Rinné. (*b*) Increase in hearing of low sounds (A) by bone conduction. (*c*) A large part, one to several octaves, of the lowest sounds cannot be heard by air conduction. Fourth. The prognosis as to life is good; as to recovery of hearing bad. Fifth. The treatment must be applied very judiciously. We can judge of and compare the effect of a treatment in a given disease only when we are able to make an absolute diagnosis of the disease. Patients who have been treated from the start of the disease are often, after years, in a worse condition as to their hearing than others who have been left alone. —*Laryngoscope*, January, 1901.

The Histological Changes in the Kidneys from Corrosive-Sublimate Poisoning.—B. Vasoin from experimental researches concludes that even less than 1 cgm. of corrosive sublimate will produce degeneration and necrosis of the epithelium in the uriniferous tubules of rabbits. This is in the case of slower poisoning. When the mercury is administered subcutaneously, there are merely diffuse hemorrhages, and detachment of the epithelium.—*La Riforma Medica*, January 18–20, 1901.

Rheumatic Fever in Relation to the Throat.—St. Clair Thompson says that the present state of our knowledge on the relation of tonsillar affections to rheumatism may be summarized as follows: 1. It is undoubted that a certain number of cases of acute rheumatism are preceded by an angina in a proportion varying from thirty to eighty per cent. 2. Both rheumatism and angina have many etiological points in common—season of year, cold, wet, fatigue, depression, vitiated air, etc. 3. The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established. 4. The tonsil may be the port of entry of the rheumatic virus, and this even although the naked-eye appearance of the throat gives no indication of its being affected. 5. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). 6. Peritonsillar inflammation does not appear to be arrested by the administration of anti-rheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the contrary, are considerably benefited by the administration of salicin or salicylate of sodium. That this action proves the rheumatic nature of the disease cannot yet be accepted. 7. The question requires further research in two directions: one in differentiating the various forms of angina, and settling the one which is associated with rheumatism; the other in further research to discover the true nature of rheumatism.—*Laryngoscope*, January, 1901.

Vesical Hemorrhage during Labor.—George A. Brown reports this case of a woman aged forty-six years, multipara, who has had eleven children and after each labor has had some complication, usually post-partum hemorrhage. On December 5th, a day or two before the last labor, the patient had a fall. During labor the pains were irregular and had a peculiar tearing character, as if her bladder were being dragged out of her. After the pain became regular there was no progress, as the pressure of the breech came on the anterior vaginal wall. The vaginal examination was rather puzzling, as the anterior vaginal wall descended into the vaginal passage just like a large tumor. After the os was dilated—the patient was kept in the knee-and-chest position until this occurred—the child was extracted in the usual way. Before the birth of the child, as well as afterward, the patient was catheterized and dark bloody urine was withdrawn. The patient also passed some small clots. She was given urotropin gr. ss. three times a day. On December 11th the urine was normal.—*Montreal Medical Journal*, January, 1901.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE NEW MEDICAL BILL FOR NEW YORK STATE.

THE measure now before the legislature of the State of New York, known as the "Bell bill," which gives a definition of the practice of medicine, was introduced January 14, 1901, nearly eight weeks ago. It has been thoroughly discussed before the assembly committee on public health, and the promoters of the measure, as well as those who oppose it, have had abundant opportunity, at the three hearings which have been given, to place their arguments before the legislature and the public. They have been accorded every privilege by the chairman of the public health committee, Dr. Nelson H. Henry, of this city, to express their views, and no one can say, with any degree of fairness, that both sides have not been treated with strict impartiality. The hearing on the bill to legalize the practice of osteopathy has really been a hearing on the "Bell bill," making in all four hearings of four hours each. The members of the legislature—those who are members of the public health committee, as well as those who will have to vote on the bill if the committee reports it favorably—have devoted about sixteen hours to these public hearings. They are probably about ready to decide what, in their judgment, should be done with this vexed question. Doubtless some of the legislators—possibly all of them—have been importuned by well-wishers and constituents to vote for or against this measure, and would gladly be released from the necessity of voting either way. One cannot, however, secure release from an obligation by shirking a duty, and as the question involved in this bill is one of great importance to the community, and as the members of the legislature are as fully alive to their obligations as citizens as those of us who are not legislators, there is no doubt that they will be found, when the time arrives for the test, standing manfully at their posts, voting not as friendship or individual preference may suggest, but, as their oath of office dictates, for the benefit of the State.

To our mind, the question of how this matter should be decided resolves itself into the plain proposition: Is it necessary to have medical laws in order to protect the people from incompetent practitioners of medicine? By practitioners of medicine we mean all who make a business of treating disease.

Few if any callings necessitate greater honor, integrity, and ability on the part of their followers, than that of the healing art. This has been so admirably expressed in an opinion handed down by the Pennsylvania courts that we quote from it as follows: "The experience of the past has justified the wisdom and necessity of medical laws. There is no time, perhaps, in the experience of life that persons are more susceptible to imposition than when sick or in failing health. They are ever as ready to catch at straws as is a drowning man. The profession that involves the price or value of human life demands of its practitioners a high degree of education in all its branches, and such a degree of honor and character as enables them fully to appreciate the important and confidential relations they sustain to their patients, and who possess the highest estimate of human life and the good health of society."

This being so, is there any reason why one class of practitioners should pass an examination more rigid than another class, or that any class should be allowed to enter upon the practice of so important a calling—one dealing with human life, human health, human honor—without any examination, simply because they practise some peculiar method, under some mystifying or unusual name?

It is not easy to gain the right to practise medicine in the State of New York, if one desires to do it intelligently and honorably. If one is willing, however, to waive honor, and to restrict one's self to some peculiar method, like the so-called method of osteopathy, then it is very simple to come to this great State, and possibly without moral character, possibly without knowledge of bacteriology, etiology, and pathology, settle down and practise unmolested. These people who practise under these peculiar names possess no knowledge which educated physicians do not possess. Whatever is known of disease, its causes, manifestations, and treatment, is taught in every medical college. The peculiar effects of the mind in producing physical derangements; the effects of massage and manipulations; the therapeutic value of water—all these are known and taught in medical colleges, and practised by educated physicians. The practitioner who holds himself out as competent to treat disease by the exclusive use of any of these methods does so because he sees in this course a way to evade the law. And this is all there is to be said on the question. If the medical laws are necessary for the proper protection of the public health, then they are just laws, and, being just, should include all who hold themselves out as being able to heal or to treat disease, no matter what method they employ. Just laws should be enforced without fear or favor.

There seems to be no doubt that the "Bell bill" is a just bill, and a needed protection to the community. We trust it will be favorably reported without delay, and become a law. If the physicians of the State of New York, seeing the necessity for the enactment of this measure, will urge their representatives in the legislature to vote for it when it leaves the committee, there will be put on the statute books, in the first year of the twentieth century, a law the good effect of which will be felt throughout the United States.

COMPULSORY EXAMINATIONS FOR OSTEOPATHS AND CHRISTIAN SCIENTISTS.

We are glad to note that the so-called Bell bill which, if passed, will compel all who wish to practise medicine to pass the State examination, is to be reported favorably by the committee before whom the hearings have been held. As we have previously pointed out (Medical Record, February 2d), the amendment provided by this law will compel those who wish to pose as practitioners of "osteopathy" and "Christian science" to submit to the same regulations as are enforced in the case of the graduate of the regular medical school, in order to carry out their intention of practising. The fairness of such a requirement, it would seem, should be evident to any one, since the claim that these unlicensed persons wish to treat only certain diseased conditions is ridiculous and not founded on fact; but the inability of the non-professional and non-scientific mind to appreciate this is well illustrated by the views of Mark Twain given, during the last few days before a committee of the legislature, in favor of legalizing "osteopathy." When a man of Mark Twain's age, experience, and reputation can be induced, through ignorance of a subject and an illogical mental attitude—the fallacies in which are clear to any one who thinks an instant—to support such a measure, it is quite time that the absurdities and dangers of removing legal restrictions from those who wish to avoid responsibility by adopting meaningless or deceptive names should be pointed out with emphasis. The passage of the Bell bill will insure equal treatment before the law of all who wish to assume the responsibility of caring for the sick and injured. The medical profession of this State ought to appreciate the importance of this measure, and we again urge physicians in all parts of the State to write in favor of this bill to their assemblymen and State senators, not merely to the chairman of the committee on public health. We may be sure that the legislators will be flooded, from now until the bill is voted upon, with those peculiar effusions which pass for statements of fact among the foolish knaves and knavish fools who compose the "sects" of "osteopaths" and "Christian scientists."

SOME OF THE COLLATERAL SYMPTOMS OF FACIAL PARALYSIS.

While it is known that paralysis of the muscles supplied by the facial nerve is sometimes attended with loss of the sense of taste upon the anterior third of the tongue, the pathway of the gustatory fibres to the brain is still a matter of discussion. Nor have the relations of the facial nerve to the secretion of saliva, of sweat, and of tears, as well as to the sense of hearing, been thoroughly worked out. Finally, the chronological order in which the symptoms appear and disappear has not heretofore been described in detail. With the object of clearing up some of the doubtful points connected with this subject, Köster (*Deutsches Archiv für klinische Medicin*, Bd. 68, Hft. 3, 4, 5, 6) made an extensive clinical and experimental study of the electric irritability, of the motility of the uvula and the soft palate, of the sense of taste, of the sensibility of the tongue, and of the secretion of sweat, saliva, and tears. Forty-one cases of facial paralysis were studied for this purpose, the lesions being situated at various parts of the nerve between its origin in the brain and the periphery, and dependent upon disease, traumatism, or operation.

It was found, as had previously been pointed out, that interference with sweating on the affected side took place only when the facial paralysis was peripheral or nuclear, and not when it was supranuclear or cortical. The alterations consisted not only in postponement of onset, but also in diminution in amount. It was not found, as has been contended by others, that the derangement in sweating bore any direct relation to the electric reactions. It developed, on the other hand, that in a small proportion of cases hyperidrosis was present on the paralyzed side, especially in recent cases, without direct relation to the electric reactions. The abnormality in sweating, in both time and amount, gradually disappeared as the paralysis subsided; but here again there was no direct relation to the electric reactions. In fact, in ten of fourteen cases sweating returned before the change in electric reactions disappeared. In view of the facts, the diminution in sweating is attributed to a paralytic state and the hyperidrosis to an irritative state of the excito-sudoral fibres, which possess a distribution independent of the remaining nerve fibres. From the general want of relation between the disturbance in sweating and the electric reactions, it is believed that the excito-sudoral fibres of the facial nerve degenerate more rapidly than the motor fibres, though, of course, both may undergo this change synchronously. The rapid disappearance of the derangement of sweating is thought to justify the assumption of collateral innervation on the part of the trigeminus.

Derangement in the sense of taste was observed in twenty-four cases, and in nine of these it was associated with morbid alteration in the secretion of saliva. In seven of the latter the secretion was diminished or abolished upon the affected side. In three cases increased secretion of saliva on the paralyzed side was present, and might have been thought to be of paralytic origin, although the possibility of the abolition of inhibitory function must be taken into consideration. The coincidence of increased secretion of saliva with partial disturbance in the sense of taste indicates that the lesion was a slight and in part an irritative one. In only two cases did the alteration in the secretion of saliva subside at the same time as that in sweating, while in three it occurred later. In one case the derangement in salivary secretion disappeared earlier than that in taste, in one case simultaneously, and in three cases later. In one case the derangement in salivary secretion disappeared simultaneously with that in electric irritability, while in four cases it occurred earlier. It would appear as if the fibres governing the secretion of saliva are less sensitive and when injured are better capable of regeneration than the motor fibres of the facial nerve. There seems, further, no doubt that the chorda tympani nerve contains gustatory fibres which it con-

veys to the seventh nerve. In view of the varying distribution upon the tongue of taste sensibility due to fibres from the fifth nerve through the chorda tympani, and of the return of the taste sense upon the anterior portion of the tongue after its loss, following injury to or destruction of the Gasserian ganglion or of the chorda tympani nerve, the conclusion is reached that the glossopharyngeal nerve is capable of collateral innervation of the tongue.

Trophic and sensory changes were not observed. Nor was it found that the position of the uvula bore any relation to the state of the palatal muscles, which themselves did not suffer as a result of facial paralysis. Derangement of hearing, on the other hand, was relatively common, being observed in fifteen among twenty-four cases. Buzzing, roaring, or rumbling in the ears, slight impairment of hearing, and increase of pre-existing impairment of hearing were the usual complaints. The lesion under these conditions is situated in the vicinity of the geniculate ganglion, so that the presence or absence of impairment of hearing of nervous origin is a guide in the localizing diagnosis of facial palsy.

In a number of instances derangement in the secretion of tears was observed in association with facial paralysis; and the absence of any such derangement, in the presence of an intact geniculate ganglion, and the invariable association of such derangement with a lesion of the auditory nerve and central deafness, are indicative of its dependence upon a lesion in the vicinity of the geniculate ganglion. The secretion of tears on the paralyzed side was totally absent in twelve of twenty-five cases, and distinctly diminished in eight, while in five it was greatly increased. The last is believed to be due to irritation of tear-secretory fibres. Of thirteen cases in which the relation between the secretion of tears and the remaining symptoms was studied, lacrymation reappeared simultaneously with perspiration in six, while in seven the former appeared later. In seven cases electric irritability returned later than the secretion of tears, while in four both reappeared together. Cessation of lacrymation and of disturbance in the sense of taste subsided simultaneously in four cases, while in three lacrymation returned earlier and in five later than the sense of taste. Of thirteen cases attended with derangement in lacrymation derangement in the secretion of saliva also was present in seven. In two of the latter the secretion of tears and the secretion of saliva returned simultaneously, while in four the latter reappeared the earlier.

To recapitulate: Of the symptoms associated with paralysis of the muscles supplied by the facial nerve, disorder in hearing disappears first, apart, of course, from caries of the petrous bone. Then follows derangement in the secretion of sweat, together with, or shortly succeeded by, derangement in the sense of taste. Generally the secretion of saliva returns later, and not rarely the secretion of tears still later. Restoration of the normal electric irritability of the motor fibres occurs last, after preceding return of voluntary irritability.

From the foregoing considerations the conclusion seems justified that the absence of all other loss of function except the derangement in sweating and the presence of motor palsy is indicative of the peripheral seat of a facial palsy below the stylomastoid foramen and up to the giving off of the chorda tympani nerve. If the interruption in continuity is situated at any point above the giving off of the chorda tympani, either in the last descending portion or in that passing in the Fallopian canal over the tympanum, there will be, in addition to motor and sudoriferous disturbance, derangement in the sense of taste and often also in the secretion of saliva. If the lesion involves the vicinity of the geniculate ganglion, there will constantly be, in addition, derangement in the secretion of tears and at times disturbance in the sense of hearing, due to a lesion of the auditory nerve. If the morbid process is situated between the geniculate ganglion and the superficial origin of the facial nerve, the foregoing symptoms will be present, except the loss of the sense of taste. When the lesion involves the facial nucleus and the immediate neighborhood, the symptoms will be the same as those mentioned last, and the diagnosis will have to be based upon the presence of other symptoms indicative of bulbar disease. Lesions involving the facial nucleus alone, at least if dependent upon congenital defects in the motor nucleus of the facial nerve, are attended with derangement in sweating in addition to motor palsy.

Experiments on animals confirmed the impression gained from clinico-pathological observation, that the secretory fibres of the submaxillary and sublingual glands pass out with the trunk of the facial nerve. While the excito-secretory fibres for the lacrymal gland in man appear to pass in the facial nerve, they do not in animals, and this function must, therefore, be subserved by either the sympathetic or the trigeminus. In cats and dogs it is probably subserved by the sympathetic. Absence of degeneration in the lacrymal nerve was found after destruction of the facial nerve at the geniculate ganglion in apes, and this fact is indicative of a difference in the secretory innervation of the lacrymal gland between these animals and man.

News of the Week.

Shortening the Medical Course at the University of Pennsylvania.—Provost Harrison of the University of Pennsylvania, in his annual report recently published, has announced a readjustment of the studies required of students for the degree of doctor of medicine, by which they may complete the course in arts or science and get the medical degree in seven years. By pursuing the plan outlined, the course in medicine is made three instead of four years. The plan provides that, under certain conditions, a senior in college may be a freshman in the medical school.

A Defiance of Quarantine.—During the past two weeks a Yale student, who was suffering from diphtheria and who was quarantined in his room by the board of health of New Haven, was removed by his mother and taken home to Kingston, N. Y. It seems as if

force would have been justified in preventing such an outrage on the community. We do not imagine that the residents of Kingston will enjoy the importation of diphtheria.

Mrs. Eddy on Vaccination.—The following letter from the high priestess of Christian science, Mrs. Mary B. G. Eddy, recently published, bears witness to the general belief that she at least is not a dupe of "Mother Eddy": "On the subject of reporting contagion, I have this to say: I have always believed that Christian scientists should be law-abiding, and actuated by this conviction I authorized the following statement, which appeared in the Boston *Herald* about one year ago: 'Rather than quarrel over vaccination, I recommend that, if the law demand an individual to submit to this process, he obey the law and then appeal to the gospel to save him from any bad results. Whatever changes belong to this century, or any epoch, we may safely submit to the providence of God, to common justice, individual rights, and governmental usages.' This statement should be so interpreted as to apply, on the basis of Christian science, to the reporting of contagion to the proper authorities when the law so requires. When Jesus was questioned about obeying the human law, he declared: 'Render unto Cæsar the things which are Cæsar's,' even while you 'render unto God the things which are God's.'

"MARY BAKER G. EDDY."

The Tuberculin Test for Cattle.—The tuberculosis committee of the State board of health reports tuberculin testing of 3,247 head of cattle last year. Of this number, 184 were condemned and 142 destroyed. Awards amounting to $1,428 were made to sixty-four owners of cattle destroyed. The State board says that the report of the special legislative committee submitted to the legislature last year on tuberculosis and other animal diseases did much harm among the farmers and breeders, inasmuch as it apparently disapproved of the policy and teaching of the State board, which has insisted that all tuberculin-reacting animals should be separated, quarantined, and destroyed. "While to some minds it may seem impossible," says the board, "that bovine tuberculosis can ever be entirely eradicated from our dairy herds, because of reinfection by human attendants, new additions of diseased cattle to the herd, or from other sources, yet we maintain that constant vigilance will ultimately secure immunity, and those who will carefully apply the tuberculin test from time to time in conjunction with other methods of detecting tuberculosis, and promptly separate and dispose of all the reacting animals in a safe and legitimate manner, may practically and permanently clear their dairy herds of the disease. We strongly maintain that the better policy for the State is to expend an adequate amount of its funds for educating the farmer in the most approved methods of eradicating tuberculosis from herds, thoroughly and completely examining and testing them when necessary, and also instructing our local health authorities in the best methods of enforcing sanitary rules and regulations in all our dairy stables."

First Aid to the Injured.—The annual meeting of the Society for Instruction in First Aid to the Injured was held on Friday, February 22d, in the United Charities Building. The annual report, which was ready by President Charles H. Marshall, showed that over thirteen thousand persons had been instructed by the society since its beginning. The society instructs policemen, firemen, and railroad men.

Report upon Arsenic in Beer in Great Britain.—The London *Hospital*, February 16th, says: "The interesting report upon arsenic in beer, made to the local government board by Dr. Buchanan, has now been published. His investigations establish beyond question the presence of a large proportion of arsenic in the sulphuric acid used in the preparation of glucose or brewery sugar. He expresses himself as satisfied by the steps taken by the trade to stop the circulation of harmful beer as soon as the mischief was discovered, and further he is able to report that the tests now adopted would condemn beer containing as small a quantity as one part of arsenic in 1,500,000 parts of beer."

Smallpox Scare at Woodbury, N. J.—A paragraph in some of the New York journals on February 22d stated that Woodbury was in the midst of a smallpox scare. The report further stated that the health officers of the town had ordered all the churches, Sunday schools, and public schools closed; that all citizens had been warned not to congregate in crowds; that four thousand persons had been vaccinated within the past few days, but that only three cases of smallpox had appeared up to the time of writing. The good people of Woodbury certainly believe in preventive measures. It is stated that the Salvation Army members have tendered their services as nurses if the need arises.

Philadelphia Neurological Society.—At a stated meeting held February 25th, Dr. William H. Teller and Dr. F. X. Dercum exhibited "A Case of Astereognosis." Dr. George L. Walton and Dr. Walter E. Paul, of Boston, by invitation, read a paper entitled "Astereognosis: with Illustrative Cases." An analogy was made between the mechanism of the perception of the nature of objects through touch and that of speech on the one hand, and that of astereognosis and aphasia on the other hand. The parietal region was regarded especially as the area for stereognostic perception. At the close of the meeting a reception was tendered Dr. Walton and Dr. Paul at the University Club.

Vital Statistics of Cuba.—Surgeon W. C. Gorgas, U.S.A., reports that the number of deaths, 476, is the smallest that has occurred in any January in Havana in the last twelve years, the next lowest being that of January, 1890, when there were 486 deaths, the highest being that of January, 1897, when there were 1,556 deaths. For the twelve years there has been an average of 829 deaths. In comparing the death rate there is a still better showing. The rate for January, 22.75, is considerably less than the lowest for the past twelve years, 1894 being the next lowest, with a rate of 27.36.

In 1899, as shown by the report, we had a rate for January of 63.84, in 1900 23.90, and January, 1901, 22.74. The rate for last year was 24.40. Yellow fever has decreased from 62 to 24, and the deaths from this cause, from 20 to 7. The number of deaths is kept up by the increase among the deaths from tuberculosis, which about balances the decrease in deaths from fevers. While there has been a considerable decrease in the immigration as compared with December, it is about the same as during last January. Compared with December, the number of births is greatly decreased. This is only apparent, however, as the larger number last month was due to the fact that a great many children, born in the previous months and during the war, were registered, to comply with the law.

Roosevelt Surgeon Resigned.—Dr. Pannici, the Roosevelt Hospital surgeon who on Tuesday night, February 25th, refused to enter the Strathmore apartments after the fire there, to attend to an injured fireman, resigned on February 28th. Ill health was given as the cause, and the surgeon's friends declare that his refusal was based on that ground; being subject to rheumatism, he feared to enter the water-soaked building. The dismissal of the surgeon was ordered by the hospital governors just before he resigned.

Dr. Lewis, State Health Commissioner. — Dr. Daniel Lewis, of New York City, was nominated on March 1st by Governor Odell as State health commissioner, and his name was sent to the senate for confirmation. Dr. Lewis was president for three terms, and served since 1895, of the State board of health, which has been legislated out of office. His appointment as State health commissioner lasts until December 31, 1904. The salary is $3,500 a year. He will have sole charge of matters concerning the public health of the State, which have up to the present been supervised by the State board of health.

Smallpox on the Increase in New York City.—Little has been heard of smallpox within the past few weeks, and the general opinion seems to be that the disease is on the wane. Dr. Dillingham, of the Bureau of Contagious Diseases, however, denies that such is the case, and states that it has increased rather than diminished during the past month; and he further warns the community that vaccination should not be neglected. The *Evening Sun*, February 28th, gives the following statistics since the disease broke out on November 5th: There have been 311 cases of smallpox reported to the board of health. The number of cases for each month was as follows: November, 33 cases; December, 70 cases; January, 78 cases; and February, which is a short month, 130 cases. Forty-one of the patients died. Since November 5th, 147,526 persons were vaccinated in the borough of Manhattan by the board of health vaccinators. During the same time, in the five boroughs constituting Greater New York—Manhattan, Queens, the Bronx, Brooklyn, and Richmond—208,674 vaccinations were performed. Starting in with an average of 1,700 vaccinations a week in November, the number rose to 31,128 vaccinations in the week ending December 22d. The following week 27,263 vaccinations were performed, and since then the number has steadily fallen off, until now only 8,000 are vaccinated in one week. The number fell off from 13,976 vaccinations during the week ending February 9th to 8,531 during the week ending February 16th. At one time as high as 2,000 persons a day were vaccinated in the board of health building. Now hardly 25 vaccinations are performed in a single day.

Physician Poisoned by Mistake.—Dr. Edward A. Fessenden, Portland, Me., on February 28th swallowed two teaspoonfuls of a ninety-five-per-cent. solution of carbolic acid, by mistake, and died fifteen minutes after. Dr. Fessenden was born in Washington, Wis., fifty-five years ago, and graduated from Bellevue Medical College, New York. He served in the fifteenth Illinois infantry during the civil war and afterward practised at Clyde, Kans. He came to Portland eight years ago.

Arsenic in Coffee.—Commissioner Cosby, of the New York health department, has announced that an analysis of the coffee used some time ago in the household of Jaques Halle showed that there was sufficient arsenic in it to kill any one who had taken the coffee on an empty stomach. Mr. Halle and his family were made ill as a result of drinking the coffee served at their table on Valentine's day. An examination of the whole beans, both at the store from which the coffee was purchased and at the house, failed to reveal any arsenic, so that the only inference is that the poison was put in after the coffee had been brought to the house.

Lunacy Commissioners Bill Passed.—The senate on February 28th passed Senator Brackett's bill with regard to the qualifications of, and salaries to be paid to, the members of the State commission in lunacy. The final amendment, as suggested by Governor Odell, provides that the president of the commission must be a reputable physician, a graduate of an incorporated medical college, of at least ten years' experience in the actual practice of his profession, who has had five years' actual experience in the treatment of mental and nervous diseases, or who has had two years' experience in the care and treatment of the committed insane.

Plague in South Africa.—The *Medical Press*, February 16th, says: The sinister rumors to which we alluded last week, namely, that the plague had broken out in South Africa, has proved only too well founded. On the 10th inst. ten cases were reported from Cape Town. From the news to hand there can be little reasonable doubt that the disease is the true bubonic malady. Should the disease be conveyed to the front, the results may be of a terrible nature. The heavy mortality from enteric fever shows that the sanitary environment of the troops must be utterly defective in the elementary points of wholesomeness. If enteric fever can play such havoc, what may we expect from plague? Both maladies are "filth diseases," and the bad sanitation that fosters the one will extend an equal shelter to the other. The difficulties of the situation

indeed appear to be increased a hundredfold by the invasion of the Asiatic pest. Should the plague have already broken out among the British troops, it is to be hoped that the home authorities will lose no time in announcing the fact. The news that the disease had reached South Africa came to London first by way of the newspapers of Paris and Berlin. That information has now proved correct, and there is no particular reason, so far as can be seen, why the war office should not confirm or deny the further continental rumor that the pest has already killed a number of our soldiers. What is to be gained by silence? Has the war office taken any steps to furnish ample supplies of plague serum in case of such an outbreak at the front? Since this was written, news has come that there were over thirty cases of plague at Cape Town, but the rumor as to the disease having gained a foothold among the troops has not been confirmed.

Justice to Corning's Method of Spinal Anæsthesia.—Tuffier in his recent work on spinal anæsthesia,[1] in speaking of Corning's method, says: "Having done the operation more than two hundred and fifty times myself and taken cognizance of nearly a thousand cases reported to me by my pupils, I can recommend it." The large experience of the distinguished French surgeon is a very considerable item in balancing the pros and cons of the method in question. With this commendation is a frank acknowledgement of the value of our distinguished townsman's work, which very effectually settles the question of priority of discovery. In the beginning of the opening chapter, which is devoted to a review of the historical side of the subject, the accomplished author fully recognizes Dr. J. Leonard Corning, of New York, as the discoverer of spinal anæsthesia, and reviews his various contributions to the subject in an appreciative manner. Later, in a bibliographical index, comprising the literature of spinal anæsthesia which has recently appeared in France, America, Russia, Spain, Italy, and Germany, he places Corning's contributions at the head of the list. This is as it should be, and amply proves the true spirit of cosmopolitan justice when applied to meritorious scientific research.

Regarding the indications for spinal anæsthesia, he finds the procedure without danger in cases of cardiac disease and in those afflicted with arteriosclerosis. "Let each assign," he says, "to the method the particular field he chooses; for my part I consider it belongs in practice side by side with general and local anæsthesia."

The Law Says that Doctor Must Not Leave Patient.—Dr. P. H. Flood was ordered to pay $2,000 damages by the supreme court recently. Evidence showed that over a year ago he was called to attend Mrs. Margaret A. Lathrope. An operation was deemed necessary by him. Her screams interfered with his application of the necessary instruments. He finally said that if she "did not quit he would quit." And leave he did, although the patient was in agony. The husband followed the physician to the door, begging him not to go. He refused to come back, and it was over an hour before another doctor was obtained, the woman in the mean time suffering dreadfully. The other surgeon performed the operation, saving the mother's life at the expense of that of the child. Mr. and Mrs. Lathrope sued Dr. Flood and got a verdict for $2,000 in the superior court. Dr. Flood appealed the case to the supreme court, and yesterday the latter affirmed the lower court's action, saying, in part: "It is the undoubted law that a physician may elect whether or not he will give his services to a case, but having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one of two conditions. First, when the contract is terminated by the employer, which termination may be made immediately. Second, when it is terminated by the physician, which can be done only after due notice and an ample opportunity afforded to secure the presence of other medical attendance. . . . He can never be justified in abandoning it (case) as did this defendant, and the circumstances show a negligence in its character amounting wellnigh to brutality."—*San Francisco Examiner.*

The Abolition of the Canteen.—The doing away with the canteen has been the cause of grave dissatisfaction among the rank and file of the United States army. The supporters of the measure were doubtless swayed by the best of motives, but it is probable that the majority of them were more or less ignorant of the working of the system, and the community at large was led to believe that the canteens were the scenes of unbridled license and the great incentive to drink among the soldiers. It is impossible to make a man in any station of life refrain from drink by law, and the soldier is subject to this common failing; and if he cannot satisfy his appetite in one place, he certainly will in another. Better, then, that the canteen supplying wholesome liquor should be open to him than that he should be compelled to resort to outside drinking-shops where the quality of the liquor is dubious. *The Sun* stigmatizes the abolition of the canteen as, "instead of being a policy of enlightenment and wisdom, one both bigoted and unwise," and recommends that in the few days still remaining to Congress it should pass a bill to re-establish the canteen at the army posts.

Hearing on Osteopathy Bill before the New York Assembly Committee.—The legislative committees of the State and county societies of New York had a hearing on Wednesday, February 26th, before the assembly committee, in opposition to the bill to legalize the practice of osteopathy. The impression the committees received after the hearing was that osteopathy was not likely to be licensed this year. The following gentlemen uttered their protests and did valiant service: Drs. Frank Van Vleet, Robert T. Morris, Charles N. Dowd, Floyd Crandall, representing the Medical Society of the County of New York; Drs. E. E. Harris and Joseph E. Messenger, representing the State Association; Dr. H. V. Barclay and Mr. Jacob

[1] "L'Analgésie Chirurgicale par Voie Rachidienne," par Le Dr. Tuffier, Professeur Agrégé à La Faculté de Médecine de Paris. Masson et Cie., Paris, 1901, pp. 44, vii.

Bolin, of the Society of Masseurs; Drs. H. D. Didama, Henry L. Elsner, Nathan Jacobson, and F. W. Sears, of Syracuse, Dr. Clark, of Buffalo, Dr. Eugene Beach, of Gloversville, Drs. Albert Vander Veer and Arthur G. Root, of Albany, besides the representatives of the homœopathic and eclectic branches of the profession. They were arrayed against the humorist Mark Twain, and Will Carleton, the playwright. The latter left after hearing some of the opposition. Mr. Twain, however, stuck it out, but failed to do more than amuse the audience, as it was expected he would.

German Quarantine against the Plague.—The announcement is made that the German government has established a plague quarantine against vessels from Cape Town.

A Physician Fined for Giving a Fake Certificate.—Dr. Moritz W. Dreyer, 60 McKibben Street, Brooklyn, has been fined $100 for filing a false certificate of death in the case of Renze Talpopsky. Death resulted from smallpox.

Increase of Plague in India.—Again this week, says *The Lancet* correspondent in India under date of January 24th, there is an increase in the plague mortality. For the whole of India 3,277 deaths are recorded, as against 2,839 during the previous seven days. The increase is chiefly in Bengal and the city of Bombay. For the Bengal presidency there were 2,181 deaths, of which Patna recorded 1,286 and Sarau 559. In Bombay city there were 370 deaths from plague, while the general mortality rose from 1,192 to 1,337.

Making Bad Use of His Time.—Because his physician told him he had only a week to live, Edward Menchaefer started out to spend the money he had saved during his lifetime. He brought up at the Stock Yards police station, Chicago, and paid a fine, after a hearing before Justice Fitzgerald. Menchaefer had been a teamster and a delivery clerk. He is about thirty years old. He had $150 saved. Of this amount he took out $30 to pay for his funeral and started to spend the rest in a riotous manner. What if the prognosis was wrong? What dreadful thing could be the matter with a teamster, thirty years old, to give him no chance for life?

County Medical Associations.—The following county medical associations, members of The New York State Medical Association, have been organized:

On January 22, 1901, The Westchester County Medical Association was organized. The following officers were elected: *President*, Dr. N. J. Sands, of Portchester; *Vice-President*, Dr. J. L. Porteous, of Yonkers; *Secretary and Treasurer*, Dr. D. T. McPhail, of Purdy's Station. Dr. E. F. Brush, Dr. H. Eugene Smith, Dr. P. J. Sands, and Dr. McPhail were elected members of the various committees required by the by-laws of the State Association.

On the 12th of February The Orange County Medical Association was organized, with the following officers: *President*, Dr. M. C. Conner, of Middletown; *Vice-President*, Dr. F. W. Dennis, of Unionville; *Secretary and Treasurer*, Dr. C. I. Redfield, of Middletown. Drs. C. Townsend, R. A. Taylor, W. E. Douglas, F. D. Myers, Joseph B. Hallett, William Evans, Charles A. Canfield, Edward Woodhull, Henry S. Swartwout, and E. A. Nugent were elected members of the various committees required by the by-laws of the State association.

The Sullivan County Medical Association was organized on February 19th with the following officers: *President*, Dr. C. S. Payne, Liberty, N. Y.; *First Vice-President*, Dr. Frank Howser, Centerville Station, N. Y.; *Second Vice-President*, Dr. S. W. Wells, Liberty, N. Y.; *Secretary*, Dr. J. L. C. Whitcomb, Liberty, N. Y.; *Treasurer*, Dr. C. W. Piper, Wurtsboro, N. Y.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for week ended March 2, 1901. Surgeon G. Pickrell detached from the Cavite naval station, and ordered to the Mare Island navy yard. Assistant Surgeon J. C. Thompson detached from the *Solace* and ordered home to wait orders. Surgeon A. R. Wentworth detached from the *Independence* and ordered to the *Solace*. Surgeon F. J. B. Corderio detached from the *New Orleans* and ordered home via the *Buffalo*. Surgeon C. F. Stokes detached from the *Buffalo* and ordered to the *New Orleans*. Medical Inspector F. Rogers detached from recruiting duty and ordered to the Asiatic station as fleet surgeon. Medical Inspector R. C. Persons detached from duty as fleet surgeon of the Asiatic station, and ordered home to wait orders. Surgeon W. H. Rush, retired, detached from the Pensacola navy yard and ordered home.

Charges against a Homœopathic Hospital.—Professor Francis Bacon, says the New York *Sun* of March 4th, lecturer on medical jurisprudence in Yale University, a well-known physician of New Haven, Conn., to-day made a scathing criticism of the methods and management of Grace Hospital of New Haven, an institution that is under the direction of homœopathists. He was discussing the measure in the Connecticut general assembly, to provide for a State hospital for the treatment of tuberculosis, and said that such a hospital should be for the benefit of patients, and not for the benefits of doctors. Dr. Bacon said that Grace Hospital receives an annual subsidy from the State, and at the same time is run in the interest of certain physicians, who beguile the patients there into paying them fees that are not authorized by law. He declared that Grace Hospital partakes largely of the character of a boarding-house maintained at public expense for the benefit of some doctors who use it to extract fees from helpless patients. Dr. Bacon then cited some cases of this nature which had come under his immediate notice, and concluded by stating that since the establishment of New Haven Hospital, nearly one hundred years ago, no fees for medical attendance or surgical operations have ever been received by any of the medical staff.

Clinical Buildings for Yale Medical Department.—By the generous gift of $100,000 from a friend of the Yale Medical School, whose name is withheld, this department of Yale will have, in less than a year,

one of the largest and most thoroughly equipped clinical buildings in the country. The plans have been completed by the architect, Mr. L. W. Robinson of New Haven. Work will be begun very soon, and by next February it is hoped to have everything complete in the building and its equipment. The demand for such a building, to utilize the dispensary cases for teaching purposes, has been for a long time felt as the first and greatest need of the Medical School. The scheme for building calls next for a pathological laboratory. This would require about the same amount of money as the clinical building. With this completed, the instruction for the last two years of the course would be practically all taken care of on the new grounds near the hospital. The equipment for the first two years will be quite complete for some time to come in the present quarters, with the exception of the department of anatomy, which should have a new building in the near future.

A Loss to Science.—The Pathological Institute at Berlin was no doubt known to the whole scientific world, for it contained the wonderful Virchow collection; but a fire broke out recently and destroyed the entire collection, among which were documents, etc., of universal interest.

The Hunterian Oration.—The Hunterian oration of the Hunterian Society was delivered by Mr. John Poland on February 13, 1901, at 8:30 P.M., in the London Institution. The subject was a retrospect of surgery during the past century. The annual dinner of the society has been postponed, says the *British Medical Journal*, to March 15, 1901.

Trouble at the Bath Home.—Dr. James T. Burdick, of Brooklyn, was on Saturday, February 23d, appointed head surgeon at the hospital of the State Soldiers' and Sailors' Home at Bath, by the trustees of that institution in annual session. The present head surgeon is Dr. Oran W. Smith. A misunderstanding has arisen with regard to the question as to whether Dr. Smith has resigned or not. He says that two months ago he handed in his resignation to Commander Davidson, but about two weeks ago withdrew it. The trustees declare that they regarded the resignation as accepted, and so the matter now stands.

Memorial to the Late Prof. Joseph Coats, of Glasgow.—A sum of £1,200 ($6,000) having been raised by the friends and admirers of Dr. Coats, late professor of pathology in the University of Glasgow, for the purpose of raising a memorial to him, the subscription committee has arranged with the University Court that the University of Glasgow shall found a scholarship, to be known as the "Joseph Coats Memorial Scholarship in Pathology," as a memorial of his distinguished services in pathological science, and in recognition of the ability and enthusiasm which he devoted to advance the teaching of the subject in Glasgow. The scholarship will be for the encouragement of original research in pathology, and will be tenable for one year. It will be of the value of the free income of the sum of £1,200 ($6,000) for the two preceding years, and will be awarded biennially.

Obituary Notes.—Dr. Charles Austin Ross, assistant surgeon, United States army, was killed in Northern Luzon, Philippine Islands, on Saturday, February 2d. A soldier had been shot and Dr. Ross started out into the field to dress his wound when he was shot from ambush. Dr. Ross was twenty-six years of age, and received his commission only last September. He had been in service but three months. He graduated with first honors from the Kentucky School of Medicine in Louisville, in the class of 1897. He served one year as resident physician of the Louisville City Hospital, where he exhibited unusual qualities as a surgeon. He began practice at Leopold, Ind., and had been there two years when he joined the army. He leaves a widow residing in Evansville, Ind.

Max von Pettenkofer, the founder of scientific hygiene and known as such all the world over, died in Munich by his own hand on February 10th. He is stated to have committed suicide while in a state of melancholia, due to a dread of losing his reason. He was eighty-three years of age, having been born at Lichtenhein, Bavaria, in 1818. He first turned his attention to hygiene in 1850, on account of the unhealthy state of Munich, in which city he was then settled. Enteric fever was prevalent there nearly the whole year, and the place was frequently visited by cholera of a particularly malignant type. He studied the disease closely and propounded the theory that this malady flourished when the subsoil water was low. This held the field until the bacteriological school, headed by Koch, arose. For some time war raged between Pettenkofer and his disciples, and Koch and his followers, but eventually a compromise was arrived at, the truth being recognized that the two theories were not incompatible. Pettenkofer gave practical proofs of his knowledge of hygiene by rendering Munich—at one time a most insalubrious city—a model of good sanitation and healthfulness. Pettenkofer will always be remembered as the leader in the development of modern hygiene, and one of the greatest benefactors to the human race.

Leslie Ogilvie, B.Sc., M.B. Edin., M.R.C.P., London, died at his residence in that city on February 2d, aged forty-nine years. Dr. Ogilvie was a very distinguished graduate of Edinburgh University, and a literary man of many parts. He was a remarkably successful practitioner, but of late years his chief interest has been in insurance work.

Dr. Richard J. Dunglison died at his home in Philadelphia March 4th. He was a son of Prof. Robley Dunglison and a grandson of Dr. John Leadam, a celebrated London physician. He was graduated from Jefferson Medical College in 1856. After devoting several years to practice he relinquished it for literary work. He was editor of "Dunglison's Medical Dictionary" and "History of Medicine." He was in the federal army service from 1862 to 1865, acting as assistant surgeon on duty in the hospitals in Philadelphia. He was assistant secretary of the International Medical Congress in 1876, and corresponding secretary of the Centennial Medical Commission, and at various times occupied important offices at medical congresses.

Progress of Medical Science.

New York Medical Journal, March 2, 1901.

Metrorrhagia due to Inflammatory Processes within the Pelvis.—By E. B. Craigin. Three factors must be considered in the etiology of metrorrhagia due to inflammatory conditions within the pelvis: First, the endometrium, where the sequence of changes is, chronic congestion followed by chronic inflammation of the endometrium, menorrhagia, and metrorrhagia. Second, the muscular wall of the uterus: here the etiological factors are tumors of the uterine wall and chronic interstitial inflammation of the uterine wall, in which there is an atrophy of the muscular tissue and an increase of connective tissue. Third, the blood-vessels of the uterus. In the same way that interference with the normal muscular contraction of the uterine wall favors an excess of blood in and from the uterus, so interference with the normal contraction of the arteries themselves favors the same result. Occasionally, especially in the later part of menstrual life, and often associated with the two conditions just discussed, viz., tumors of the uterine wall and chronic interstitial inflammation of it, one finds the vessels of the uterus in a condition of arteriosclerosis, with insufficient elasticity either to maintain the normal balance of uterine circulation or to check the flow beginning at a menstrual period. Here, again, although this inflammation of the arterial wall usually produces metrorrhagia through the medium of a chronic endometritis, occasionally cases are met with in which the endometritis is slight, or does not respond to the use of the curette, and in which the hemorrhage seems due to the lack of contractile power in the arterial wall.

The Electro-Chemical Action of the X-Rays in Tuberculosis.—By J. Rudis-Jicincky. The following experiments were performed: Tuberculous sputa were sealed up in fish bladders along with a suitable nutrient medium and then submitted to the rays. In general it was found that the action of the rays was destructive to the tubercle bacillus when in acid media. A series of experiments was then made on rabbits and guinea pigs, the animals being subsequently exposed to the rays. In forty per cent. of the animals thus treated, and killed after the lapse of two years, autopsy showed that actual cure, in the real sense of the word, of the tuberculous process had occurred when the acid condition was produced. Finally, the author treated twenty cases of pulmonary tuberculosis with the *x*-rays. Of these one patient died within the year, from tuberculosis of the bowel, another committed suicide, four were without improvement, while the remainder were doing comparatively well at the time of the report. The author does not conclude that the results were necessarily the consequence of exposure to the rays, for he utilized to the utmost good food, fresh air, and hygienic surroundings. He feels encouraged, however, to continue his researches along this line.

The Palliative Operative Treatment of Carcinoma of the Posterior Wall of the Stomach.—A. Vander Veer's conclusions are as follows: (1) In all cases of continued gastric disturbances that do not yield to medical treatment, a careful examination and experiment should be made as to the possibility of malignancy being present. (2) Whether a positive diagnosis of malignancy is made or not, the patient continuing to emaciate, and suffering more and more, an exploration should be done, and if there is no malignant growth a gastro-intestinal anastomosis should be made. (3) Malignant growths in the posterior wall of the stomach are certainly more difficult of diagnosis, and sometimes escape the notice of the most careful diagnostician. (4) When we have made an exploratory incision, and the growth is found to be in the posterior wall of the stomach, malignant in character, with no possibility of removal by resection or otherwise, although quite deep, yet we should not refuse our patient the benefit of a gastro-intestinal anastomosis. (5) In all of these cases the blood should be carefully examined, as part of the history of the patient, in order to learn of such conditions as may have a bearing upon the nature of the growth.

The Axis-Traction Forceps with Special Rotary Axis Traction in the Treatment of Posterior Positions of the Anatomical Head.—By S. Marx. The paper is a general advocacy of the Tarnier instrument, with a discussion of its special value in the clinical condition noted in the title, and a description of its mechanical action. The author says that in many occipito-posterior cases he has, by the use of the axis-traction instrument, succeeded in rotating the head anteriorly by simply allowing the head, while traction is being made, to be influenced by the factors supplied by nature (the resistance offered by the perineal structures and furthered by the turning-points afforded by the ischial spines, especially when they are prominent) to provoke such rotation. The great advantage of the axis-traction forceps over the ordinary variety, in the condition named, is the greatly lessened danger of rupture of the maternal parts.

Hemorrhage from a Circumtonsillar Abscess.—By W. F. Chappell. The patient was a man aged twenty-seven years, with an abscess pointing in the middle of the left posterior pillar of the soft palate. Incision evacuated about half an ounce of foul pus. Four days later he had a hemorrhage of about six ounces in amount. The hemorrhage recurred several times and the original abscess cavity filled with blood clots. An incision was made through the anterior surface of the soft palate into the cavity, the clots were turned out, and the cavity was packed. These measures finally controlled the bleeding. The urine had meantime been examined and showed considerable albumin, epithelial and pus cells, and granular casts with adherent pus corpuscles. Chappell has found records of ten similar cases with two recoveries.

The Pathology of Intra-Uterine Death.—By Neil MacPhatter.

Cancer of the Uterus.—By A. F. Currier.

Medical News, March 2, 1901.

Thymotal; a New Remedy for Ankylostomiasis.—J. E. Pool prefers this new remedy thymotal to thymol, for the following reasons: (1) Because it is without odor, and can therefore be taken by children who cannot swallow pills. At the same time the danger of being suffocated by thymol electuarium, which occasionally happens in infants, is avoided; (2) because it is not dissolved in the stomach as is thymol, and is not vomited as is often the case with the latter; (3) because thymotal does not cause giddiness, as thymol does very shortly after it is taken; (4) because the danger of thymol poisoning is reduced, especially in those children whose bodies are weakened by ankylostoma; (5) because the carbonate of thymol is broken up in the body by the influence of the bile and the mucus of the intestines, and thymol is formed exactly at the places where the ankylostoma are found in the body, *i.e.*, the duodenum and the adjacent parts of the intestines; (6) because it cures more rapidly than does thymol (as far as can be judged from the treatment of this small number of patients —seven). The writer proceeds to give the following directions for the administration of this drug: For adults, 2.0 gm. (gr. xxx.); for children, 1.0 gm. (gr. xv.), and for babes, 0.5 gm. (gr. viiss.) three or four times daily. This treatment must be continued for four days, and a purgative must be taken on the fifth day, after which the whole treatment must be repeated until no more eggs of ankylostoma are found in the stools.

The Treatment of Delirium Tremens by the Intravenous Infusion of Saline Solution.—James P. Warbasse reports a case of this kind, and states that the infusion under such circumstances increases the amount of the circulating medium in which the toxic materials are dissolved, thereby diluting the poison and bathing the nerve centres with a more attenuated solution of the same. The amount of circulating fluid is increased above the normal, so that the excretion of fluids through all the fluid-excreting channels is increased, thereby carrying off in solution much of the contained toxins. The action of the heart is improved by the filling of the relaxed vessels. These suffice to restore the physiological equilibrium and turn the balance in favor of recovery. Thus we may add indefinitely to the uses of this most valuable therapeutic measure.

Malarial Fever, with Special Reference to the Value of Blood Examinations; Report of Cases.—By Herbert Old.

Veratrum Viride; its Value in Some Conditions of Toxæmia.—By A. B. Isham.

Yohimbine and its Salts; a New Aphrodisiac.—By Roberts Bartholow.

Immunization for Typhoid Fever; a Review.—By H. W. McLaughlin.

Belladonna vs. Scopolia.—By Reynold Webb Wilcox.

Philadelphia Medical Journal, March 2, 1901.

The Use of the Aqueous Extract of the Suprarenal Gland in Persistent Epistaxis.—Lewis S. Somers states that theoretical studies of the suprarenal gland would indicate that it possessed the characteristics of a superior local hæmostatic and vasomotor constrictor, and on practical observation this is found to be true. It has no effect on the blood itself—does not form a clot—but, within a few seconds after application to the mucous membrane, blanching of the surface ensues from the wonderful constricting properties of the drug. It has proved invaluable in the treatment of persistent epistaxis. When congestion or erosion of the mucous membrane exists, a general nutritive tone is given to the tissues that no other local remedy seems to possess. It has the properties of a pure muscle tonic.

On the Desirability of Combined Operations in Pelvic and Abdominal Surgery.—W. P. Manton concludes his article by saying that in his opinion, in every instance, whatever is necessary should be done, whether the conditions lie within the pelvis, the abdomen, or in both; and the limit of execution should be gauged only by the general condition of the patient, her behavior under the anæsthetic, and the inherent dangers of the operations to be performed. These, together with experience, skilful operating, strict asepticism, and watchful care of the patient, are the *sine qua non* of success.

Cultivation of the Aspergillus in Urine.—By L. Napoleon Boston.

Multiple Brain Abscess following Empyema.—By Thomas A. Claytor.

The Bio-Chemical Basis of Pathology.—By Henry A. Bunker.

A New Blood Stain.—By Rundle C. Rosenberger.

Three Dangerous Operations.—By John B. Deaver.

Urinary Hyperacidity.—By Thomas R. Brown.

The Journal of the Amer. Med. Ass'n, March 2, 1901.

Bony Defects and Fistulæ in the External Meatus.—H. Gradle states that the occurence of artificial communicating passages between the meatus and attic of the middle ear is not a rare lesion. The defect is usually a fissure of variable size in the external wall of the attic, opening through the upper wall of the meatus above Shrapnell's membrane. It is not always possible to distinguish between a fistula and a complete gap. Small defects are difficult to recognize by sight and may be found only by the use of the probe. Most of the writer's cases were seen on account of the discharge. Some patients had no secretion at the time of examination, but asked help for their hearing. The patients were all adults who dated the ear trouble back to childhood. Relapse must be expected in some of these cases, but they are as easily checked as is the previous disease. The treatment of chronic otitic suppuration is not altered by the existence of bony defects, perhaps even facilitated. The all-important condition is the complete removal of all pent-up discharge, as well as cholesteatomatous masses. An infallible guide for controlling the efficacy of the treatment is the odor of the discharge. A fetid smell shows pus retention. As long as this exists no complete cure is possible, while the removal of the odor is proof positive that the conditions are now favorable for cicatrization.

Treatment of Chronic Otorrhœa.—Frank Allport emphasizes the existence of the diversity of opinions concerning the treatment of chronic otorrhœa, and he believes that much misunderstanding could be averted if conditions rather than a name were considered. A chronically discharging ear does not always indicate the same pathological conditions. A simple exudative mucous-membrane inflammation may exist, with imperfect drainage, which may be healed by an enlarged opening and simple treatment; or exuberant granulations may be present, which are removable and curable; or ossicular or mural caries may occur, relievable by acids, drainage, treatment, etc., or by an ossiculectomy and curettage; or the disease may have extended farther into the antrum; or the mastoid antrum and cells may be involved, and possibly the sinuses and intracranial contents, calling for prompt and large operative procedures. It is best to examine each case independently as to its pathological condition, symptoms, duration, and character of its discharge, etc., and advise a plan of action harmonious with such unprejudiced examinations and observations. The dividing pathological line seems to be the extension of the disease to the antrum.

Address before the New York State Assembly Committee on Public Health.—Robert T. Morris considers the subjects of osteopathy and "Christian science." The writer believes that the osteopaths must of necessity benefit many cases which are adapted to their methods of treatment, and our objection to licensing them is that they are wishing to assume too great responsibilities on a small margin of medical education. All we ask of them is that they pass the examination in the rudiments of medical knowledge, which our State requires of physicians, and after that they may practise what they wish. As to "Christian scientists," the proportion of good which they do, as compared to the injury resulting from neglect of cases for which they assume responsibility, would not appeal to honorable legislators as justifying their protection under our medical practice laws.

An Original Chart of the Neuronic Architecture of the Visual Apparatus.—Louis Stricker, after reading the recent work of St. Bernheim, of Vienna, on "The Nuclear Origin of the Ocular Nerves and their Connection with the Cortex of the Brain," and finding no comprehensive diagram from which a general conception of this intricate mechanism could be gleaned, has prepared a chart which represents an entire cross section of the brain, made on a level with the optic thalami: the temporal and frontal lobes have been cut away, as has also the cerebellum, thus exposing the pons and medulla. The chart is given with explanations.

A Protest against the Use of Proprietary Remedies.—Daniel R. Brower earnestly protests against the present tendency to use so freely the proprietary remedies. He believes that we have in our armamentarium enough well-tried remedies that have been subjected to unbiassed and careful physiological tests, and have passed through the ordeal of scientific clinical applications to enable us to fulfil the mission intrusted to us.

Combined Sclerosis of Lichtheim-Putnam-Dana Type Accompanying Pernicious Anæmia.—By M. A. Brown, F. W. Langdon, and D. I. Wolfstein.

Aphasia with Letter-Blindness, without Word-[illegible], with Right Hemiplegia and Pulmonary Tuberculosis.—By Guy Hinsdale.

Cultivation of the Æstivo-Autumnal Malarial Parasite in the Mosquito—Anopheles Quadrimaculatus.—By Albert Woldert.

Anastomosis of the Ureters with the Intestine: a Historical and Experimental Research.—By Reuben Peterson.

The Results of the Surgical Treatment of Inflammation of the Mastoid Process.—By Edward Bradford Dench.

Irrigation of the Colon as a Therapeutic Measure.—By George J. Lochboehler.

Croupous Pneumonia.—By J. M. Allen.

The Boston Medical and Surg. Jour., February 28, 1901.

The Use and Abuse of Spectacles.—Hasket Derby protests against the use of glasses when they are not absolutely necessary. If hypermetropia be moderate, it is a mistake to use glasses for anything but close work, for the patient is reduced to a dependence upon them which might be avoided. In myopia glasses are probably worn too little, but great care must be exercised in treatment, and no glass should be ordered until a thorough investigation of the history of the patient, the family tendencies, the acuteness of vision, and the condition of the interior of the eye has been made. As to astigmatism, so much relief has been given by glasses that the tendency is to prescribe them when they are not strictly needed. The author believes that they can be dispensed with in cases in which vision, either with or without a spherical glass, is found equal in unity. As to muscular weakness, it is often cured by an improved general condition, without the use of prisms.

Clinical Meeting of the Medical Board of the Massachusetts General Hospital.—"Case of Brain Tumor with Astereognosis," by Dr. Walton; "Operation for the Removal of a Foreign Body Impacted in the Œsophagus for More than two Weeks," "Backward Dislocation of the Ulna; Fracture of the External Condyle of the Humerus; Fracture of the Radius and Ulna near the Wrist Joint," "Retention of Urine from Obstruction by the Third Lobe of the Prostate Gland," by H. H. A. Beach; "A Series of Cases Illustrative of the Clinical Importance of Bacteriological Examinations," "Idiopathic Dilatation of the Colon; Chronic Rheumatic Arthritis; Chronic Mitral Endocarditis; Hemiplegia; Embedded Needle," by M. R. H. Fitz; "Case of Gunshot Wound," by C. A. Porter.

Two Cases of Ligature of the Internal Jugular Vein for Infective Thrombosis of the Sigmoid Sinus Due to Purulent Otitis Media; One Recovery and One Death.—Frederick L. Jack concludes that in acute cases, before ligating the vein, we should remove the purulent material in the sinus until a healthy clot is reached. After this operation, if rigors and elevation of temperature recur immediately, the jugular vein should be ligated and the entire thrombus removed above and below, until a free flow of blood takes place. If at the original operation no healthy clot is found, there should be immediate ligation. In chronic cases no time should be lost in ligating the vein and completely removing the thrombus.

Avulsion of the Finger, with a Case in which this Accident Occurred to an Infant Twenty Months Old.—George H. Monks reports a case in which the little finger was torn off, carrying a long portion of the flexor tendon with it. In cases of this kind no attempt should be made to replace the avulsed portion of the finger, as has sometimes been done with severed digits. An injury of this nature has damaged the part beyond possibility of repair. In order to get flaps it will always be necessary to dissect out a portion of the bone in the stump. The operation is simple, and the results are almost always good as to healing.

The Lancet, February 23, 1901.

Persistent Metrorrhagia.—By J. Inglis Parsons. In cases without apparent cause, the indication is to use the curette. If the endometrium which is scraped off is found to be

thickened, the curetting does good and the metrorrhagia usually stops, at any rate for some months. On the other hand, in a certain number of cases very little thickening of the endometrium is found, and then the metrorrhagia will often persist, and perhaps be worse after the curetting than before. In such cases he has been able to stop the hemorrhage permanently by the use of the constant current. The applications are made by means of a platinum electrode with a movable insulating sheath. This is passed up to the fundus of the uterus, while the insulating sheath is adjusted so as to reach just beyond the internal os. As the bleeding comes from the body of the uterus, it is absolutely essential to success to see that the current comes off in the body of the uterus and not in the cervix. A clay pad is placed on the wall of the abdomen just above the pubes, and connected to the negative pole, while the intra-uterine electrode is connected to the positive pole. At the first application only a mild current should be used, not more than fifty milliamperes, but subsequently it can be slowly raised until the galvanometer indicates from seventy-five to one hundred milliamperes. This is kept on for ten cr fifteen minutes. The patient need not lay up during the treatment, and, except in extreme cases, can come to her medical man's house for the treatment. The applications are made twice a week. An antiseptic vaginal douche should be used every day, morning and evening. The electrode must be absolutely clean and should be placed in an antiseptic solution, like any other instrument, before being used for operation.

The Diagnosis and Treatment of Abscess in Connection with the Vermiform Appendix.—By R. Morrison. The author calls attention to the fact that in appendicular inflammations the absence of the ordinary signs of pus formation is no reliable guide in excluding its existence. There are often no rigor, no pus temperature, no redness or œdema in the right iliac fossa, and no evidence of deep fluctuation, yet an abscess may be present. The main lines of argument in the paper are indicated by the following propositions: A dangerous abscess may be present, without any of the ordinary signs or symptoms of pus formation. The diagnosis must be based on the history of the case, that is, of an acute attack of appendicitis and the presence of a definite tender lump. The position of the appendix and the relations of the abscess may be foretold by a careful study of the tumor. The diagnosis of pelvic cases in women is attended by special difficulties. In men and women bimanual examination may clear up an otherwise doubtful case. Spontaneous relief and possible cure may follow the discharge of pus into the adjacent bowel. An abscess, though of appendicular origin, may be remote from the appendix and may be residual. Many of such pus collections are due to the localization of a general peritoneal infection which has been recovered from. Early operation is the proper treatment, and with few exceptions the vermiform appendix should be removed at the same time as the abscess is drained (pelvic cases form the chief exception to this rule). The abdominal opening should be large enough to permit of perfect inspection of all manipulation, and the abscess should be drained from behind.

Quiet Effusion into the Knee Joints Occurring in Women and Young Girls.—Clinical lecture by W. H. Bennett. The author's attention was called to this condition by his seeing a number of cases of painless and unnoticed effusion into the knee joints of girls from twelve to fourteen years of age. In all there was delayed onset of menstruation. In some instances the children seemed to tire easily and were prone to fall down or "double up" without obvious cause. The joints were never tense except in case of superadded injury. When the patients stood up the fluid seemed to gravitate to the lower part of the cavity, and the synovial membrane hung over like a pouch at its lower anterior aspect. There was no tension, heat, or pain. The patients were usually anæmic. A somewhat similar series of cases was observed in older women, but in all there was a menstrual disturbance. The primary treatment must be directed to the correction of the faulty functions. Moderate exercise should be ordered, with massage for the knees. Splints should be most carefully avoided, and the patient encouraged to lead an outdoor life and be prevented from degenerating into the class of chronic invalids. The author advises the routine examination (when this painless effusion exists) into the condition of the monthly function; for the rectification of the latter when abnormalities exist will often lead to a disappearance of the joint trouble.

The Surgery of Pregnancy and Labor Complicated with Tumors.—Third lecture by J. Bland-Sutton. The special complications here considered are cancer of the uterine neck, pelvic growths, misplaced viscera, sequestered and quick extra-uterine fœtuses. In reference to the last-named class the author says that in dealing with the question of concurrent intra- and extra-uterine gestation we have three classes of cases to consider: (1) Cases in which uterine pregnancy supervenes on a quiescent (sequestered) extra-uterine fœtus, and goes to full term. In these circumstances it may end happily and be successfully repeated. (2) An extra-uterine and a uterine pregnancy begin simultaneously, but the complication is recognized in the early months and terminated by surgical intervention. (3) Uterine and extra-uterine pregnancy running concurrently to term. All the recorded examples of this extremely rare combination have, with one exception, ended in disaster to the mother.

Points in the Classification and Diagnosis of Some Joint Affections.—By G. A. Bannatyne. Arthritic troubles may arise from (1) bacteria acting themselves on joint structures, (2) from bacterial poisons, as in pulmonary osteo- arthropathy, (3) from toxic poisons of as yet undetermined character, like gout, (4) from nerve degenerations, and (5) from senile degenerations. Under the head of toxic arthropathies are included rheumatism, rheumatoid arthritis, scarlatinal arthritis, and, probably, malarial arthritis. The author discusses the various characteristics of cases, following out the above clinical division.

Abstract of an Interim Report on Yellow Fever by the Yellow-Fever Commission of the Liverpool School of Tropical Medicine.—By H. E. Durham and W. Myers.

On Protective Inoculation and Serum Therapy.—By J. L. Bunch. A historical review of the development of this theory.

British Medical Journal, February 23, 1901.

Remarks on the Conclusions of the Report of the Anæsthetics Committee of the British Medical Association.—George Eastes states that although (excluding nitrous oxide) ether may be accepted as the safest routine agent, certain circumstances determined by the state of the patient, the nature of the operation, etc., may render the use of some other anæsthetic or combination of anæsthetics both safer and easier. As to the best methods of restoration, the subcommittee are unable from the material at their disposal to draw any conclusion upon this point. Anæsthetics are more commonly associated with complications and dangers in males than in females. Excluding infancy, and taking anæsthetics collectively, the complications and dangers of anæsthesia increase *pari passu* with advancing age. Anæsthetics are notably more dangerous in proportion as the gravity of the patient's state increases. The tendency for complications, dangerous and otherwise, to occur increases *pari passu* with the gravity of the operation. Danger to life is especially likely to be incurred in early periods of the administration of anæsthetics, while the tendency to less grave complications increases directly with the duration of anæsthesia. While the respiratory complications of anæsthesia as a whole are of equal frequency under the ether and chloroform groups respectively, yet those that occur under ether are mostly of a trifling and transitory nature, while those that occur under chloroform are more grave and persistent. The A. C. E. mixture in most of the statistical tables holds an intermediate position between chloroform and ether. From all the study that has been given to this whole subject, the most important factor in the safe administration of anæsthetics appears to be the experience which has been acquired by the administrator.

A Criticism of the Report of the Anæsthetics Committee of the British Medical Association.—Augustus D. Waller declares that clinical inquiry, as exemplified in the ninth and final report of the anæsthetics committee of the British Medical Association, has said its say after ten years of careful deliberation, and it is evident that further clinical inquiry on these lines can serve no useful purpose. As to the statement that the most important factor in the safe administration of anæsthetics is the experience of the administrator, and that often it is essential that a man of large experience should give the anæsthetic, the writer states that certain definite steps should be taken to the acquirement of knowledge in this branch, which will have an influence on the death rate by chloroform: (1) An experimental examination of the statement that, by proper application of a volumetric method, anæsthesia can be certainly effected of any required degree. (2) An experimental comparison of the relative power of various anæsthetics. (3) The determination of the best method of quantitative estimation of anæsthetics in the various fluids and tissues of the body. (4) A careful redetermination of the statements made by Snow, Gréhaut, Paul Bert, and Dubois, with reference to the percentage of chloroform required for various degrees of anæsthesia, and the percentage of chloroform in the fluids and tissues of animals variously anæsthetized.

Liverpool School of Tropical Medicine: Yellow-Fever Expedition.—Herbert E. Durham and Walter Myers state that sufficient search reveals the presence of a fine small bacillus in the organs in all fatal cases of yellow fever. It

is probable that this same bacillus has been met with but not recognized by others, for it takes up stains with difficulty and it is hard to establish its growth on artificial media. The most successful staining method is by carbolic fuchsin solution, diluted with five-per-cent. phenol solution, immersion for several hours, followed by differentiation in weak acetic acid. The writers believe that yellow fever is not due to parasites of the nature of protozoa. They also believe that the endeavor to prove a man-to-man transference of yellow fever by means of a particular kind of gnat is hardly intelligible in a bacillary disease. They hold the opinion that the evidence in favor of the etiological importance of the fine small bacillus is stronger than any that has yet been adduced for any other pretended "yellow-fever germ." At the same time there is a much further work to be done before its final establishment can be claimed. The acquisition of a new intestinal bacterium would explain the immunity of the "acclimatized."

A Note on the Phenyl-Hydrazin Test for Sugar.—G. Leslie Eastes gives the following directions: Take of the filtered urine about 60 c.c. in a beaker of 100 c.c. capacity. Add 1 gm. of sodic acetate and rather less of the phenyl-hydrazin hydrochlorate. Stir with a glass rod, which remains in the beaker throughout the entire operation. The beaker is then placed on a water bath and the urine gradually evaporated down to 10 to 15 c.c. During this process the beaker should be ocasionally removed, and any sediment collected on the sides of the vessel scraped off with the glass rod into the fluid. When reduced to the bulk above indicated, the flame should be removed and, the beaker remaining on the bath, the whole should be allowed to cool. This will take two hours or longer. When quite cold, all sediment should be stirred up, and with a pipette some placed on a glass slide for microscopical examination. Osazone crystals will have formed if there is one part per thousand or more of sugar in the urine. If no crystals are found, it may be safely concluded that sugar (that is, glucose) is absent.

A Note on the Phenyl-Hydrazin Test for Sugar.—Walker Hall, from his own experiments on this subject, concludes that it appears that 0.5 gm. (gr. vii. to viii.) of phenyl-hydrazin, 1.5 gm. (gr. xxiii.) of sodium acetate, and 5 c.c. (3 ii.) of urine give the most rapid and satisfactory results with glucose, but that 10 c.c. should be taken if the solution contains maltose or lactose. These quantities are approximately Williamson's directions, and answer with 0.1 to 5 per cent. solutions; if a higher percentage is present, the solution of urine should be diluted. Crystals are almost without exception obtained at the first trial.

A Preliminary Note on the Cultivation of the Microbes of Vaccinia and Variola.—By S. Monckton Copeman.

Two Cases of Typhoid Fever with Abscess of Lung and Empyema.—By Sidney Phillips.

The Protection of the Observers in Cases of Infectious Sore Throat.—By Ernest Waggett.

A Preliminary Note on the Etiological Agent in Vaccinia and Variola.—By M. Funck.

The Margin of Error in Bacteriological Diagnosis.—By J. Odery Symes.

A Note upon the Infective Character of Pneumonia.—By A. H. Wood.

A Hair as the Nucleus of an Appendicular Calculus.—By A. Saw.

Puerperal Eclampsia and its Treatment.—By D. Riorden.

A Rapid Case of Leukæmia.—By C. T. Samman.

The Journal of Tropical Medicine, February 1, 1901.

Observations on Malaria and Mosquitos in Queensland and British New Guinea.—Sir Francis P. Winter thinks that researches in a country in which malarial fever is common, but in which mosquitos are unknown, or at least are very uncommon, would be more likely to lead to conclusive proofs, one way or the other, than researches in a country that is a congenial home of the mosquito and of malaria. In Clermont, Queensland, the writer never felt or saw a mosquito in two and a half years, but malarial fever was common. In New Guinea, although he was frequently bitten by mosquitos, he did not develop malarial fever until after he had been a year and eight months in the country.

Malaria and Elephantiasis in Relation to Mosquitos in the Marquesas Islands in the Pacific Archipelago.—D. H. O'Neill, in a letter to *The Lancet*, quotes from R. L. Stevenson as follows: "In Atuona, a village planted in a shore-side marsh, the houses standing everywhere intermingled with the pools of a taro garden, we find every condition of tropical danger and discomfort, and yet there are not even mosquitos, nor even the hateful day fly of Wuka-Niva, and fever and its concomitant, the island fe'efe'e, are unknown." The absence of fever and elephantiasis from a locality which is also free from mosquitos, is a most interesting and suggestive observation.

Mosquitos and Malarial Parasites in Hong Kong.—John C. Thomas and J. M. Young submit statistics that fully bear out the theory of the relationship of cause and effect between mosquitos and malaria. They hold that all temporary measures for the improvement of the health of the station at Jai Po should be superseded with as little delay as possible by a definite scheme for the complete eradication of the breeding-places of the Anopheles over the wide area surrounding the police station.

A Slide Tray for Ward Use.—J. C. Thompson describes and illustrates a convenient slide tray devised by Dr. Chung, resident surgeon in the Tung-Wah Hospital, Hong Kong.

Dublin Journal of Medical Sciences, February, 1901.

Removal of Epithelioma of Cervix Uteri during Pregnancy, and Vaginal Hysterectomy after Delivery.—By R. J. Kinkead. The patient was a woman of twenty-eight years, multipara, admitted to the hospital in the eighth month of pregnancy. Bleeding had commenced from the uterus some two months previously. The cancerous growth was found to be small, though hemorrhage had been profuse. It ceased immediately on the removal of the growth. The latter was friable and broke down under the grip of the forceps employed to grasp it. It was removed with the finger and curette, the stump treated with perchloride of iron, and the vagina packed. The patient was discharged from the hospital and was delivered about six weeks later. She was then readmitted, the mass (which had regrown) removed, and a vaginal hysterectomy done. Secondary hemorrhage resulted, the bleeding area being located in the rectovaginal septum and right broad ligament. There was a general oozing, rather than bleeding from any particular vessel. The patient finally made a complete recovery.

Notes on Plague at the General Hospital, Belgium, 1899.—By R. H. W. Jackson.

Surgery as a Science and an Art.—By C. Y. Pearson.

Archivio per le Scienze Mediche, vol. xxiv., No. 4.

Two Cases of Syringomyelia.—Antonio Cesaris-Demel describes two cases, one of which belonged to the "Morvan" type, the other being a case of syringomyelia with lesion of the pituitary gland without acromegaly. The trophoneurotic lesions of the bones and articulations had no specific character, but were such as are found in other physiological (senility) or pathological (osteomalacia, etc.) processes. It is to be noted that the passive symptoms, such as lacunar atrophy, decalcification, fibrous and cartilaginous metaplasia predominated. Active processes, such as osteophytosis, the formation of callus in fractures, etc., are but incompletely developed. Adenoma of the pituitary gland may be regarded as concomitant with the production of the medullary gliomatosis, and pathologically equivalent. As to the non-production of the acromegaly, it may be explained by supposing that a part of the adenomatous gland retained its functioning powers.

Removal of the Semicircular Canals.—Umberto Deganello finds that the removal of one or both canals always produces in pigeons changes in the cells of the nucleus of the abducens of both sides. In some cases there are also produced lesions of Purkinje's cells in the cerebellum. Some of the vestibular protoneurons which are connected with the semicircular canals terminate in the nucleus of the abducens. It is probable that all the rest of the vestibular protoneurons which are connected with the semicircular canals go directly to the cortex of the cerebellum. There is an intimate anatomical connection between the semicircular canals and the cerebellum on the one hand, and between them and the abducens on the other. If there is a lesion of a sensory neuron, symptoms of the lesion may be shown in the motor neuron which is related to it by contiguity.

The Important Influence of the Lime Salts in the Repair of Bones.—Angelo Valan has had good results from the injection of lime salts in experimental cases of loss of bone substance. Injected in powdered form they are absorbed too rapidly, and should therefore be held together by some substance which, while it allows of infiltration into the osteogenetic tissues, will retard the absorption of the calcareous particles, keeping them in reserve, as it were, for the later processes of repair. Calcined bone is the best substance for this purpose. The author submits a table of statistics relating to forty experiments upon animals.

The Transplantation of Interepiphyseal Cartilage.—By Alessandro Zoppi.

The Pathology of the Suprarenal Capsules.—By Pio Foà.

Revue de Chirurgie, February 10, 1901.

Osteomalacia.—G. Gayet and L. M. Bonnet conclude from their researches that osteomalacia, which consists in a deficiency of lime salts in the bones, may be localized

or general. The local form follows traumatism, infectious bone diseases, and some nervous troubles. In both local and generalized forms the anatomical lesions are identical. These lesions are not always the same, but present variations which have apparently no connection with the etiology, the clinical variety, nor the amount of generalization of the disease. Age, sex, climate, etc., have some predisposing influence; the determining causes are unknown, but it is probable that disorders of the nervous system play the chief rôle. The good effects of castration are perhaps to be explained by the fact that the ovarian secretion causes an active elimination of the phosphates.

"Peritonization" in Laparotomy.—E. Quénu and Judet claim that by their method of peritoneal autoplasty, which leaves the intestines as in health, covered by a smooth endothelial surface, the rate of mortality is lowered, patients suffer less from colicky pains, and abdominal drainage can be abolished in from two to four days. As to the remote effects, patients more rarely suffer from digestive troubles and abdominal pains. In the past five years the authors have had but one case of post-operative intestinal occlusion, due to intestinal paralysis after abdominal hysterectomy for fibroma. A second operation brought about complete recovery in this case.

Surgical Treatment of Diffuse Suppurative Peritonitis.—Edouard Loison advocates laparotomy in the peritonitis resulting from perforation of the small intestines in typhoid fever. The diagnosis of the condition is difficult but by no means impossible, and as soon as it is established, the operation should be decided upon. The author describes the various steps of the operation. He prefers a median incision. The perforation having been found, a suture is made in a transverse direction as a rule, although there are certain cases in which a longitudinal incision is better. Dressing and drainage are described in full.

Experimental Study of Fractures of the Upper Jaw.—By R. Le Fort. A continued article.

Ligature of the Abdominal Aorta.—By P. Tillaux and P. Riche. A continued article.

Torsion of the Pedicle in Hydrosalpinx.—By F. Cathelin. A continued article.

Chopart's Amputation.—By A. Lapointe. A continued article.

Archives Générales de Médecine, February, 1901.

Experimental Calomel Poisoning.—P. Jousset and Lefas injected calomel into three rabbits. The lesions caused in the liver were congestion, angio- and periangio-cholitis, and granular atrophy of the hepatic cells, with evidence of nuclear chromatolysis. These alterations are very similar to those found in the case of many infectious diseases, and would seem to mark the onset of biliary cirrhosis. The lesions in the kidneys were those of glomerulo-nephritis, and resembled those caused by infections, cantharidin, and possibly ricinus. In the lungs there were two varieties of lesions, the one of hypostatic broncho-pneumonia of the middle and lower lobes, the other of epithelial pneumonia.

Subacute Adenitis of the Groin.—G. Marion and C. Gandy describe an affection which is characterized by a slow development, marked functional symptoms, and a tendency to the formation of multiple and successive abscesses. All the cases studied by the authors were found to be tuberculous, the tubercle bacillus alone being responsible for the suppuration. No other micro-organisms were found, and inoculations of the pus caused manifestations of an attenuated form of tuberculosis in guinea-pigs. The proper treatment is extirpation if the surrounding tissues have not been invaded; otherwise, curettage.

Primary Juxta-Hepatic Cancer of the Bile Ducts.—P. Lecène and P. Paquiez report two cases of this rare affection. The cancer is situated in the hilum of the liver, surrounding the hepatic canal, or the origin of the ductus choledochus. It is always circumscribed, and the symptoms caused are the mechanical ones of stenosis of the larger bile ducts.

Jour. de Médecine et de Chir. Pratiques, Feb. 10, 1901.

The Administration of Arsenic.—M. Danlos is convinced that the best way of giving arsenious acid in long-continued treatment is by means of the Asiatic pill. The injection of arsenious acid hypodermically is likely to cause abscesses and usually occasions severe pain. The author has tried giving the medicament in a solution of glycerin, but without good result. Arseniate of sodium can be substituted for arsenious acid with advantage, being less toxic and better tolerated hypodermically. As a rule he prescribes the injection of a cubic centimetre (3 to 5 cgm. of sodium arseniate) every two days; no pain attends the process and no unpleasant results follow. In the destruction of cancroids, however, arsenious acid is the better form to use, and the author does so by moistening the following powder with water and laying it on the scraped surface: Arsenious acid 1 gm., cocaine hydrochlorate 1 gm., orthoform 10 gm. The cocaine gives immediate anæsthesia and the orthoform prevents later pains.

The Preventive Treatment of Hepatic Colic.—M. Chauffard recommends the administration of the salicylate of sodium in daily doses of 1 to 1.5 gm., given intermittently. That is to say, it can be taken for three weeks of a month, then fifteen days, and then ten days monthly, for as long as perhaps two years. Carlsbad salts can be added to the treatment occasionally, for patients who are inclined to be constipated. Harlem oil may be given in ten- to twenty-drop doses every week. This form of treatment has been found by Chauffard to be very efficacious in diminishing and even in suppressing the painful crises.

French Journals.

Treatment of Appendicitis.—H. Verneuil, in summing up the indications for operation in appendicitis as accepted by the majority of surgeons, states that: If the symptoms are from the very beginning severe (vomiting—bilious or fecal—constipation, pain in the iliac fossa and at McBurney's point, marked tympanites, scanty urine, dyspnœa, very high temperature—or low temperature—rapid pulse, anxious countenance), in a word, if there are present signs of generalized purulent peritonitis or of diffuse septic peritonitis, operation is necessary; a median cœliotomy should be performed, the appendix removed, and the wound drained. If the symptoms are such in the beginning that an acute appendicitis with circumscribed peritonitis is determined (sharp pain at McBurney's point, vomiting, constipation, a moderate fever, but full and regular pulse in accordance with the temperature, moderate meteorism, the general appearance good); if some little time has elapsed since the beginning, and there is found in the right iliac fossa a thickening, then medical treatment should be instituted (ice to the abdomen, opium, absolute quiet in the dorsal position, and iced Vichy in small quantities as a drink); the patient should be watched carefully, all things being in readiness for necessary intervention. After repeated attacks of appendicular colic, or of acute appendicitis without peritoneal reaction, after a crisis of acute appendicitis with circumscribed peritonitis, and in every case after a second crisis, the appendix should be removed. —*Journal de Chirurgie et Annales de la Société Belge de Chirurgie*, January-February, 1901.

Varices, Hemorrhoids, Varicoceles, Hydroceles, Serous Effusions Recently Treated with Guaiacol.—Allahverdiantz gives an interesting account of cases which he has treated by this new method. He reports seven instances of cure in cases of varices; three cures of varicoceles; five cures in cases of hemorrhoids. He describes the treatment as follows: The varicose member, or part, is bandaged with a solution of guaiacol, more or less concentrated, according to the tolerance of the part affected, and, in order to avoid contact with the air, the bandaged part is covered with rubber tissue, and the whole bandage is covered by a layer of wadding. The bandage is renewed morning and evening. The patient is kept quiet during the time of treatment, which varies generally from ten to twenty days. The only statement possible to make at present is that these affections so treated have disappeared without surgical intervention. Whether they will return, time alone can tell. After his success in the treatment of hydroceles, the writer tried the same treatment on pleuritic effusions, and in each case there was an immediate diminution, and, at the end of several days, a disappearance of the effusion, without recourse to puncture. Œdema yields also to the same treatment. The writer believes from his experience that guaiacol is one of our most valuable therapeutic agents.—*Bulletin Général de Thérapeutique*, February 15, 1901.

Two Cases Demonstrating the Presence of the Gonococcus in the Blood.—Léon Bertrand reports these cases and states that in all forms of acute rheumatism, whether localized or generalized, the organism is probably a prey to an acid dyscrasia: it is undoubtedly this which causes the acid reaction of the perspiration of these patients. In diabetes, which prepares a soil favorable for pus formation, the alkalinity of the blood is always diminished, and the presence of uric acid in the blood has often been determined. The most severe pneumonias, and those with complications—precisely as blennorrhagia—as arthritis, endocarditis, and peritonitis, are the pneumonias of arthritic patients. In lymphatic and in arthritic subjects, *i.e.*, in subjects in whom are most often observed severe blennorrhagia and the generalized infections of this disease, the alkalinity of the blood is without doubt diminished, and the constant presence in it of uric acid is determined.—*Société Médico-Chirurgicale d' Anvers, Annales*, November-December, 1900.

Treatment of Vomiting of Pregnancy by Bicarbonate of Sodium.—M. F. Monin has had occasion to employ this treatment twenty-five or thirty times, and almost always with the greatest satisfaction. It is necessary to overcome constipation which is so frequently observed in women, and especially in pregnant women, and which favors the appearance and duration of digestive troubles. The writer believes that the vomiting of pregnancy is attributable to a disorder of the gastric secretions. The morning sickness in particular appears to show that the stomach of certain pregnant women secretes in a continuous and not in an intermittent fashion. Consequently, this treatment has been instituted; bicarbonate of sodium being given in large doses during the time when the stomach is empty, and the results have been most happy. Five cachets of gr. ii. have been given during the day to begin with, and these are increased in quantity as necessity indicates.—*Lyon Médical*, January 27, 1901.

Mercurial Injections in Syphilis.—A. Guérin, in giving the indications for this treatment, states that the practitioner will reserve the mercurial injection for syphilis of rapid evolution with early nervous and visceral complications and repeated recurrences. Everything that gives to the disease a character of gravity is a pressing indication. The injections are given to spare the stomach of the patient and for numerous reasons of convenience. Some patients refuse to take the ordinary mercurial treatment. Some writers believe that the injections ought to be instituted immediately after the diagnosis of indurated chancre. This treatment is contraindicated by the cachexia of tuberculosis or senility and by diabetes; it should not be given in cases of paralysis, varicosity, or œdema. It is especially contraindicated in albuminuria which is not the result of syphilitic nephritis.—*Journal de Médecine de Bordeaux*, January 27, 1901.

Some Reflections on the Treatment of Erysipelas.—E. Deronde states that mild erysipelas has a normal duration of seven or eight days and is cured without intervention; but it is not possible to make from a clinical point of view a prognosis of this affection. He reports five cases, four of which were treated with serum. From the history of these cases he concludes that the serum of Marmorek is curative; it arrests the progress of the streptococcus and causes the temperature to fall; its action is immediate and it is not disagreeable. The writer shares the belief of Landouzy that the severity and duration of the illness are both less in patients who are submitted to orrhotherapy.—*La Revue Médicale de Normandie*, February 10, 1901.

Berliner klin. Wochenschrift, Feb. 4 and 11, 1901.

A Case of Hysterical Sensory Aphasia in a Child.—By L. Mann. The patient was a girl aged seven years. No cause could be assigned for the peculiar condition except possibly a fit of anger during which she cried a great deal. The mother noticed that the child was apparently becoming deaf and that her speech was gradually becoming unintelligible. The animal functions in general seemed normal. Careful examination showed that the child seemed to have lost the power of attaching definite ideas to the sound of familiar words. After several months she was removed from home, taken to an institution, kept in bed, and given a course of cold packs and douches with faradization. At the same time an effort was made to teach her to pronounce properly words spoken by the physician. At first, treatment was without result, but an improvement finally began, and after a prolonged course of the plan above outlined, her speech became perfectly normal, as well as her hearing.

Tallerman's Apparatus.—By F. Neumann. The article is a description of the various forms of apparatus devised by Tallerman in 1893, for the employment of superheated dry air for the treatment of various painful affections. The contact of the hot air with the skin draws blood from the deeper parts to the surface, and so exercises a powerful influence upon the circulation. The author commends this method of therapy, especially in sciatica, arthritis deformans, lumbago, chronic joint rheumatism, cases of ununited bone fracture with circulatory disturbances, severe contusions of the pelvis and vertebræ, painful scars and tissue deformities after gunshot wounds, scleroderma, myxœdema, and cases of painful flatfoot. The method is not equally valuable in all of these conditions, and in some instances has entirely failed to give relief, but, generally speaking, it is a most valuable therapeutic agency, and, in cases of arthritis deformans, has succeeded better than any other plan of treatment. Clinical histories are given.

Observations on the Treatment of Puerperal Fever with Marmorek's Antistreptococcus Serum.—After some remarks upon the introduction of this method of treatment and its results up to the present time, the author gives his experience with nine cases of puerperal fever in which it was used. It is not indicated in every rise of temperature in puerperal infection, for it is of course useless unless this infection is due to streptococci. Consequently, its scientific employment presupposes the bacteriological examination of the lochia. Of the nine cases, the lochia showed in one purely anaerobic, gas-forming diplococci, in four a mixed infection, partly aerobic and partly anaerobic streptococci; in two absence of all micro-organisms, and in two pure streptococci. In the first case the injection of serum was without apparent result; of the group with mixed infection two were fatal; both of the cases with sterile lochia ended in recovery, as did also the two with pure streptococcus infection.

The Significance of Bodily Work in the Treatment of Nervous Diseases in Institutions.—By A. Erlenmeyer. The author's conclusions are in general as follows: Work as a method of treatment is unadvisable in cases of neurasthenia, and is often accompanied by an increase in the severity of symptoms. In patients who are simply nervous, it is a valuable and rapid method of benefit. In cases of those patients who manifest, in combination with their nervous condition, psycho-pathological evidences, the latter may be removed and in this way the general condition greatly ameliorated. In hysteria and epilepsy, bodily work generally has no influence upon the diseased condition. Work is inapplicable in general conditions of brain and cord lesions.

Observations on the Treatment of Puerperal Febrile Conditions with Marmorek's Antistreptococcus Serum.—By M. Blumberg. In this article the author gives in detail the clinical histories of the cases treated by him, the general features of which were discussed in a previous issue of the *Wochenschrift*.

Experience with the Tallerman Apparatus.—By O. Zimmermann. This is another recital of clinical observations, confirming in a general way the views of Neumann.

The Increase and Diminution of Hereditary Sensitiveness to Poisons.—By E. von Behring and Kitashima.

Hygiene of the Eye in the Nineteenth Century.—By H. Cohn.

Fatigue and Recreation.—By M. Verworn.

Deutsche med. Wochenschrift, Feb. 7 and 14, 1901.

Operating in the First Ether Anæsthesia.—P. Sudeck advocates the performance of minor operations, and even of those more serious in nature but which can be quickly completed, in the very first stage of anæsthesia produced by the inhalation of ether. This is not the usual so-called primary anæsthesia, but commences with the first deep inhalations of the vapor and lasts until consciousness begins to be impaired. It is of the greatest importance that the patient be fully impressed with the necessity of taking deep inspirations from the beginning, regardless of the pungent odor of the anæsthetic, and that he keep his mind occupied only with the details of the anæsthesia. For this reason it is advisable to keep him in ignorance of the fact that the operator is to begin work almost with the first inhalation, and all the instruments, etc., should be kept covered over until the last moment. The rationale of the method rests on two factors: first, the temporary overpowering of the pain-perceptive centres of the brain by the anæsthetic, and, second, the intense mental concentration required on the part of the patient to keep up the respirations in spite of the disagreeable stimuli produced by the ether vapor. Even operations of considerable magnitude can be painlessly performed in this way, such as amputations of thigh or arm, laparotomy and drainage of the abdomen for peritonitis, extirpation of diseased glands, etc., though it is of course especially adapted for less extensive procedures. The advantages of the method are its absolute safety, its lack of risk of secondary damage to the respiratory apparatus—since the quantity of vapor inhaled is so small—and the speedy recovery from narcosis, without any of the usual unpleasant after-effects. The essentials for success are the securing of the patient's undivided attention to the business of anæsthetization, and rapid, sure operating.

The Operative Treatment of Pulmonary Tuberculosis.—H. Sarfert says that while the modern tendency in the therapy of this disease is to lay almost the entire stress on early diagnosis, and to expend all efforts in the treatment of the cases of short standing, there are still many patients with advanced lesions who may be benefited by surgical intervention. Great care is necessary for the selection of such cases, and the number is not large, but under favorable circumstances good results are always to be expected. As a result of experiment on one hundred and fifty cadavers the author has evolved the following technique, which has proved feasible in actual practice. The cavities most accessible to treatment are apical ones, and may best be reached by resection of the second rib. The skin incision be-

gins at the sternal end of this bone and is carried outward about four inches. After the rib has been exposed the periosteum is incised and the bone freed, after which its cartilage is divided and the axillary end broken through. The parietal pleura is now to be separated from the chest wall by blunt dissection with the fingers, when the apex of the lung may be brought out of the wound without the pleural cavity having been opened. This manœuvre is greatly facilitated by the dense adhesions that always exist, so that there is little risk of producing a pneumothorax. The antrum is now located by palpation and laid open, either by incision or with the Paquelin cautery. Arteries which have been exposed by the disease may now be ligated, communicating cavities opened and made into one large one, and the suppurating surfaces cleaned and drained.

The Bacteriology of Acute Articular Rheumatism.—F. Meyer seems to have found the specific cause of this infection. After numerous attempts at finding bacteria in the blood or joint exudate of rheumatic patients had failed, he turned his attention to the angina often accompanying these cases, and obtained from the tonsillar mucus pure cultures of a characteristic type of streptococcus. Injected into animals, this produced local infiltration and necrosis at the site of injection, but no suppuration, differing herein as well as in other particulars from the growths obtained from the throats of patients with scarlatina, sepsis, influenza, tuberculosis, and muscular rheumatism. After a lapse of six to ten days, successive inflammations of various joints took place, with a serous or sero-purulent exudate from which no cultures could be obtained, while at the same time a slight febrile movement was noted. On post-mortem examination such animals exhibited accessory lesions closely resembling those found in rheumatic human subjects, viz., pericarditis, pleurisy, and peritonitis, while endocarditis with valvular vegetations—which before this has never been produced without preliminary injury of the valves—frequently resulted. The resemblances between the effects produced by this organism and the manifestations of acute articular rheumatism are so striking as to justify the belief that some etiological relationship must exist between the two.

A Method for the Differentiation of the Blood of Various Animals with Especial Reference to the Demonstration of Human Blood.—Uhlenhuth has found what appears to be the first reliable biological differential test for human blood. The principle of the method lies in the fact that by injecting into rabbits, at intervals of six to eight days, small amounts of the defibrinated blood of any other animal changes are produced in the rabbit's blood which cause it to give a reaction with the blood of that other animal alone and with no other. If a few drops of the serum of a rabbit that has been treated with ox blood, for example, are allowed to fall into each of a row of test tubes containing dilute solutions of the blood of various animals, absolutely no reaction is produced in any tube except that containing ox blood, which at once shows a slight turbidity which increases on standing and finally develops into a flocculent precipitate. Similarly, a rabbit that has received injections of human blood furnishes an infallible reagent for detecting human blood, even in very minute amounts. So far the blood of nineteen different animals has been successfully tested, as well as the blood of man, the horse, and the ox, scraped from a board and dissolved in salt solution after having been allowed to dry for four weeks.

A Contribution to the Understanding of Some Gouty Manifestations.—Adler regards the joints as safety valves in gout, whereby through the deposition of uric acid in their cartilages the blood is relieved of its excess of this material and the kidneys and vessels are saved a certain amount of damage. At the same time, various other unpleasant symptoms, such as diarrhœa, catarrh of the mucous membranes, sciatic pains, general malaise, itching of the skin, and cardiac difficulties are relieved, as is a common observation after acute attacks. On the other hand, if reabsorption of the gouty deposit be too rapidly caused by the use of remedial agents, decidedly unpleasant reactions on the part of heart and liver may result.

Observations on the Bactericidal Action of the High-Tension Spark and a Method for the Better Application of the Bactericidal Power of the Arc Light.—By H. Strebel.

A Case of Volvulus of the Stomach with Total Occlusion of Cardia and Pylorus and Acute Fat Necrosis; Cure.—By Wiesinger.

The Pathology and Therapy of Cicatricial Contraction of the Bladder.—By A. Rothschild.

A Contribution to the Etiology of Hay Fever.—By C. Dietsch.

The Decomposition of Albumen in Boiling.—By K. Oppenheimer.

The Etiology of Acute Articular Rheumatism.—By Menzer.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT OPENED—GERMAN MEASLES—POISONED FOOD AND BEER—PLAGUE AND RATS—CLINICAL SOCIETY—OBITUARY.

LONDON, February 15, 1901.

ALL the week we have been occupied by events connected with the accession of our new sovereign and the prospects of the future. The interest and even excitement which put other topics aside culminated yesterday in the great pageant of the opening of his first parliament by King Edward VII., accompanied by his Queen. You will have learned all you care to know about it from your newspapers; so I will only mention that in his speech from the throne the King referred to some proposed domestic legislation of special interest to the profession, viz., public-health acts and water supply, factory and workshop law, the prevention of drunkenness, and literary copyright.

It seems a sad sequel to recent events that the King should be holding himself ready to start for the Continent to see his sister, whose condition is so serious.

German measles has become almost fashionable, and people are so styling a common cold, just as they often dignified it as influenza. The authorized statement on the Duke of York's recent illness shows that it was a severe attack, the temperature being 102° F. for six days before the rash appeared, with gastric pain, cough, slight friction sound at the left base, vomiting, etc., and on one night delirium. Though the attack was not dangerous, it was enough to show that German measles can be exceedingly unpleasant. The few of the public who thought too much fuss was made about the patient will now be satisfied and commend the doctors who insisted on proper care. As it is, perhaps he was exposed too early in the severe weather, for in consequence of a fresh cold he was unable to be present at the opening of parliament yesterday. The Princess Victoria also had to stop at home from the same cause.

Dr. Buchanan, who was sent to investigate the beer poisoning, for the local government board, has concluded the inquiry. His report does not add much to the information I have sent you, but he marshals a number of facts in a convenient form. The approximate number of cases in Manchester, where most occurred, he puts at two thousand, and the deaths at thirty-six, of which twenty-three were of women and thirteen of men. In both Manchester and Liverpool the epidemic grew rapidly between August and November, but within a short time of the announcement that arsenic had been discovered in beer it was practically arrested. Some of the victims drank large quantities; seven out of eighty-eight confessed to a gallon or more a day; ten others are classed as "heavy drinkers," though they were less definite as to how much they took; of the remaining sixty-one, several admitted half a gallon and one two gallons. Draymen at some of the breweries suffered exceptionally. But moderate drinkers did not escape, a number of them who took very little being attacked. Some of the brewers' expert committee told Dr. Buchanan beer would be condemned if their test showed arsenic in quantity of 1 part to 1,500,000.

There was an inquest on one of the cases at Liverpool on Tuesday, when the professor of chemistry at the University College (Prof. Campbell Brown) told the coroner of a calculation he had made which is startling the newspapers. Reckoning the distribution to extend over thirty weeks, he estimated from the amount found over four tons of white arsenic had been issued in beer—enough, if divided into equal doses and given at one time, to kill a million people in the week, or all the inhabitants of Great Britain in a season. Some fines have been inflicted for the sale of beer proved to contain arsenic, but it is obvious that these convictions are scarcely the best way of dealing with such a question.

There is a great outcry for legislation, and many are not willing to wait for the report of the government commission. I am not sure that the delay would be altogether unwise, as the commission is to inquire as to the contamination of other food products and we might in the end get a more extensive measure of protection as to the purity to what we eat and drink.

The appearance of plague at Cardiff, Hull, and Bristol has naturally caused some uneasiness, but the measures adopted have been successful. An active campaign has been taken against rats as the most dangerous vermin, but I doubt the propriety of offering a price for every dead rat, as it may lead to the handling of them by many people. You will remember that Cardiff had a case last October, and prevented the infection spreading. Hull, too, did well since then, and Glasgow is a fine object les-

son. These places and other ports are watching vessels that may have rats from infected places. Cape Town has to cope with a small epidemic, which it is to be hoped will be restricted to narrow limits. The appearance of the pestilence in various parts of the world, and the means of rapid communication in our days, may well suggest that we may witness a spread of the disease as extensive as epidemics of cholera or such as may rival the ravages of former outbreaks of the scourge. But at least we are better prepared.

At the Clinical Society, after the adoption of the address of condolence and loyalty, Dr. Nabarro read the notes of a case of pronounced "spleno-myelogenic leucocythæmia subsequent to an attack of malarial fever." The patient, a man aged twenty-three years, went to Vancouver in 1899, and there had "chills." The rigors lasted about one hour, were followed by a hot feeling about the head, and that by perspiration. Not getting his strength afterward, he returned to England and saw Dr. Thin. The patient told Dr. Pybus that when in Manitoba he stayed two days in a swampy place. Also he had at one time camped by a small creek where mosquitos swarmed. Dr. Pybus, practising in the district for ten years, had had only three other similar cases, and they were about two miles from the patient's house. On March 28, 1900, Dr. Thin found he had an enormous spleen, no parasites or pigmented leucocytes, but white corpuscles greatly increased. Dr. Nabarro saw him at Dr. Thin's house and examined the blood. There was great diminution of the percentage of lymphocytes (twenty to thirty per cent.) and a corresponding increase of myelocytes (twenty-eight to forty-two per cent.). Many transitional forms were seen. The spleen remained large but caused no inconvenience, and, in spite of marked anæmia and the large number of white corpuscles, the patient seems to enjoy a fair degree of health, as he feels able and wishful to follow some occupation.

The next part of the programme was "instantaneous radiography," taken up by Mr. E. W. Shenton, who said the term was applied to *x*-ray photographs taken by exposures reduced to the lowest reasonable limits, say from a mere fraction of a second to thirty seconds. By the aid of large *x*-ray tubes he was able not only to reduce the exposure but to show the deeper parts of the body on the screen, a great advantage in detecting renal calculus or exactly locating and removing foreign bodies. He showed a number of examples of his work which were much admired. The president (Sir D. Powell) remarked on the promise afforded by the method in mediastinal and other growths.

Dr. Batten said he had used *x*-rays largely but had not met with such a complete installation nor such clear results with such brief exposures. He thought Mr. Shenton had hardly done himself justice in not giving more details of his method, for it depends on details to obtain such fine results.

Dr. Hugh Walsham referred to the question whether such short exposures are desirable in cases of pulmonary phthisis, and said photographs sometimes revealed points not clear on the screen.

Dr. C. Williams asked about dermatitis and Dr. Eastes whether the retinæ were affected.

Mr. Shenton, in reply, said in each case there was a correct exposure, and error either way would mar results: photographs should be used to confirm the screen. He had seen nothing of dermatitis except on his own hands, and had no knowledge of any effect on the retina.

Among the killed at Modderfontein was Civil Surgeon Allan Walker, who is stated to have received three bullet wounds and then been dispatched by a Boer. He was only twenty-six years old.

Dr. A. H. Jones, physician to the Northampton Infirmary, died after a few hours' illness. He was only forty-five years of age. He was M.D. of the London University and author of an interesting "Historical Sketch of the Physicians and Surgeons of the Northampton Infirmary in the Last Century," published in 1895.

CLINICAL SIGNIFICANCE OF DULNESS IN APPENDICITIS.

To the Editor of the Medical Record.

Sir: My attention was called by one of your subscribers to Case VII. in my article on "The Clinical Significance of Dulness in Appendicitis," in which case I attribute to hydrogen peroxide the cause of the fatal result, while in the same issue, under Surgical Suggestions, Robert T. Morris considers hydrogen peroxide the "sheet anchor" in appendicitis.

Not for a moment would I think of refuting the statement of so eminent an authority as Robert T. Morris, yet I have every reason to believe that there is danger in the routine use of hydrogen peroxide in appendicitis. I cannot present a more cogent reason than to detail my experience in this particular case. The walls of the abscess cavity were frail and weak, and in detaching the adherent appendix, though it was easily accomplished, I necessarily weakened the wall at that point still more. The case did well up to the eighth day, and on this occasion the hydrogen peroxide did not escape so freely as it had at the previous dressings. The temperature commenced to rise, and within forty-eight hours the patient succumbed to suppurative peritonitis. Post-mortem revealed the intestine in which the stump of the appendix had been invaginated, in a normal condition, but there was evidence of a rupture of the wall of the abscess cavity and the peritoneal cavity was filled with pus.

The reaction resulting from the combination of the hydrogen peroxide with the pus caused a gaseous distention of the abscess cavity, and the point of drainage being too small to allow the free discharge of the pus, the cavity became overdistended, resulting in a breaking at a point of the least resistance, thus allowing the pus, if even a drop, to discharge into the peritoneal cavity.

H. T. Miller, M.D.

February 23, 1901.

RECKLESS DRIVING OF AMBULANCES.

To the Editor of the Medical Record.

Sir: The needless hurry of our ambulances on many of their calls often imperils public safety. The writer witnessed on Sunday afternoon on Fifth Avenue, when crowded with pedestrians and vehicles, an instance of this.

There came charging down the street an ambulance with clanging bell, the horse on a plunging gallop. From a cross street a baker's wagon passed through the line of carriages almost in front of the ambulance, whose driver, to avoid a collision with the wagon, pulled sharp up to the left, crowding aside the horses of a conveyance coming up on the right side of the roadway, his forewheel hub overriding the carriage hub, and thus luckily avoiding another smash, then on to the pavement to the dismay of the passers-by, who scattered in all directions. With a yell, this Jehu then swung around to the right, and, ringing his alarm with all his might, started after the offending wagon, at top speed. The interne in the rear of the "bus," to encourage, cried, "Yes, go after him," settling his cap to enjoy the fun. Overhauling the baker's wagon in the middle of the block, the driver pulled up, came down from his throne, and assailed the obstructor to an errand of mercy, while his horse rested from the labors of his attempt to annihilate the bread wagon, the carriage, and the unlucky pedestrians. After a tirade, breath having been recovered to a degree all around, the ambulance trundled off and five hundred people who had collected, interested in what might have occurred, streamed away. Ten minutes later the ambulance, returning with the patient, passed with rush up the street. Looking into the matter, I learned that the case was that of a patient who had sustained a "laceration of the arm; there had been bleeding, but as the doctor who went out on the call was from the medical side, he didn't know if it was a compound fracture or not. The case was in the house, and the chief was to see it when he called." The writer remembers, not so many years ago, when he, in a neighboring city, delighted in an ambulance with a monster gong which gave one plain clang for each pull, a well-trained horse, an extra jump in response, and the doctor sat in front in state, taking in mangled fingers, typhoid-fever cases, and plain "D. T.'s," on the run.

Recalling these happy days, he doesn't want to scold, but to have the ambulance drivers instructed from time to time that the doctor is in absolute charge of the ambulance when on the street.

Trolley cars and heavy trucks have little respect for ambulances, and it is due to the public's knowledge that there isn't always need for such a hurry for that ambulance which seems to be so active that the back gets there first; not but what despatch is needful at times. A carbolic case wants attention quickly. To pull a cut throat back from the grave depends often enough on the ambulance surgeon. The writer believes the value of this strong arm of the service will be enhanced if some of the senior's other duties be lightened, and be given "first call" on ambulance duty, the senior assistants taking subsequent calls, so that the incoming junior may be relieved until the last of his term of the most difficult yet valuable work of his service. The obliging officer will tell when sending in the summons if time is a factor, and, indeed, most calls come in telling what has happened before telling where the happening has taken place, so the doctor knows when haste is expedient on crowded thoroughfares. If speedway gaits are confined to quiet streets when returning from Bellevue and on cases of little importance, the public will soon learn to give way to the ambulance, be it drawn by horse or propelled by the better controllable auto power.

Frederic Griffith, M.D.

805 Madison Avenue.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 18, 1901.

PARKER SYMS, M.D., PRESIDENT.

Ulcer of Placenta; Severance of Umbilical Cord before Birth.—DR. EDEN V. DELPHEY presented this specimen, which had been removed from a woman thirty-two years of age, pregnant with her fifth child. She stated that when seven months and a half pregnant, and while hanging up clothes one morning at 11 o'clock, she had suddenly felt what she described as "a great commotion in her abdomen." This had been followed by labor pains, and by 6 o'clock that evening there had been slight dilatation of the cervix. At 10:30 P.M., the uterus being in a state of tonic contraction, Dr. Delphey had ruptured the membranes, performed manual dilatation, and delivered with forceps a fœtus that had presented in an occipito-posterior position, and had been dead a few hours. When the umbilical region had come into view he had been astonished to find only a stump of umbilical cord, measuring three-fourths of an inch in length. The placenta was delivered spontaneously. Its surface was covered with old clot, and there was an ulcer on the maternal side, about one inch in diameter. The cord was fourteen inches long. Two hours after delivery, the mother had gone into collapse, with symptoms of internal hemorrhage, and had died at 5:30 P.M. The pathologist reported that the ulceration represented a broken-down gumma, and that the end of the cord showed productive inflammation. The rupture could be accounted for only by traumatism.

Lack of Uniformity in Prescribing Myopic Glasses.—DR. S. BUSBY ALLEN, the author of this paper, drew a vivid picture of the great evils flowing from the careless or improper fitting of glasses to the myope, resulting oftentimes in great mental deterioration and the blighting of a life. He said that while all agreed that the strain of convergence was the chief trouble, there was not so much agreement upon the effect of accommodation. In myopia the accommodation could be used only when there was a previous excessive effort at convergence. When there was a variation of more than one diopter there was a necessity for glasses for near work.

DR. H. OPPENHEIMER said that at birth the eye was not myopic. The myope was not primarily a perfectly rugged person, and hence the importance of keeping such children at outdoor sports, and avoiding as far as possible the use of the eyes. If these little ones could be prevented from reading in a bad light, or with the head down so closely as to give rise to congestions, or reading in bed in such a position as to cause congestion of the vessels of the neck, much could be done toward preventing myopia. He thought oculists had gradually come to the conclusion that if the effort at convergence could be corrected, a great deal could be done toward securing comfort for the myope. The tunics of the eye were apt to become stronger and firmer after puberty, hence the great importance of attention in early life to the general regimen. When there was a high degree of myopia, the necessity for extreme convergence was done away with by the removal of the lens.

DR. FRANK SKEEL said that the author of the paper had not overdrawn the picture. It was the teacher, and not the parent, who ordinarily first called attention to a defect in the vision of a child. It should be remembered that no two cases of myopia were exactly alike, and hence every case should be treated by itself. This explained the apparent lack of uniformity in prescribing for these cases. It was his rule to prescribe overcorrection in a moderate degree of myopia—say, above seven and below nine. For high myopia, very little could be done. For low degrees of myopia, he prescribed a glass fully correcting the error. When the eye was beginning to get more myopic, he frequently kept it under the influence of atropine for a month or six weeks, or perhaps longer. A case was cited in which, although no effect had been observed from the use of atropine for four weeks, at the end of two weeks more the vision had been wonderfully improved. These cases should be kept under observation, being seen at least twice a year.

DR. J. H. WOODWARD said he could not agree with the reader of the paper that an effort of accommodation would cause true myopia, although admitting that it would give rise to an apparent myopia. The prevention of myopia was certainly a very important matter, and one of the best means of accomplishing this was by the correction of slight degrees of myopia very early. If the act of accommodation caused myopia, then our mainstay was taken away. In moderate degrees of myopia he thought it was the consensus of opinion that glasses for distance should be worn also for reading. The reason for this was that the muscles for accommodation were in this way strengthened. The reason that so many children wearing glasses were seen at the present time in the streets was that they were overworked at school. Little tots might be seen coming home from school with as many books as they could very well carry.

DR. J. HERBERT CLAIBORNE said that for many years he had been treating myopia on the principle that it was not so much the result of a strain of the muscles of accommodation as of pressure of the lateral muscles. He thought it was reasonable to assume that in the shape of the eye there was such a thing as perfection, and he could not agree with those who held that emmetropia was a stage in the direction of hypermetropia. Instead of overcorrecting myopia, as had formerly been the custom, it had been his practice to correct fully in youth, giving as nearly as possible perfect distant vision. In the cases of those under the presbyopic age, he gave a complete correction, the glasses being worn both for near and for distant work. He had found that there was still a large number of practitioners who would give to persons under the presbyopic age a glass for distance and another for reading. He could not see the logic of such practice. At least in a moderate degree of myopia, he believed in correcting the error of refraction completely, giving the best possible distant vision with the weakest glass. The patient should be instructed to use this glass not only for distance but for reading. At first, it might seem almost impossible to educate the accommodation to this new state of affairs, but it was perfectly feasible. The person should be directed to read for fifteen minutes the first day, for half an hour the second day, and to add a quarter of an hour daily, until reading for two or three hours each day. The correction of myopia in presbyopes presented a very different problem.

A New Operative Method of Exposing the Seminal Vesicles and the Prostate for the Purpose of Extirpation or Drainage—a Preliminary Report.—DR. EUGENE FULLER read this paper. He said that the thighs should be flexed sharply as in the extreme lithotomy position, and then the patient put on the Trendelenburg table, belly downward. It was generally better to put the patient in this position after having been placed under the influence of the anæsthetic. The external incision consisted of two somewhat converging longitudinal cuts, connected at their proximal extremities by a transverse cut. The author

then described in detail his method of reaching the seminal vesicles through these incisions. He said that the prostate was exposed in this way most satisfactorily; not that he would advise it for such cases, however, because of his belief that the usual method secured far better drainage. He reported five cases treated by the new method. In some of these there had been for a long time an obstinate frequency of micturition, which had not yielded to various cystotomies. Relief had been afforded by incision into the seminal vesicles, curettage, and gauze drainage.

Dr. F. Tilden Brown said that he had been very favorably impressed with the free access to the seminal vesicles obtained by the method of Dr. Fuller. One of the cases reported had been referred by him to Dr. Fuller. Prior to the operation there had been an exquisitely sensitive area along the base of the bladder, and the patient had suffered from very frequent micturition. This sensitiveness had disappeared since operation, the urination was very much less frequent, and there was no longer the annoying delay that had been formerly experienced in beginning the act.

A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction.—Dr. L. Bolton Bangs read this paper (see page 367).

Dr. Willy Meyer said that he had operated upon thirty-nine cases, and in about seventy-five per cent. of these gonorrhœa had been present. This was interesting in connection with a very recently published paper in which it was declared that there was reason to believe that gonorrhœa was largely responsible for the occurrence of prostatic enlargement. The presence of a calculus could be determined by carefully manipulating the beak of the instrument in the bladder just before the operation. It was most desirable to refrain from using local anæsthesia in sensitive patients, yet it was worth remembering that if two-thirds of an ounce of a two-per-cent. solution of cocaine were mixed with one ounce of a three-per-cent. solution of eucaine, the local anæsthesia would be much more satisfactory than with a solution of either one alone. The principal pain arose from the hugging of the gland. When the kidneys were normal he had used either general anæsthesia or spinal anæsthesia. He had used the latter in five cases, and had been delighted with it. He was of the opinion that the depth as well as the breadth of the incision was important, and hence, in some instances, had immediately repeated the posterior incision. The after-treatment should be conducted most carefully. As the pain following the operation was often intense, he made it a rule to insert immediately after the operation a smooth Mercier catheter and to retain it in position. If the urine were kept loaded with antiseptics, the method was really one of continuous antiseptic irrigation. Some of his patients had retained this catheter as long as thirty days. This practice had been severely criticised, but he was confident that it was a valuable procedure. There could be no doubt that the prostatectomy was the more surgical procedure, and its after-treatment was much less difficult and arduous than that of the Bottini operation. It would be the operation, in all probability, for most of the cases of hard, firm prostate, and for those so-called soft prostates having a hard nucleus, which allowed of their being enucleated without great difficulty. The cases of soft prostate were amenable to cure, but not, he thought, by prostatectomy.

Dr. Eugene Fuller said he was one of those who had been steady adherents of the operation of prostatectomy. The results that had been reported from the Bottini operation had not been so very good that he felt tempted to change from prostatectomy to that operation. If the cases were carefully selected, these results would be decidedly improved. He feared that relapses would occur in the cases operated upon by the Bottini method, because of cicatricial formations. His chief objection to the Bottini operation was the burning through the tissues of the bladder to reach the prostate, and the probable extensive injury done to these tissues. In many of these prostatics the bladder was so diseased that a long rest was demanded in order to secure the full measure of relief. After the Bottini operation the desired surgical rest of the bladder could not be secured.

Dr. John Rogers said that his limited experience had impressed him with the safety of the Bottini operation as compared with the operation of prostatectomy, though the latter operation yielded certain and positive results. A case was cited showing the feasibility of doing a prostatectomy after a Bottini operation, should the latter prove insufficient.

Dr. J. W. S. Gouley expressed the opinion that the selection of the operation to be performed upon the prostate should be based upon an exact diagnosis. Mercier had failed in his prostatotomies and prostatectomies in cases in which there had been any considerable enlargement of the supramontanal folds. These operations had been singularly free from hemorrhage. Bottini had taken his cue from Mercier, but he had tried to do too much. The Bottini operation seemed to the speaker to be distinctly contraindicated in cases in which the so-called third lobe projected two or three centimetres into the bladder, for in such cases it could be hardly expected to accomplish very much. Dr. Gouley said that he had introduced Mercier's operation into this country in 1878, and had done about fifteen of these operations. In only one of them had he experienced any trouble from hemorrhage. When the prostate was very large, soft, or hard, the operation of prostatectomy was the one indicated. He believed its dangers had been exaggerated. Unfortunately its mortality had been due to ascending pyelonephritis. He had carefully dissected about one thousand prostates after death, and the really hard prostate, containing phosphatic concretions visible to the naked eye, had been a decided rarity. He saw no advantage in the Bottini operation over Mercier's first operation.

What the Bottini Operation Really Does.—Dr. S. Alexander thanked Dr. Bangs for his paper, which, he said, had brought out some entirely new facts, besides presenting a perfectly fair statement as to what the operation did in the hands of the skilful surgeon, and the difficulties met with under such conditions. He had also shown that this operation was not always successful, and that it required a longer convalescence than he had been led to believe from any other article written on this subject. The speaker went on to say that Bottini and subsequent writers had claimed that Bottini's operation burned a groove through the obstructing portion of the prostate, that the action of the cautery extended to a zone beyond the original cut, and that this never contracted, but remained open as a groove, and, consequently, overcame a mechanical obstruction to urination. Dr. Alexander said he noted that this claim had not been made in the paper just presented, because its author knew that this was not true. The author had stated that he had seen contraction of fibrous tissues, the result of a burn, and not the formation of a permanent groove. Dr. Alexander said that through the courtesy of Dr. Bangs he had had an opportunity of looking at a post-mortem specimen taken from a case in which Dr. Bangs had secured a brilliant success from the Bottini operation. Scars, the result of contraction, could be found in this specimen, but no grooves. No operation could be generally accepted by surgeons unless founded upon the anatomy of the part and a knowledge of the pathology of the condition for which it was done. There were anatomical facts which were not generally

appreciated, though they had been described by others, which were of vast importance in this connection. When a prostatectomy was done, the whole prostate was not taken out, but only those parts which caused the obstruction. He was free to confess that the operation of prostatectomy which went by his name was a most dangerous and difficult operation, and he was disposed at the present time to discuss the failures rather than the successes. He wished to say that the operation was not founded on any false principle, but that the bad results had depended upon a bad technique and our imperfect knowledge. It should be remembered that almost all of his patients had been very old men. Bottini's operation he considered to be a most valuable form of prostatotomy in appropriate cases, but it might be made a much more valuable operation if more attention were given to the kind and location of the obstruction. He urged that those who were doing the Bottini operation should get rid of the idea that all obstruction in the prostate was intravesical, and remember that the principal cause of obstruction was not intravesical, and that, hence, cystoscopic examination and examination with the searcher could not give all of the desired information.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, February 19, 1901.

JOHN H. HUDDLESTON, M.D., CHAIRMAN.

THE evening was devoted to the discussion of pleurisy.

Cyto-Diagnosis; its Applicability to Pleurisy.—DR. JAMES J. WALSH presented this paper, which, he said, was founded on the work of Widal. By an exploratory puncture this investigator obtained a few cubic centimetres of the pleuritic exudate, and centrifugalized the fluid. The cloudy portion should be spread upon a glass slide, but should not be subjected to pressure with the cover glass, as this tended to drive the cell elements to the periphery. The pleuritic exudate was characterized by the presence of small lymphocytes, which showed a tendency to run together. There were also a few amorphous bodies, which stained badly. When examined early, the multinuclear cells present were more numerous than in the later stages. The disappearance of the multinuclears indicated that the resisting-power of the tissues had been weakened. The exudate of mechanical pleurisy was characterized by the presence of "patches" of endothelial cells. In pleuritic fluid containing the streptococcus, multinuclears were found, showing the attempt at resistance, while their degenerated appearance showed that the resistance had been unsuccessful. Pneumococcus pleurisy furnished a very characteristic cell formula, according to Widal. It was characterized by the presence of a few red blood cells, some scattered lymphocytes, and a good many large uninuclear cells, some of which were veritable macrophagocytes. It was very rare, however, to find all of these cells together. In pleurisy, occurring some time after pneumonia, no pneumococci were found, and yet the cell formula of pneumococcus pleurisies would be found.

The Bacteriology of Acute and Chronic Pleurisy.—DR. ALEXANDER LAMBERT discussed this subject. He said that at one time it had been believed that all primary effusions in which no bacteria were found in the smear from the effusion were due to tuberculosis, but this was no longer considered tenable. About thirty to forty per cent. of all primary effusions were now known to be due to tuberculosis. The injection of the centrifugalized fluid into an animal would show the tuberculous nature of the case in a much larger proportion than would smears. Rheumatism had been given by many authors as the next most frequent cause of these effusions. Syphilis was also a not uncommon cause. A pneumococcus effusion was not at all uncommon, and was often purulent. Pleuritic effusions were quite frequently met with in cases of epidemic influenza, and were often complicated by the presence of streptococci.

The Treatment of Pleurisy with Consideration of Early and Late Tapping.—DR. C. E. NAMMACK read a paper with this title (see page 373).

The Use of Methylene Blue Injections in Pleurisy with Effusion.—DR. C. H. LEWIS read this paper, describing the method which he employed in some cases of pleurisy with effusion. His first paper on this subject had been presented about one year ago, and had been based on an experience in twenty cases. In his experience, spontaneous absorption by the lymphatic stream seemed to give permanent results. It had occurred to him that if some substance could be introduced into the pleural sac, which would give rise to the formation of adhesions, subsequent aspiration would result in a prompt cure. After some study he had at last selected methylene blue—a substance which was antiseptic, anodyne, and diuretic. It was important, he said, that the substance so introduced should be in perfect solution and that it should have the same specific gravity as that of the pleuritic effusion; also that the quantity of fluid in the chest should remain unchanged. It was best to dissolve the dye in the effused serum. It had been proved that the respiratory movements were sufficient to cause a proper mixing of the fluids. The serum could be drawn into a graduate, mixed with the methylene blue, and returned to the cavity. He had employed this treatment, with some variations in the technique, in twenty-four cases of pleuritic effusion, including one suppurative case. The average duration of treatment for the twenty-three sero-fibrinous cases had been fourteen days. So far as could be determined, internal remedies had no influence upon the absorption of the exudation. The shortest time for the appearance of the methylene blue in the urine after the injection was one hour. Ordinarily, ten to fifteen grains of methylene blue were employed.

The Routine Treatment of Pleurisy at the Mount Sinai Hospital.—DR. JULIUS A. BECKER read this paper. He said that the treatment of pleurisy following rheumatism was entirely antirheumatic. In pleurisy associated with septicæmia, Credé ointment, antistreptococcus serum, and setons had all been tried, but without benefit. In the pleurisies accompanying the exanthemata the treatment had been entirely symptomatic. For the pain, the Paquelin cautery, guaiacol, blisters, and strapping had been used locally, and morphine, codeine, or heroin internally. For the serous pleurisies, catharsis had been used, preferably in the form of drachm doses of Epsom or Glauber's salt, repeated every half-hour for eight or ten doses. A review of the cases of serous effusion treated at the hospital showed the striking benefit from aspiration practised as soon as there was evidently much interference with the action of the lung. In almost every instance the pulse had been improved in both quality and rate by aspiration. When the fluid had been rapidly increasing, there had often been no tendency to reaccumulation. The duration of the disease had been shortened by early aspiration, and after a cure had been effected there had been less thickening of the pleura and less crippling of the lung. The greatest number of aspirations during the past five years that had been practised on a single case of non-tuberculous pleurisy, in which a cure had been effected, was four. The occurrence of pain, coughing, or of a little blood in the fluid withdrawn, indicated that no more fluid

should be evacuated. In the many hundred aspirations hardly an accident had been recorded. In no case had there been a severe hemorrhage nor had an empyema been distinctly traced to infection from an aspiration. In large purulent effusions, the fluid should be removed by aspiration before operation, in order to avoid the danger of death from shock resulting from the sudden removal of a large quantity of fluid.

Conservative Treatment for Small Effusions.—DR. M. MANGES said that it was unfortunate that the majority of the sero-fibrinous forms were sterile of organisms; hence apparently the great importance of the labors of Widal, so graphically described in the first paper. He hoped the method would yield the results claimed for it, yet he feared the picture given was too bright to be exactly true. In spite of the obvious dangers of aspiration, if judiciously employed it certainly held out the best chances for recovery. The removal of the whole quantity of fluid was entirely unwarranted, as it was well known that the evacuation of a small quantity was often all that was necessary. It was possible that the presence of small quantities of fluid in tuberculous cases was not an unalloyed evil, and one should be slow under such conditions to resort to aspiration. The records of the deadhouse showed that there was danger of injuring the lung with the point of the needle, and he had himself seen death result in one instance simply from the aspiration. He would caution against rashly deciding to aspirate in cases having only small effusions.

The Surgical Treatment.—DR. H. LILIENTHAL advised, as a routine treatment in cases in which the chest was to be tapped, that the skin be nicked with a knife before the introduction of the needle. This would prevent skin infection and made it less likely that the needle would become plugged. He was of the opinion that the cases reported by Dr. Lewis, in which methylene blue had been tried, were too few to prove anything, especially as he understood that no special control tests had been made. It was not impossible that a similar result would have followed the introduction of an indifferent fluid or of some gas like nitrogen. With possibly the rare exception of a typhoid empyema, the safest thing was to operate as soon as the pleural cavity was found to contain pus. He had seen empyema occur secondarily, by direct extension from suppuration in neighboring organs. He had seen an abscess in the vermiform appendix extend up until it became subphrenic, and finally lead to an empyema of the pleural cavity on that side. He had recently seen a case of staphylococcus empyema resulting from an osteomyelitis and general infection of the blood with staphylococci. The drainage tube should not be inserted any farther than was absolutely necessary; in bad cases it was better to resect the ribs and make such a large opening that no tube would be required. He favored the use of Koenig's method of postural drainage after such operations. After the injection of saline solution into the pleural cavity, the patient should be turned into that position which would cause the evacuation of all this fluid, and the nurse then directed to place the patient in this position for a short time, at intervals of a few hours. The dressing should be bulky. The position varied a great deal; sometimes it was almost a sitting posture, while in other cases it was necessary nearly to invert the patient.

Possible Deleterious Action of Methylene Blue.—DR. S. S. BURT said that he had met with cases which had done very well without much medicine, but he had used the aspirator very freely. There were some cases in which it was difficult to be sure of the presence of fluid in the chest, but in most instances one who was expert in physical diagnosis should be able to make the diagnosis without resort to exploratory puncture. The latter procedure was chiefly useful for determining the character of this fluid. It had been his practice to aspirate the fluid until the appearance of the patient and the discomfort produced indicated to him that it was time to desist. He was greatly interested in what he had heard regarding the methylene-blue treatment, but had been a little afraid to try it because of the injurious action it was said to have on the kidneys. In the *American Medico-Surgical Bulletin* for December 15, 1895, would be found an account of experiments on animals, to determine the effect of this substance on the kidneys and other organs. The conclusion there expressed was that methylene blue produced acute parenchymatous degeneration of the kidneys and liver, hyperæmia of the spleen, acute catarrh of the bladder, and a pronounced increase in the number of the white blood corpuscles.

Simple Method of Expanding the Lung.—DR. ANDREW H. SMITH said that the word "pleuritis" had not been used this evening, which he took as perhaps an unconscious recognition that only two activities were present, viz., the attack of a noxa upon the tissue of the pleura, and the protective and reparative action of the structure attacked. No third activity, such as so-called inflammation, was mentioned even by implication. Nothing could be more indicative of the passing of "inflammation," which he firmly believed to be the monumental event of the first quarter of the new century in the field of pathology. Unless septic symptoms were present, it seemed justifiable in many instances to temporize before aspiration of the chest was resorted to. It had seemed to him that very often the use of a short tube in the chest, and the exercise of some patience, would secure far better results than were commonly observed from drainage with longer tubes. A patient recovering from pleurisy should be instructed to close the nostrils and make a gentle effort at expiration. The effect of this was to cause a gentle expansion of the diseased lung, entirely under the control of the patient. He should be instructed not to keep it up if pain were produced. It was a method which could be used without apparatus and, if need be, a hundred times a day—in fact, it was Nature's way. He had been surprised at the immunity of the other organs to tuberculosis in the presence of a tuberculous pleurisy.

Pleuritic Effusion in Tuberculosis a Conservative Process.—DR. HENRY P. LOOMIS thought it was quite difficult at times to diagnose small pleuritic effusions without the use of the needle, though theoretically it should be easy. He made frequent use of the hypodermic needle, and had never seen any harm result from it. Attention was called to the fact that often one of the best things that could happen in a case of pulmonary tuberculosis was the occurrence of a pleurisy with effusion, and hence one should be slow to interfere with it. He was of the opinion that such an effusion acted by keeping the lung quiet. He had used methylene blue in doses of forty or fifty grains a day in cases of malaria, and had never observed any injurious effects from it.

The Medical Treatment.—DR. EGBERT H. LEFEVRE said that he had made some experiments to determine the value of cyto-diagnosis, and felt compelled to say that he had not seen the beautifully clear pictures described by Widal. It was possible that he might succeed with a better technique. When one recalled the relations of the pleura to other organs, and the fact that it had no independent blood supply, he thought it must be evident that pleurisy was necessarily secondary. Some years ago he had suggested a line of experimentation to determine the effect of introducing minute particles of India ink into the trachea of animals. It was found that in a marvellously short time these particles of pigment found their way into the

lymphatics and were deposited underneath the pleura. In no case was any free pigment found in the pleural cavity. In tuberculosis of the lung there was ordinarily an early involvement of the pleura, but no true involvement of the free surface of the pleura. In the treatment of pleurisy he thought the ordinary respiratory movements on the affected side were very important. Long before the outpouring of fluid there was restricted motion. With the beginning of motion on the affected side absorption commenced. He had a very high opinion of the salicylate of sodium in causing absorption of the fluid. The original experiments with this drug on animals showed that, after a certain quantity had been given, the remedy was found not only in healthy but in diseased serous cavities. It was surprising how very frequently there was involvement of the pleura in conjunction with acute articular rheumatism. After trying many local applications, he had found the best results were obtained from inunction with blue ointment.

Hæmoptysis from Exercise after Pleurisy.—Dr. William H. Thomson said that pleuritic adhesions by persistent local irritation led to more pleurisy. Cases were cited showing that hæmoptysis was apt to occur quite independently of tuberculosis, and even long after an attack of pleurisy, simply as a result of physical exercise, particularly of a kind which caused motion of the arms over the head. It was well, therefore, to warn patients recovering from pleurisy against the danger of such exercises. His rule was to advise his patients to produce immobility of the affected side of the chest by strapping, for at least six months after the attack of pleurisy. In some cases of most obstinate and distressing cough following pleurisy, prompt relief would follow this strapping of the chest. He made it a rule not to remove more than eight or ten ounces of fluid from the chest by aspiration. Regarding the mechanism of dropsy, it was generally conceded that at the present time we were entirely ignorant; we had no accurate knowledge of the process of osmosis as it occurred normally during life.

Dr. Lambert remarked that there was on record a case of primary pleurisy in which at autopsy pure cultures of the typhoid bacillus had been found, without intestinal lesions.

Dr. Nammack said that the only case in which he would hesitate to recommend prompt evacuation of the pus in empyema was that in which the patient's condition was so low that even simple incision would prove very dangerous. He wished emphatically to dissent from the view that in all cases a diagnosis of pleuritic effusion could be made without the use of the needle.

Dr. Lewis said that in his cases the urine had been examined daily, both chemically and microscopically, and no deleterious effect on the kidneys from the methylene blue had been noted. He had not used the large doses spoken of by Dr. Loomis, but believed it was innocuous. He knew that methylene blue promoted the formation of fibrin, because he had seen this effect in cases of peritonitis, ascites, and hydrocele.

Dr. J. A. Becker reported a case of marked improvement following aspiration, even in the presence of tuberculosis.

Heart in Acute Rheumatism.—Rest in bed for a sufficiently long time is the most important part of the treatment of the cardiac manifestations of the disease. The occurrence of endocarditis, pericarditis, or myocarditis, or the previous existence of a valvular disease, whether compensated or uncompensated, is no contraindication to the use of the salicyl compounds, but rather an index to push their administration to overcome the toxæmia of the disease.—Delancey Rochester.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 25, 1901.

George B. Fowler, M.D., President.

The Prophylaxis of Venereal Diseases in this City: Medical Aspects of the Social Evil.—Dr. Prince A. Morrow read a paper with this title. He said that medical men took alarm at the spread of smallpox, cholera, and similar diseases, but were apathetic in regard to the constant presence in their midst of syphilis and other venereal diseases. It had been estimated by a competent authority that fully one-eighth of all human suffering could be traced to venereal diseases and their results. According to Neisser, the discoverer of the gonococcus, gonorrhœa was, with the exception of measles, the most widespread of diseases. Fournier found, as a result of a painstaking personal investigation extending over several years, that upward of one-seventh of the population of Paris was syphilitic. Venereal morbidity could be best estimated by studying the records of large bodies of soldiers. Thus, out of 68,331 British soldiers stationed in India, the admissions to the hospital for venereal disease were 36,881, or 53.7 per cent. Of this number, 25.9 per cent. were cases of syphilis. While venereal diseases were rarely fatal in their immediate effects, they contributed largely to the general mortality, by their ultimate results. Within recent years our knowledge of the pathological relationship of gonorrhœa to many morbid states of the human system had been greatly amplified, so that this affection had risen to the dignity of a public peril. Staining and culture experiments had demonstrated the presence of the gonococcus in the pleura, endocardium, pericardium, the blood-vessels, tendons, tendon sheaths, etc. Some German authorities stated that eighty per cent. of all the deaths from uterine diseases were from affections of gonorrhœal origin. Again, blennorrhœa neonatorum contributed to our blind asylums from ten to twenty per cent.—an appalling number, but not nearly so great as in former years when the prophylactic method of Credé was not in vogue. That our conception of syphilis had entirely changed was evident from a comparison of the modern text-books with those of former times. The great prominence given to visceral syphilitic lesions was especially noticeable in our modern works. Syphilis of the brain and cord occupied, in the tertiary manifestations, the first rank in frequency as well as in gravity. The frequency of marital syphilis was not generally known, or even suspected. During the past year he had carefully investigated this matter in every dispensary case coming to him. Fully seventy per cent. of his cases of syphilis appeared to have been of conjugal origin. Physicians, surgeons, and accoucheurs were much more liable to infection with syphilis than was supposed; he had seen no less than fifty such cases himself. Statistics showed that from sixty to eighty per cent. of all syphilitic pregnancies terminated in still-born children. Rickets had its almost exclusive etiology in syphilis. The predisposition to abortion induced by syphilis might be made manifest even in the third generation. No disease had such a devitalizing influence on procreation as gonorrhœa; no disease had such a murderous influence on the offspring as syphilis; they literally poisoned the fountains of life.

Continuing, the speaker said that at the present day the extermination of every contagious disease was the watchword of modern sanitary science, yet there was not a single city in the United States in which these diseases were subjected to sanitary supervision. The syphilitic was twenty times more active as a disseminator of contagion than the consumptive, and yet how

energetic had our sanitarians been of late in endeavoring to control consumption while totally ignoring venereal diseases! Statistics showed that the average age at which syphilis was contracted by women was from eighteen to twenty, and for men, twenty to twenty-five. The present policy of inaction seemed to be a confession of our inability to deal with these dreadful scourges of the human race. It was probable that sanitary authorities were largely deterred because of the strong public sentiment against the legal restriction of prostitution. The law had taken cognizance of certain forms of prostitution, but certain forms of the evil were less tangible. The system of regulation of prostitution had been employed for years in European countries. The essential of this scheme was the registration of the women and their periodical examination. The object was to hygienize an unsalubrious occupation. Many statistics could be adduced to show that the regulation of prostitution diminished the spread of contagion. The difficulty of carrying out the system was that the women did not like to be registered as prostitutes, they did not submit willingly to medical examination, and had a horror of being kept in hospitals; hence many had been led to clandestine prostitution. This had made the occupation less susceptible of public control, and infinitely more dangerous to public health. It had always seemed to him a rank inequality of justice to submit the female offender to surveillance and allow the equally guilty male offender to go free. The most violent opposition to this system of regulation of prostitution had come from religious sects, who looked upon this licensing of such an occupation as putting a premium on debauchery. In this city the crusades against vice had too often been mere campaigns of force. Too often this had been the means of changing the *locale* and directing the business into new channels, but without diminishing the volume of this evil business. The arm of the law should be invoked in suppressing low dance halls, in raising the age of consent to twenty-one years, and in meting out the severest punishment to the men and women who made a business of selling human beings into something worse than slavery. Public opinion, which often had a force independent of its merits, forbade the establishment in this country of the continental system of restriction. It had been tried in St. Louis for about one year, but had then been swept from the statute books by an avalanche of protests, principally from women and the clergy. Incredible as it might seem, there was not now in this great city of ours hospital accommodation for more than one in two thousand of the prostitutes, there being only twenty-six beds for women afflicted with venereal disease, and all these were in the City Hospital. The men fared somewhat better, about fifty to sixty beds being provided. Appropriate treatment constituted the best form of prophylaxis. The feature of forcible detention was obnoxious, and it had been shown that more could be subjected to treatment by the voluntary system. The great point was to remove the ban against this class of patients. The plea made by many hospitals that venereal diseases were excluded because they were contagious was a mere pretext. Every hospital receiving municipal assistance should be compelled to open its doors to these people. A large proportion of syphilitics were ambulatory cases, and should be treated at the private offices of physicians or at dispensaries. The latter should be located in convenient parts of the city, and night classes established. These services should be conducted with all the privacy possible, and the cardinal principle be kept in mind that every case was a focus for the dissemination of the disease. The now obsolete practice of destroying the venereal sores by cauterization or by excision should, in his opinion, be revived. A good deal could be accomplished in the way of prophylaxis by a properly conducted campaign of education. In public practice it was impracticable to give such instruction, except by handing each syphilitic patient a printed pamphlet, stating in plain language the salient points regarding the spread of the disease, its dangers, and the advantages of prompt and persistent treatment. A theoretical and practical knowledge of venereal diseases should be made a requisite for receiving a license to practise medicine. The opinion of all medical men entitled to respect was that sexual continence was not incompatible with the best of health. There was no reason why young men should not be forewarned of the dangers and pitfalls for them. We must look to a higher order of education and *morale* among men as the best means of diminishing prostitution. The vast majority of fallen women became so, not from choice, but because of hard social lines that forced them into this life. Society should deal with them as unfortunates rather than as criminals.

Alcoholism More Dangerous than Venery.—Dr. Frederic R. Sturgis said that this subject had been thrashed out over and over again by medical men, but they had never arrived at any other conclusion than that prostitution should be restricted. He had been informed that insurance companies were studying with much interest the question as to how far venereal disease cut short human life, but so far no unanimity of opinion had been secured. If syphilis were the fatal disease it was supposed to be, he would like to ask what proportion of the population of towns and cities would be alive. Certainly a very small one. Public women had assured him repeatedly that, if they could leave the bottle alone, they would get along very well and might eventually become members of respectable society. The same was true of the men. In armies in which alcoholism was restricted there had been a very small proportion of physical wrecks. The figures on this subject that had been quoted were misleading, in that syphilis and gonorrhœa had not been considered separately. He was not one of those who attributed such a vast amount of morbidity and misery to gonorrhœa as some were inclined to do. Comparatively few syphilitics suffered from nervous syphilis, and he certainly did not believe that rickets was commonly the result of syphilis *per se*. A man might have syphilis for years, but he was not a source of contagion all that time. As a rule, the first twelve months finished the period in which one was liable to convey the disease by glass, pipe, or kiss. All the Anglo-Saxon races positively refused to traffic in vice.

Regulation Backed by Proper Public Sentiment the True Remedy.—If it were proper to regulate smallpox, the speaker asked, why not regulate the other pox? Attempts had been made not only in St. Louis but in Nashville and Louisville. In the last place it had failed because public sentiment had been so strongly against it that it degenerated into a farce. The speaker protested against the suggestion that the treatment of these people should be free; it was not done abroad—indeed, out of the small fees paid for such treatment an elegant hospital had eventually been built for them. Above all, they should not be allowed to come and go as they pleased. The physician who mixed medicines with morals was sure to come to grief; his true function was to show the people where the dangers lay.

Dr. Charles W. Allen said that ten years ago he had read in this academy a paper on the prophylaxis of syphilis. Among other things he had then suggested that the subject of syphilis be made so much more public that the general reader might be instructed a little more and understand what family syphilis meant to the community. The early recognition and prompt treatment of the extragenital chancres would accom-

plish much in the way of prophylaxis. Dr. Allen said that in the Good Samaritan Dispensary about 27,000 patients had been treated in 1887, and out of this number 386, or 1.25 per cent,, were venereal. Last year, 86,000 cases had been treated at this dispensary, of which about 5,000, or 5.7 per cent., were venereal. This would seem to indicate that venereal diseases were on the increase in that section of the city. Dr. Sturgis seemed to have left out of consideration altogether the enormous mortality among infants, arising from syphilis. It was all very well to talk about personal liberty, but it seemed to him well to have some means of controlling these people who would go out from the hospitals while in the infectious stage of the disease. The speaker urged the discarding of the term syphilis and substituting, as a less objectionable one, the word "lues." He was glad to see that this suggestion had been favorably received, and that the term lues was being more and more used in literature. It was common for even liberally educated people to be completely ignorant of the innocent modes of transmission of syphilis.

Stifle False Modesty and Educate the Public.—Mr. W. H. Baldwin, Jr., chairman of the committee of fifteen, was invited to participate in this discussion. He said that the remarks of the previous speakers had shown him a lack of unanimity among physicians on this subject, and, this being the case, what could be expected of others with less opportunity for information? He had been impressed with the earnest desire of many citizens for greater enlightenment on this important topic. Society should come in and protect the poor from contamination, so that their children would have an opportunity to grow up properly. In the course of the work of his committee, the subject of prostitution had received considerable attention and study by some of the members. They had studied the reports of the great conference in Brussels one year ago. The general opinion there seemed to be that regulation or licensing was impracticable, inexpedient, and impossible, because of the tendency to increase clandestine prostitution.

Segregation would Bring Relief.—This was not a subject to be quiet about; we should go about it in a healthy-minded way and face the facts, and explain the subject properly to the public. It was admitted that this evil could not be banished; if, therefore, it must be with us, it was our duty to see that it should exist in proper places, and that it should not exist where decency desired to reign. This business of prostitution must, by a process of elimination, tend to particular localities. One of our great preachers had protested against such a plan on the ground that it would be establishing a "little hell," but he, for one, would rather see a little hell so established than a very large hell.

A Voice from the "Red-Light District."—Mr. James B. Reynolds, head worker in the University Settlement, also took part in the discussion. He said that he had received the impression this evening that while physicians might differ as to the dangers of venereal diseases, they were agreed as to the importance of this subject, and the need for further investigation. He happened to live in that part of the city known as "the red-light district." In certain respects the scheme of regulation was applied more successfully in New York City than in Paris. The medical inspection of prostitutes was voluntary, but they were registered, as in Paris, and undoubtedly the taxing of these people was more systematically carried out, and the taxes were heavier than in Paris, yet no doubt the money was put to a different use. He was perfectly confident that the number of public women not known to the police in this district was very limited; they were known by the police and visited regularly. There were many at the present day who believed that it was not a good plan to attempt to remedy social evils by legislation; that it woud be better to let these evils regulate themselves spontaneously. He entirely agreed with Mr. Baldwin that the first and most important step forward must be with the medical profession, who must educate the people, and so shape public opinion that the efforts of laymen in the same direction would be accepted and appreciated. He was firmly of the opinion that the advertising features of this business should be destroyed.

On motion of Dr. S. A. Knopf, the president was empowered to appoint a committee of seven to ten persons to study this subject, with the object of securing municipal or State legislation for the restriction of prostitution.

Therapeutic Hints.

Varicose Ulcers.—

℞ Powdered iodoform,
Powdered salol,
Subnitrate of bismuth,
Powdered charcoal,
Powdered cinchona,
Powdered benzoin.....ãã p.æ.
M. To be used as a dusting-powder.

—Schwarz.

Falling of Eyelashes.—

℞ Acid. gallic ..... gr. viij.
Ol. ricini ..... ʒ ss.
Ol. lavandulæ ..... gtt. iv.
Petrolati ..... ʒ v.

Vomiting in Phthisis.—

℞ Menthol 1
Spir. vini gal..... 20
Syrupi simpl 30
M. S. Dessertspoonful in water every hour.

Delirium Tremens.—Hyoscine hydrobromate gr. $\frac{1}{100}$ to gr. $\frac{1}{50}$ hypodermically.

Chronic Eczema and Psoriasis.—

℞ Creolin ..... ʒ ss.
Hydrarg. ammon ..... gr. x.
Petrolati..... ℥ i.

—David Walsh.

Whooping-Cough.—

℞ Antipyrin..... gr. ij.
Ext. bellad. fol ..... gr. $\frac{1}{10}$
Zinci oxidi ..... gr. ss.
Ext. castaneæ fl..... ♏ i.
To each dose.

Ascites.—

℞ Ext. pilocarpi fld..... gtt. xx.
Ext. cocæ fld..... ℥ ss.
M. S. For each dose, thrice daily.

—J. N. Crabb.

Bedsores.—

℞ Zinci sulphatis ..... gr. xlv.
Plumbi acetat ..... ʒ ss.
Tinct. myrrhæ.. ..... ♏ xx.
Petrolati.....q.s. ad ℥ ij.
S. Spread and apply.

Neuralgia.—

℞ Ext. hyoscyami ..... 0.12 gm.
Ext. valeriani..... 0.20 "
Morph. hydrochl..... 0.01 "
Pulv. glycyrrhizæ ..... q.s.
M. ft. pil. No. i. S. One such morning and night, or not over three in twenty-four hours.

Influenza.—℞ Ext. gelsemii fld. gtt. ii., repeated every half-hour until physiological effects are produced.—*Massachusetts Medical Journal.*

Cure d'Air is superior to other methods for mitral stenosis pure and simple. Dyspnœa, pneumonia, and

bronchitis are avoided, as is the tendency to tuberculosis. The supply of fresh air must be permanent, day and night.—SURMONT.

Sciatica.—

℞ Ol. terebinth.,
Acid. acetici ..... āā ʒ vi.
Camphoræ ..... ʒ ij.
M. S. Apply.

—*The Med. Times and Hosp. Gaz.*, March 17, 1900.

Fatty Heart.—

℞ Sodii arsenatis ..... gr. 1/64
Potass. iod ..... gr. 1/2
Pulv. nucis vom ..... gr. 1/2
Pulv. rhei ..... gr. 1/2
Ext. dulcamaræ ..... gr. iss.
M. ft. pil. No. i. To be taken daily.

—A. ROBIN.

Bleeding and Tender Gums.—

℞ Gelatin ..... ʒ ss.
Sodii chlorid ..... gr. viij.
Acid. carbol ..... gr. ij.
Eucain β hydrochl ..... gr. viij.
Cocain. hydrochl ..... gr. ij.
Aquæ destil ..... ℥ iiiss.
M. S. Use as mouth wash.

Furuncle.—

℞ Hydrarg. oxid. rub 1
Lanolin 10
M. S. Apply thoroughly once daily.

—JORISSENE.

Asthma.—

℞ Argenti nitratis ..... 0.10 cgm.
Ext. belladonnæ ..... 0.20–0.30 "
Ext. menyanth ..... q.s.
M. ft. pil. No. xxx. Two or three daily after meals.

—GOULOUBOR.

Palmar Syphilides.—

℞ Acid. salicylic ..... 1.20 gm.
Ichthyol ..... 2. "
Ung. aq. ros ..... 30. "
Apply each night and wear gloves.

After the above has cured the lesions, apply the following to ward off recurrences:

℞ Calomel ..... 1 gm.
Ung. aq. rosæ ..... 30 "

—OHMANN-DUMESNIL.

Antispasmodic Injection.—

℞ Valerian root ..... 30 gm.
Infuse in:
Boiling water ..... 250 "
Filter and add:
Asafœtida ..... 4 "
Yellow of egg ..... No. i.
S. For rectal use.

Antineuralgic Pill.—

℞ Zinci valerianat ..... 0.05 cgm.
Quininæ valerianat ..... 0.10 "
Ext. opii ..... 0.01 "
Ext. bellad ..... 0.05 "
For one pill. S. Two to six daily.

—YVON.

Sweating in Phthisis.—

℞ Scopoliæ (alkaloid) ..... 0.015 mgm.
Spt. vini rect ..... 6. gm.
M. S. Gtt. x. three times daily.

—DUCKWORT AND DUNSTANT.

Puerperal Peritonitis.—I observed that when I could salivate them they got well.—G. C. E. WEBER.

In Variola salol abolishes all sense of irritation and desire to scratch. Maturation is usually prevented. Dose, fifteen grains three times a day.—CHARLES BEGG.

Antitetanic Serum.—Twenty c.c. on the second day, 40 c.c. on the third, 30 c.c. on the fourth, and 10 c.c. on the fifth brought about uninterrupted recovery, in a boy injured by a toy pistol.—E. B. ADAMS.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 2, 1901:

	Cases.	Deaths.
Tuberculosis	267	161
Typhoid fever	23	11
Scarlet fever	541	30
Measles	167	8
Diphtheria and croup	293	36
Smallpox	64	11
Typhus fever	1	0
Varicella	79	0

In Severe Anæmia arsenic is usually suitable, especially if there is reason to believe that pernicious anæmia is at the root of the symptoms. In curable lymphatic anæmia arsenic is inferior to iron.—HAYEM.

Health Reports.—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended March 2, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
Alabama, Mobile	February 16th to 23d	..	1
California, Los Angeles	February 9th to 16th	1	
District of Columbia, Washington	February 2d to 23d	12	
Florida, Jacksonville	February 16th to 23d	3	
Illinois, Chicago	February 16th to 23d	10	
Indiana, Delaware County	February 2d	1	4
Kansas, Lawrence	February 8th to 16th	1	
Wichita	February 16th to 23d	8	
Kentucky, Lexington	February 8th to 23d	3	
Louisiana, New Orleans	February 16th to 23d	14	
Shreveport	February 16th to 23d	2	
Maryland, Baltimore	February 16th to 23d	1	
Michigan, West Bay City	February 8th to 23d	2	
Minnesota, Minneapolis	February 8th to 23d	15	
Winona	February 16th to 23d	13	
Missouri, St. Joseph	January 1st to 31st	34	1
Nebraska, Omaha	February 8th to 23d	12	
N. Hampshire, Manchester	February 16th to 23d	30	
New Jersey, Newark	February 9th to 16th	3	
New York, New York	February 16th to 23d	43	9
Ohio, Ashtabula	February 16th to 23d	3	
Cincinnati	February 15th to 22d	3	
Cleveland	February 16th to 23d	48	
Pennsylvania, Erie	February 16th to 23d	1	
Pittsburg	February 16th to 23d	3	
Steelton	February 16th to 23d	1	
South Carolina, Greenville	February 16th to 23d	2	
Tennessee, Memphis	February 16th to 23d	21	
Nashville	February 16th to 23d	6	
Texas, Galveston	to February 16th	183	
Utah, Salt Lake City	February 8th to 23d	46	1
West Virginia, Huntington	February 16th to 23d	1	
SMALLPOX—FOREIGN AND INSULAR.			
Austria, Prague	January 26th to February 9th	17	
Belgium, Antwerp	January 26th to February 2d	1	
Ghent	January 19th to 26th	..	1
Brazil, Bahia	January 19th to 26th	3	
Pernambuco	December 17th to January 15th	..	62
Rio de Janeiro	December 16th to January 15th	..	39
Ceylon, Colombo	January 6th to 12th	1	1
Ecuador, Guayaquil	January 8th to 26th	..	11
France, Paris	January 16th to February 9th	..	32
Great Britain, Bradford	February 2d to 9th	2	
Liverpool	February 2d to 9th	1	
London	January 26th to February 9th	4	
Newcastle-upon-Tyne	January 26th to February 2d	7	1
India, Bombay	January 15th to 27th	..	9
Calcutta	January 12th to 26th	..	186
Karachi	January 13th to 27th	22	14
Madras	January 15th	..	6
Mexico	February 1st to 16th	..	4
Netherlands, Rotterdam	February 8th to 16th	1	
Porto Rico, Ponce	February 1st to 10th	32	
Russia, Moscow	January 19th to February 2d	17	2
Odessa	January 26th to February 9th	33	13
St. Petersburg	January 26th to February 2d	1	
Warsaw	January 19th to 26th	..	12
Scotland, Dundee	January 26th to February 9th	17	
Glasgow	February 8th to 15th	..	10
Straits Settlements, Singapore	December 29th to January 12th	..	1
YELLOW FEVER.			
Brazil, Rio de Janeiro	December 8th to January 15th	..	10
Cuba, Havana	February 8th to 16th	2	2
Mexico, Vera Cruz	February 8th to 15th	..	1
PLAGUE.			
Africa, Cape Town	February 8th	2	
India, Bombay	January 16th to 29th	..	837
Calcutta	January 12th to 26th	..	89

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Original Articles.

THE TREATMENT OF GONORRHŒA WITH FREQUENT IRRIGATIONS OF HOT DECINORMAL SALT SOLUTION.

BY CHARLES E. WOODRUFF, M.D.,

UNITED STATES ARMY, FORT RILEY, KANSAS.

THE positive knowledge gained in the last two decades of the disasters and deaths due to gonorrhœa and the great length of time during which the gonococcus can remain quiescent in the tissues, has resulted in a feverish search for remedies and methods of quick, sure cure. An outsider, calmly considering the drugs and methods advocated, is rather bewildered at their multiplicity, and from the way the profession stampedes to each new thing proposed he acquires the impression that nothing yet has been satisfactory—an impression rather intensified by the fact that new reliable text-books advocate methods differing in no essential from those used for half a century.

The discovery of the highly germicidal properties of silver nitrate for the gonococcus and the progressive production of other silver salts less irritating to the urethra, argentamin, argonin, protargol and largin, seem to have lessened the duration of treatment and, in the hands of some surgeons, apparently leave little to be desired. It is even reported that a few bougies of protargol night and morning, followed by an astringent injection for a few days longer, result in a permanent cure in most cases, and in nearly all of the early cases; and that the injection of a few drops of a twenty-per-cent. solution of protargol in glycerin into the fossa navicularis, after a suspicious intercourse, will surely destroy all the gonococci which may have been received—that is, the earlier the treatment with the new germicides the more surely can we abort the disease.

Jules Janet and Valentine, by popularizing the method of irrigations, have also just as surely revolutionized our ideas as to the time of cure.

Yet it is said that a large number of alleged rapid cures are not cures at all, but that the infection still exists latent, and that relapses are liable to occur for weeks or months and occasionally for years. Within a year or two, prominent specialists have stated that the patients are not now cured sooner than they were formerly, that the aborted cases are a mistake, and that modern treatment may weaken the virulence and reproductive power of the gonococcus more often than it destroys the gonococcus itself, an attenuated germ remaining in the tissues ready to take on virulent growth at a favorable opportunity, or when planted in a new host. With most surgeons, indeed, freedom from complications is still considered of far more importance than short duration of treatment, and one often gathers the impression that active efforts to abort the disease or cure it quickly are too dangerous, an occasional writer even advocating leaving all cases alone, except for their hygienic management.

Professor Gross, as late as 1886, taught his students that the patient who recovered in seven weeks was supremely fortunate, but now, from the general tenor of the papers, we are chagrined if the average case is not well in three weeks. The new "International Text-Book of Surgery" states that cases still last three to seven weeks, but Keyes and Chetwood state that two weeks must be considered short, three weeks reasonable, and four weeks not excessive. The latter-day view is certainly not borne out by the statistics presented by Vogl,[1] reviewing the treatment in the military hospitals of Munich since 1882. Before this time the treatment averaged forty-five days. In 1893 the use of silver salts was begun, but the treatment still averaged forty-five to forty-seven days; after 1896 the average was forty days, but some cases were discharged not cured. In 1896 treatment by silver nitrate, permanganate, and protargol averaged forty-two days, and some cases were not cured. It thus seems that, in Germany, specific remedies had failed, and that there was no treatment any better than the old plan of hygienic management—rest, plain diet, rendering the urine bland, and applying cold in the acute stage.

In looking over the germicides added to the water in the modern irrigation treatment and considering their strength, one is justified in being sceptical also as to the value of specifics used in this way, and in suggesting that plain water would do as well. The germ, though at first a resident of the upper layers of the mucous membrane, extends deeper and is entirely out of the reach of any germicide; and though these weak solutions might kill the germs on the surface, we do not need to kill them if we are to wash them out, and plain water will sweep them out just as well as a weak germicide. In my own experience with Halsted's method it did not seem to make any difference whether corrosive sublimate were added or not—the patients recovered as soon one way as the other.

The excellent results of weak permanganate of potassium irrigations give the same impression, and Dr. Guiard,[2] in discussing Dr. Motz's methods with this drug, has claimed that just as good results are obtained with weak solutions, 1:5,000 or 1:10,000, and, moreover, that they never produce the pain, hæmaturia, or serious reaction of the stronger solutions. Now, surely so weak a solution of permanganate can have little germicidal power for the short time it is in the urethra, and might just as well be omitted. In some of my own cases there was so much complaint of the pain that the drug was omitted; and the patients seemed to progress to recovery more rapidly on plain water. It is, then, justifiable to doubt the efficacy of any germicide in irrigation, and to assume that the good results are due to washing away the germs and toxins, leaving the tissues to destroy the rest. K. Josse[3] claims that irrigations are beneficial, by reason of the gentle massage they produce, and he gives this as one reason for his own method of treatment by massage.

The gonococcus is such a frail exotic, so difficult to keep alive in artificial media, that it was long believed

[1] Münch. med. Woch., August 1, 1899; see Med. News, November 25, 1899.

[2] Presse médicale, October 25th; see N. Y. Med. Jour., December, 1899.

[3] Centralblatt f. Harn- u. Sexual-Organe, Leipsic, June 16, 1900.

to be a pure parasite, incapable of growth outside of the host. Almost anything can be expected to kill it —chilling, drying, etc.—and we know that the disease is rarely transmitted except by direct transfer from host to host, and that if it is transmitted by mediate transfer, it is done shortly after the germs have left the preceding host, the medium introducing the fresh, moist germs, as by moist towels, basins, etc. It is perhaps unknown for the dried, chilled germ to infect. The lower thermal death point is not known, but the germ will not grow if kept colder than 79° F. Its range is said to be 86° to 94°, and above 100.4° it will not grow at all. Every degree beyond the growing limits must weaken the gonococcus, even if the effect is not fatal. I have known soldiers with gonorrhœa, taken down with high fever from some other infection, to have the discharge cease entirely, only to return upon recovery from the second infection, the gonococcus remaining "attenuated" in the interval of high temperature. Neisser demonstrates that 113° F. destroyed the virulence and reproductive power of the germ, though we must presume that it must take some time to do this, for Sternberg shows that 140° F. is fatal in ten minutes. Here, then, is a method of treatment better than germicides, for we can surely warm the deep gonococcus to a temperature of 113° F. by copious irrigations. According to the MEDICAL RECORD, Callori[1] reports that his treatment with water of this temperature is successful in most instances. He advises a preliminary injection of cocaine. Perhaps if he had repeated the treatment at shorter intervals, he would have been still more successful. Even the old empirical treatment of bathing the penis frequently in water as hot as could be borne, must have inhibited the gonococci, and to do this from the inside is far more rational. Though we cannot reach the high degree of heat necessary to kill the gonococcus quickly, yet we can keep up lower degrees indefinitely, by increased frequency of irrigations. As soon as the germs are thus attenuated, the tissues can be depended upon to destroy them, if we only see to it that the tissues are not damaged or their powers destroyed, and that the patient's general nutrition is improved.

Indeed, heat is an essential of the treatment with many surgeons, though the results are not reported as due to the heat. Dr. Menachem Hodara,[2] of Constantinople, reports that his cases last two to four weeks under his method of hot irrigations with nitrate of silver, beginning with 1:4,000 and gradually strengthening to 1:2,000, using a pint at a time. Perhaps Valentine's brilliant results are in part due to the heat of the fluids used, and surely the good results of baking gonorrhœal joints in arthritis must be due to the germicidal power of the heat.

Plain water is irritating to all mucous and serous membranes, and distilled water exceedingly so, for by the laws of osmosis, it soaks into the epithelial and endothelial cells, swells them, causes their detachment, inducing catarrhal denudations and increasing catarrhal discharges. The use of salt solution of normal strength is a matter of daily routine, yet it is rarely mentioned in regard to the urethra, where plain water must be just as irritating as we know it to be elsewhere. One of my own patients complained so bitterly of the pain from a germicide, that a hot decinormal salt solution was used to soothe the membrane, and, much to our surprise, the discharge and other symptoms ceased at once; for I had been irritating the inflamed membrane instead of soothing it. Since then I have stuck to the salt solution for all cases. It is really illogical to take so much trouble to render the urine bland and unirritating, and then to spoil the effect with irritating drugs, which can only damage the natural resisting-powers. Patients not infrequently recover as soon as irritating injections are stopped.

These observations suggest the thought that perhaps most irrigations succeed because they wash out the poisons, and not by reason of the germicides, but in spite of them. An infected spreading chancroid will heal quickly if it is washed often enough. In a persistent case of this kind, many years ago, in an eastern hospital, the patient was experimented upon with all kinds of caustics by every one in turn for a year or more, until but little was left of his penis. Finally, a bright interne applied an old treatment and kept the patient seated in a bathtub of warm water from morning till night, day after day. The ulcer thus constantly washed, got well at once. I have used copious and frequent irrigations upon soldiers for several years, sometimes cauterizing the ulcers first. It does not seem to make any difference what cautery or germicide is used, or whether any—the irrigated ulcers seem to get well as soon as any other granulating wound which is assisted, and not damaged, by our efforts. The constant bath is now the standard treatment in skin infections of severe type.

In gonorrhœa, then, it is a simple matter to cleanse with a fluid as hot and unirritating as possible, and as often as possible. Being at first only a local disease, only local treatment is needed. There are no nauseating drugs to damage the stomach, no annoying chemicals, no restrictions in diet except as to the articles we know to be irritating, nor confinement to bed, nor is there necessity for alkalinizing the urine, but only for diluting it when it is too concentrated. Instead of using a weakening and depressing treatment, we should build up the strength so that the powers of resistance are increased to the point where the tissues can dispose of the germs, which they eventually do in every case. Increased resistance from good nutrition is just as important as in other gonorrhœal infections. Reduction of diet is as bad as venesection.

The latest studies of the gonococcus[1] show that the gonotoxin, excreted by the coccus, is exceedingly poisonous in small quantities, and it is a logical treatment to wash it out of the urethra as often as possible. Therefore, the irrigations should be given at least every hour, though excellent results will follow from two or three hour intervals. Indeed, Col. John Van R. Hoff, U. S. A., informs me that he has secured excellent results from one irrigation daily, of very hot water, kept up about seven days; but he kept up the irrigations continuously for a whole hour every day. In the case of soldiers it is best to keep them busy and out of mischief, and constant treatment is more practicable.

Omitting the cases which were chronic or had complications when admitted, the cases apparently cured remained in hospital as follows:

Number of Cases.	Days in Hospital.	Number of Cases.	Days in Hospital
2	2	2	17
6	3	5	18
4	4	2	19
9	5	2	20
3	6	3	21
8	7	1	22
9	8	1	24
4	9	1	25
4	10	1	26
10	11	1	27
4	12	1	30
2	13	1	32
5	14	1	40
4	15	—	
2	16	98 = Total cases.	*12½

* Averaging.

[1] Jour. de Médecine de Paris, October 3d.

[2] Monatshefte für practische Dermatologie, July 15, 1900.

[1] Christmas in Annales de l'Institut Pasteur, 1900.

Thus, about 30 per cent. last 7 days; 30 per cent. 11 days; 20 per cent. 17 days; 10 per cent. 20 days, and 10 per cent. over three weeks, though the actual duration of the symptoms is less than this, as each case is retained in hospital two or more days after all symptoms have disappeared. In a small number, about 5 per cent., all symptoms disappear within 2 days; in another number, say 10 per cent., within 3 or 4 days, and, as a rule, there is a marked reduction within a week, and a total cessation in 10 to 14 days. This does not mean that the cases are well by any means; for the biology of the gonococcus would lead us to believe that attenuated ones may be present for a long time, ready to take on virulent growth upon any indiscretion in habits. This early cessation of discharge is really a danger in any treatment, but it may be overcome by carefully explaining the conditions to every man. My own practice is to give each soldier an astringent injection to use for two or three weeks after he leaves the hospital, and the few who return with the disease lighted up again generally have a story of drinking, or of failure to do as directed. I have no means of telling how many relapse, though after careful inquiry I believe the number to be very small—in the above ninety-eight cases there were not more than six or eight. When it is remembered that, as soon as soldiers are sent out of hospital, they must take part in active gymnastic drills and exercises, including horseback riding, and that they are prone to drink beer, the small number of relapses is very gratifying. It is equally gratifying the way chronic uncomplicated cases will promptly improve under hot irrigations; some patients even in a few days, though they had suffered for two months or more before entering the hospital. Confinement to hospital on a plain diet, and avoidance of all exercise, no doubt, are very efficacious of themselves and may make the treatment look better than it really is. Early cases in which but a short length of the anterior urethra is supposed to be infected, may be actually aborted, and about as often as by other methods. As a preventive after a suspicious intercourse it has not been tried, but it is likely to be found just as efficacious as the irrigations with hot, weak permanganate are said to be.

If a discharge keeps up more than ten days, I usually find that the irrigations are not properly done. Sometimes there is not enough pressure to fill the urethra and wash out its folds, though a pressure of more than four feet is excessive and quite apt to cause complications. Sometimes the patient constricts the penis so that the water does not go in farther than an inch or two. He must be taught to wash off the glans, then the meatus, then more and more of the urethra until it is all ballooned out. There is in this way little or no danger of forcing the poison any farther back than it usually goes in every case by simply spreading along the folds. Sometimes the meatus is too small and must be enlarged, and old strictures will of course prevent irrigations and must be first remedied.

Though all of the patients were apparently cured, we might consider the ten per cent. of cases lasting more than three weeks as practical failures. Yet some of them were due to carelessness, and there were also cases complicated with more or less destruction of tissue requiring time to repair the damage—cases, by the way, needing cleanliness just as much as the others.

Specialists are almost unanimous in condemning the practice of placing irrigations or injections in the hands of the patient in the acute stage, yet I have seen no harm come from the patient's simply washing out the penis with a quart of hot salt solution every hour, provided he is properly instructed. The complications, such as orchitis and peri-urethral inflammations, are nearly all due to saddle injuries at drill.

I have tried other methods of internal medication, including salol, and the mixture of methylene blue and the oil of cinnamon or nutmeg, and santol, but it is not at all certain that there was any difference between these cases and those simply irrigated. Internal medication is not of much avail. Bougies of protargol at night seem to be good, but I have had to stop them, as they irritated and seemed to be doing more harm than good. A simple treatment without drugs is of great practical value in this as in all other diseases of military life, for active service is apt to be in far-off places where it is impossible to get all the complicated apparatus considered essential in civil practice.

We do not see all the cases of gonorrhœa among soldiers by any means, as there is a natural desire to hide the disease. Yet they do not contract it in any greater numbers than do the same class of men in civil life; indeed, it is quite likely that there are fewer cases among them, on account of their higher average of strength and, therefore, greater resistance to any infection. Nearly all of them being normal men, they have the advantage also of that undoubted personal equation which exists in relation to the normal man's resistance to the gonococcus as a result of natural selection. As with all other parasitic bacteria, this one, no doubt, arose from harmless saprophytic ancestors, by the survival of those having variations permitting of a parasitic existence. It must have taken many thousands of years for this to occur; for we cannot make new breeds of bacteria in the laboratory. We can modify or attenuate them; but as soon as their normal environment is restored, they revert to ancestral types. The gonococcus and man probably underwent evolution together, and there must have been a greater survival of those men in whom, by natural variation, there was more or less resistance, the more susceptible having been killed off. My own investigation among some California Indians leaves no doubt in my mind that the gonococcus was not in that part of America prior to the arrival of whites. There had been no weeding out of susceptibles, and when the disease was introduced its ravages were terrible.

White men occasionally revert to ancestral types and show no resistance. They have bad cases, and seem to be easily infected when other men escape. It is a matter of observation among soldiers that there is something essentially peculiar about the men who do not recover soon under any treatment. They are often devoid of that normal natural *savoir faire* of most men, impractical, often stupid and filthy. They are evidently abnormal and perhaps atavistic in their lack of immunity. As a rule, normal men recover sooner than the abnormal, though they may receive severe infections, and very abnormal men sometimes escape. Yet it is quite likely that the failures in any method of treatment are mostly in degenerates with well-marked stigmata, and that they would be equally hard to treat under any other method. Degenerates, by the way, are far more liable than the normal to excesses of alcohol and venery, and also more liable to gout, rheumatism, rickets, tuberculosis, and other infections, all of which destroy immunity to gonorrhœal infection, or increase the virulence. The above-mentioned work by Christmas also shows that there is an antitoxin formed in the blood of animals injected with gonotoxin. Perhaps this also occurs in man, and in normal and robust men, quite likely it is formed better than in the weak or abnormal. The proved inefficiency of many methods of treatment under which patients recover in time, rather strengthens the suspicion that the antitoxin is always formed, and that the disease is really self-limited, like typhoid, and has a period between forty and sixty days, and that the patients recover naturally in spite of the treatment, not by reason of it. Chronic and severe cases, then, are in the abnormal, or in those of bad habits, or when there

is much destruction of tissue or its vitality is reduced by bad treatment. Some surgeons even depend upon tissue resistance, until the case becomes chronic.

There is no use in trying the above treatment unless one is sure that the patient is properly instructed, and really does wash out the urethra, and not the mere end for an inch or two. Soldiers are exceedingly ingenious in doing it the wrong way and delaying recovery. I find a simple, short glass tube is a good enough nozzle, and each patient should have one, which he should sterilize after use, at the same time he sterilizes his hands, solutions being kept on hand for the purpose.

A WHISTLE IN THE ŒSOPHAGUS.

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In the Medical Record of October 27th, Dr. G. W. King, of Helena, Mont., reports a case of a foreign body impacted in the œsophagus of a child, and its presence there revealed by the aid of the *x*-ray. I have had a case so similar in all regards that as I received the copy of the radiograph and read the history of the case I was struck with the remarkable similarity between the two. The description of Dr. King's case, up to the treatment by œsophagotomy, would exactly apply to my patient, except that he was a boy aged four years, and that no anæsthetic was used in the attempt to locate or remove the whistle. He was more fortunate as to the success of the milder methods of treatment, and I believe the success was due to the special instrument employed, on account of which I believe this case worthy of record.

The boy first came to me two days after having swallowed the whistle. Although the symptoms had been urgent at first, by this time they had so much

Fig. 1.—Radiograph of Whistle.

improved that what remained could very well be accounted for by the irritation from previous attempts to locate or dislodge the impaction. He had been to a number of physicians and no one of them could say whether the whistle was in his throat or not, with one exception (which, for reasons of his own, the father did not tell me of till after I had extracted the whistle), and that was at one of our largest hospitals. They discovered it with the aid of the *x*-ray, and failing to remove it by the ordinary means proposed an œsophagotomy, which the father refused.

As far as my finger could reach, I could not feel any foreign body. Œsophageal forceps of different kinds, which if they had touched the foreign body would certainly have indicated that fact, were passed without locating anything. Subsequent developments proved that they passed beyond the whistle without touching it. An œsophageal bougie and a bristle probang were used without any result. With the idea that the whistle, if any at all had been swallowed, had most probably already passed to the stomach, I put him on the table for an *x*-ray photo, and told him to

Fig. 2.—Hinged Bucket.

call the next day for the result. To my surprise the radiograph showed that the whistle was lodged in the œsophagus.

Before the patient returned I hunted up various forceps and devices for the removal of foreign bodies from the throat. Among others I got what is called a "coin catcher" or a "hinged bucket," and tried this first, as I had already learned by experience that the different forceps did not even touch the body. I passed the "coin catcher," and, pulling it up, out came the whistle on the first attempt.

In view of the fact that Dr. King's case had to be operated upon, and the fact that my patient was advised to submit to operation after failure of other means tried at one of our principal hospitals, I consider myself fortunate in having procured that very ingenious contrivance, the "hinged bucket," that so easily and efficiently did the work. It is an old-time instrument that seems to have fallen into disuse, but considering the frequency of foreign bodies lodging in the throats of children especially, it should have a place alongside the throat forceps and bristle probang in every physician's instrument case. The accompanying illustrations are a copy of the radiograph taken at the time and an illustration of the "hinged bucket."

240 East Broadway.

THE TREATMENT OF COLITIS BY VALVULAR COLOSTOMY AND IRRIGATION.

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The treatment of some forms of colitis by diverting the fecal current and sparing the mucous membrane of this part of the intestine from contact with it by establishing an artificial anus in the cæcum, which should also facilitate topical applications to the mucous membrane, is not of recent origin;[1] and this plan has been carried out with gratifying results in a number of published cases. Nevertheless, it has not been much utilized, for, aside from the fact that many cases of ulcerative and other kinds of colitis get well through the use of simpler measures, the presence of an artificial anus with its inevitable discomfort which patients are compelled to endure for periods which it is impossible to foretell, and the positive risks entailed in attempts at closure of such a fistula, have made it difficult to recommend this plan of treatment.

The fact that many cases of ulcerative colitis or proctitis end in recovery under the influence of irrigations made through the rectum without any diversion of the fecal stream, leads naturally to the belief that by so regulating the diet and digestion as to introduce into the colon fecal matter of at least approximately normal character, no obstacle to recovery of the mucous membrane exists in the passage through the colon of

[1] Keith: Lancet, March 7, 1895.

fæces *per se*. The capacity of the colon is said to be nine pints. It is a matter of every-day experience that it is exceedingly difficult to inject into the normal colon even a quart of 0.5-per-cent. salt solution without provoking a degree of tenesmus that makes its expulsion imperative; and this is the more true when the mucous membrane of the colon is inflamed and hypersensitive and the injected fluid one at all irritating. One cannot avoid the conclusion, therefore, that in even favorable cases but a portion of the mucous membrane of the colon can be reached by injections made through the anus, and that to insure contact of the medicating solution with the entire mucous membrane of the colon fluid must be forced through from the cæcum.

With these premises in mind the logical conclusion is that a simple fistula made in the cæcum would fulfil every indication; and of the various styles of fistula one which would admit of the ready introduction of fluids without the annoyance of continuous leakage, and which finally would close spontaneously without requiring any plastic procedure, would best fulfil the indications.

Dr. Charles L. Gibson, surgeon to St. Luke's Hospital, therefore proposed to me to apply to the cæcum the plan accredited to Kader, and found so successful in the performance of gastrostomy, as best suited to the purpose in view.

The result achieved in the simple case reported herewith justifies so far as it can the adoption of the principles of the treatment employed and the method used in the formation of the fistula.

The patient, male, aged forty-two years, was referred to me by Dr. Julius Frankel, of this city. His family history was negative. Eight weeks before his admission to the hospital, without assignable cause, he developed a severe diarrhœa accompanied by fever and prostration. The diarrhœa persisted in spite of all treatment; the evacuations occurred from sixteen to twenty-three times in twenty-four hours, were blood-stained, and contained a good deal of mucus. There was loss of strength and of thirty-one pounds in weight.

Examination showed a considerable emaciation and anæmia. The mucous membrane of the rectum and sigmoid flexure was congested and everywhere presented very numerous superficial ulcerations, varying from one-eighth to three-eighths inch in diameter. The urine was normal. The fæces contained much mucus, blood, and pus; but no amœbæ were found.

The first step in the treatment consisted in the formation of a cæcal colostomy as follows: A one-and-a-half-inch incision was carried through the abdominal wall parallel with the right Poupart's ligament and an inch internal to its outer part. The cæcum at once presented. A point was chosen in its anterior band and the intestine opened sufficiently to admit a fair-sized soft-rubber catheter. Three tiers of sutures placed above and below this orifice served to infold the cæcal wall. The ends of those last introduced, left long and carried through the margins of the abdominal incision, brought the cæcum forward into close contact with the abdominal wall and further were utilized to close the external wound, being reinforced by a silkworm-gut suture at each angle. Healing of the abdominal wound was without incident.

The after-treatment consumed about four weeks, but the patient was confined to bed for the first half of this time only. He was put upon a diet at first composed entirely of proteids and took salol and castor oil in small doses every three hours, but toward the close of his stay in the hospital a mixed diet was allowed.

Irrigation of the colon was begun at once. The patient was placed on an ordinary douche pan and a large Kelly urethral speculum was passed through the anus and then several quarts of 0.01-per-cent. solution of silver nitrate were injected through the catheter, and the colon was thoroughly washed out. The silver solution was then followed by 0.5-per-cent. salt solution. For the first three days this washing was done twice daily; for the next eleven days once daily and the strength of the silver solution increased to 0.02 per cent.; for the remaining time every other day.

After the seventh day the catheter was removed except at the periods of washing, and in the intervals there was absolutely no leakage. Even during the injection when the cæcum and ascending colon were tightly distended and bulging the abdominal wall, no fluid followed if the catheter was withdrawn.

There was never any difficulty in introducing the catheter. From the first the diarrhœa began to improve; at the end of two weeks no ulceration of the mucous membrane could be seen, and at the time of the patient's discharge from the hospital the mucous membrane of the rectum and sigmoid seemed normal; he was defecating without pain from one to three times daily; the stools contained nothing abnormal; his weight had increased ten pounds.

After leaving the hospital a small pad was worn for twelve days, at the end of which time the track of the fistula was entirely healed. Since discharge the patient has been well, and has continued to gain flesh and strength.

A small ventral hernia has appeared at the site of operation, which, I think, can easily be controlled by a pad or closed by operation. In future I shall adopt the intermuscular incision of the abdominal wall, although this plan may possibly render the preservation of the patency of the fistula difficult, particularly if the treatment has to be extended over a considerable period.

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THE OVARY; ITS RELATION TO NORMAL FUNCTIONS AND TO PATHOLOGICAL STATES.

By SAMUEL W. BANDLER, M.D.,
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Ovulation.—One of the functions of the normal ovary is the production and expulsion of ova capable of being fecundated. It is probable that after birth no new ova are formed from the germinal epithelium. At and after puberty we judge the vitality of the ovary by its ability to bring these ova to a stage which may be called ripe. For the expulsion of an ovum from the Graafian follicle, a gradual increase in size of the follicle takes place, depending partly on an increase in the amount of liquor folliculi. The cells of the follicle epithelium undergo fatty degeneration, and the internal layer, the tunica interna, shows an increase in the size of the cells, and a decided development of the blood-vessels. The protoplasm enlarges greatly, begins to take on a yellow color, and these cells, now lutein cells, are arranged in several layers, forming an irregular surface. As a result of the fatty degeneration of the follicle epithelium, the ovum is freed from the cumulus oöphorus. The most prominent point of the follicle is poor in blood supply, and furnishes the so-called stigma folliculi. It is here that the opening takes place which serves as an outlet for the ovum. This opening is probably the result of the reaction or chemical effect produced by the ripe ovum, since in the newly born, and in children, follicles of the same size and even larger ones exist without bursting—the so-called atresic follicles. The facts that large follicle cysts occur in the ovary without opening, and also that in women in whom the unopened follicles degenerate, disturbances of menstruation occur—so-called missed

ovulation—speak for a chemical reaction as probably one of the functions of the ripe ovum. That the orgasmus venereus does play a part in hastening the expulsion of the ovum is not to be questioned. In most cases the opened follicle is then filled with blood which likewise empties into the peritoneal cavity, and the so-called corpus luteum spurium results. If pregnancy takes place, this body develops decidedly, forming the corpus luteum verum (Nagel).

After ovulation, the ovum is thrown out into the abdominal cavity, and then, influenced by the wave movement of the ciliated epithelium of the tubes, the fimbriæ of the ampulla, and the fimbriæ ovaricæ, finds its way into the uterus. It is not necessary that the tube should grasp or surround the ovary, since it would embrace, even under favorable circumstances, only part of the ovary. This wave movement of the ciliated epithelium causes a current in the peritoneal plasma, which directs the ovum into one or the other of the tubes.

Lode injected, with a needle pointed toward the diaphragm, the eggs of ascarides into the abdominal cavity of rabbits, in the region of the umbilicus. After ten hours, without the excitement of coitus, he found these eggs in the tube. An interesting proof of the existence of this current is given by Knauer, who removed the ovaries of dogs, and sewed them into the mesentery. In one case, on opening the abdomen he saw in one of the ovaries three ripe Graafian follicles. Shortly after, coitus took place, and in due time two young were born. A further proof is found in the experiments of Leopold who showed that an ovum given off by one ovary may enter the tube of the other side. The cases are not rare in which the tube of one side was closed or absent, and although the corpus luteum verum was found in the ovary of the same side, yet the ovum was found in the uterus. The same is true of those cases in which the corpus luteum verum is on one side, and the ovum develops in the other tube, or in the horn of a uterus unicornis of the opposite side. Therefore it is certain that, normally, a wave current exists on either side of the uterus, and that the ovum is attracted by the stronger current, usually that of the side from which it came, possibly, however, by the current of the other side.

Lode has shown that an ovum finds its way through the tube into the uterus in thirty hours.

Menstruation.—Menstruation is the periodical loss of blood from the uterus or from any mucous membrane, and may be divided into three periods: the præmenstrual, the menstrual, and the postmenstrual. During the præmenstrual period, the ten days immediately preceding the appearance of blood, the following changes take place:

The superficial capillaries become greatly dilated, and serous infiltration of the endometrium takes place, which separates the meshes of the stroma, accompanied by a gradual but decided dilatation of all the blood-vessels and lymph channels. There occur a growth of round cells in the interglandular tissue, and an entrance of leucocytes into the mucous membrane. The glands become larger and wider, being often filled with secretion.

This swelling of the mucous membrane, the dilatation of the blood-vessels, the production of round cells, and the growth of the superficial layer of the endometrium produce the so-called decidua menstrualis. Although in the connective tissue large cells, not to be distinguished from young stages of decidua cells, are found, it is to be noted that typical decidua cells do not, as a rule, develop at this time in the superficial layer. The endometrium is at this period from 6 to 7 mm. in thickness.

The period during which blood is thrown out is the next, or menstrual, period. The superficial capillaries are greatly dilated, and an exit of blood elements, not dependent on a bursting of the capillaries, goes on for several days. The bleeding occurs partly through diapedesis, and, in strong bleedings, through rhexis. There is little or no destruction of the mucosa, only a very slight fatty degeneration of the epithelium of the uppermost layer, so that in the excreted blood relatively few epithelial cells are found.

After menstruation, the uterus shows an almost continuous covering of epithelium, interrupted in spots, especially if pathological processes be present. Most of the ciliated epithelium is preserved. The first stimulus to bleeding is due to contraction of the uterus, which at the height of congestion is possibly accompanied by contractions of the tube. During menstruation the uterus is larger, and in the first few days following likewise soft and flabby. The flabbiness lasts longer than the bleeding. A spontaneous dilatation of the cervix canal takes place, and reaches its height on the third or fourth day. This dilatation takes place without regard to the amount of blood discharged, whether the menstruation be painful or painless. The cervix is hyperæmic, the glands showing an increased secretion of mucus. The blood thrown off is mixed with the mucus of the uterus and cervix, and later with the acid secretion of the vagina, for this reason coagulating less easily than other blood.

The secretion from the sebaceous glands of the external genitalia is responsible for the peculiar odor present in some cases, and in nowise differs from that observed in the axilla. On the inverted uterus the blood has been observed to appear in single drops from the region of the openings of the glands. The endometrium is then covered with white and bloody mucus, the openings of the glands being clearly seen. There is no degeneration or destruction of the mucous membrane. The changes in the tubes, if any, are slight (Gusserow).

The next, or postmenstrual, period comprises fourteen days, during which the mucous membrane returns to a thickness of 3 mm. During this time all cells not capable of further growth are thrown off, and the epithelium, only partially denuded, is regenerated. The epithelial cells found singly or in groups in the lumen of the glands disappear by resorption, and partially by phagocytosis. From the sixth day after the beginning of menstruation, cell division is prominent. It is probable that mitosis takes place, even during the exudation of blood. The presence of mitosis in the leucocytes is an evidence of growth of the interstitial tissue during menstruation.

Regeneration concerns the stroma, the glands, and surface epithelium, reaching its height on the fourteenth or fifteenth day after the beginning of menstruation. The mucous membrane becomes pale, the glands and vessels have returned to their normal state, the lost epithelium has been restored. From the middle of the third week on there is a diminution in mitosis.

Menstruation is not a process by which the mucous lining of the uterus is thrown off, with subsequent regeneration previous to the next menstruation. It is simply the excretion of blood from the decidua menstrualis occurring for the simple and sole reason that there is in the uterus no fecundated ovum.

Ovarian secretion is the direct cause of this periodical swelling of the mucosa, and it continues, if fecundation has taken place, to exert, not alone a local, but likewise a stimulating influence on the general and sexual organs. This stimulation occurs to a heightened degree during pregnancy, and on removal of the uterus, since the secretion is ordinarily excreted during menstruation. On the occurrence of pregnancy, this secretion causes a further development of the uterus and the decidua, and plays an important part in the process

of labor; it stimulates the functions of the breasts, exerts a decided constitutional stimulation, and is the cause of many of the pathological conditions occurring before and during labor.

The generally accepted view as to the relation between ovulation and menstruation is that of Pflüger. The increase of the contents of the Graafian follicle, which results through the secreting activity of the cells of the membrana granulosa, is said to stimulate the nerves running in the stroma and ending in the cells. The increasing tension reflexly irritates the vasomotor centre, with resulting dilatation and congestion of the uterine vessels. At the height of this congestion the follicle is supposed to burst, through pressure. As congestion and tension in the ovary are supposedly the reflex causes of the congestion of the uterus and pelvic organs, menstrual bleeding is considered a result of periodical ovulation. This theory obtained support through the experiments of Strassman, who showed that increased tension in the ovaries of animals, produced by the injection into them of fluid, caused swelling of the mucous membrane of the uterus. In answer it may be asked why the same condition does not result in all cases of ovarian tumors and ovarian cysts, which may develop entirely beneath the albuginea.

This theory of Pflüger and the experiments of Strassman have been generally quoted to prove the causal relation of ovulation to menstruation. The congestion in the ovary, and the swelling of the Graafian follicle, must then, through the nervous system, stimulate the uterus to congestion, with a resulting periodical bleeding. The cessation of menstruation after castration has likewise been cited as proof of the fact that without ovulation there could be no menstruation, since the periodical hyperæmia reflexly caused by ovulation no longer takes place. By others it was considered that the distention of the ovary, occurring periodically, exerted an action upon the vasomotor system, then causing congestion. The atrophy of the uterus after castration was likewise pointed out as a proof of the resulting diminished blood supply, ordinarily furnished by this reflex action of the ovary. On the other hand, it has been frequently stated that the result of castration was due to the tying off of the arteriæ spermaticæ internæ, and that the resulting anæmia was the cause of atrophy of the uterus, and of the diminution in the size of the uterine myomata.

Rein cut all the sympathetic and all the spinal nerves running to the uterus in a dog, and yet the animal bore young. Inasmuch as the uterus, freed from the central nervous system, performed its functions as before, he concluded that a regulating nerve centre exists in the ovaries. All this was taken to prove that menstruation was a result of reflex action originating in the ovaries.

Relation of Ovulation and Menstruation.—As a matter of fact, ovulation and menstruation are related only in that both are the result of the secreting function of the ovary, and are in nowise connected as regards cause and effect. The ovum is the external secretion, the internal secretion entering the blood through the lymph channels. The ripening and expulsion of an ovum may occur at any time. It is, however, a fact that menstruation occurs only after the ovary is capable of producing ripe ova, and whether the egg be expelled, or occasionally degenerate in the follicle, is immaterial. The independence of ovulation and menstruation is evidenced by the fact that the former takes place before menstruation has appeared, and likewise after the menopause, as is proven by cases, by no means rare, of pregnancy in girls who have not yet menstruated, as well as by the occurrence of pregnancy at variable periods after the amenorrhœa of the climacterium. In children the primary follicles develop fully before puberty, and the same development occurs even in the fœtus and in the newly born. Those ova and follicles go through the same stages of development and ripening as in the case of adults. That they are not capable of fecundation is shown by the fact that the ova are only one-half as large as in adults. In those cases, however, of young children with well-developed breasts and genitalia, when menstruation begins there is an unusually strong development of the body, and the ova, as well as the follicles, differ in no way from those found in menstruating adults.

Leopold found that in forty-two pairs of ovaries, thirty pairs showed a corpus luteum belonging to the last menstruation. In thirteen pairs no follicles were found, which on account of their size, or the swelling of the follicle, justified a belief that a bursting of any follicle would have occurred at the next menstrual period. In twelve cases no corpus luteum was found belonging to the last menstruation. One case showed a follicle which had burst between menstrual epochs.

Arnold found that in fifty-four cases, only thirty-nine showed the presence of fresh corpora lutea after the last menstrual period.

Williams found this to be the case in twelve cases out of sixteen. Therefore, ovulation, although in the majority of cases occurring at or near the menstrual period, is not the cause of the same.

Leopold has shown experimentally that in the intermenstrual period follicles ready to burst are present, and that through certain causes, such as coitus, the exit of an ovulum may result at any time. That ovulation occurs during pregnancy is proved in the case mentioned by Kroenig, in which conception occurred as a result of coitus four days post partum. The relatively frequent occurrence of pregnancy during the temporary amenorrhœa of lactation is a proof of ovulation during this time.

Consentino finds that, during pregnancy, lactation and ovulation continue. Although the ovum of a menstrual period may be fecundated immediately thereafter, the ovum usually fecundated is the one given off between four and eight days before menstruation, the egg thus belonging to the period, so to say, first omitted. The ovum retains its vitality for an average period of twelve days, and yet out of a collection of two hundred and fourteen pregnant cases, in sixty-five coitus had taken place after the twelfth day following menstruation. Therefore, in these pregnancies at least, the ovum must have belonged to what may be called the next awaited menstrual period. Even if the expulsion of the ovum occur only a few days before that time, its fecundation is not difficult to explain, nor are the cases puzzling in which one coitus directly after menstruation produces pregnancy, as the spermatozoa retain their vitality for a long time, and have been preserved, in proper temperature, for a period of eight days. Dührssen has found spermatozoa in the tube three and one-half weeks after the last coitus.

It is therefore evident that ovulation, as a rule, occurs from four to eight days before menstruation, but it may occur at other periods, as ripe ova, practically speaking, may be present at almost any time.

Ovarian Secretion.—The periodical swelling of the mucous membrane is due to the secretion given off by the ovary, and the experiment of Strassman proves that the forcing of an additional amount of this secretion into the circulation only enhances this effect. That ovulation and menstruation, or at least the latter, occur with a certain regularity is a fact which we are not able to explain any more than we can say why in malaria the plasmodia are thrown into the circulation at regular intervals, or why the menopause usually occurs at a certain period. At any rate, were menstruation the direct result of periodical ovulation, we should still be in need of a satisfactory explanation for the latter

phenomenon. No other theory is satisfactory than that of secretion. Ovulation and menstruation are evidences of the functional capability of the ovary. Since ovulation may occur without menstruation, but the latter never without the former, we have here an evidence that a certain functional activity of the ovary is necessary to stimulate the mucous membrane to its periodical changes. That after double castration regular bleedings may occur for a certain period is proof of the independent rôle which the endometrium, to a certain degree, plays in the process of menstruation; for sufficient of the secretion of the ovaries may still remain in the circulation to produce the normal processes after removal of the ovaries. The part which the ovaries play in the development of the body, the effect of their presence upon the breasts and the genital tract, at puberty, before each menstrual period, at the menopause, and after castration, are sufficient evidence of their secreting power. The experiments of Knauer and others, to which I shall later refer more fully, prove that it is simply the presence of the ovaries, and the preservation of their secretion, which are of importance to the body, and that their action upon the uterus is in nowise reflex in character, since when removed and implanted elsewhere, and in this way loosened from their connection with nerve plexuses and the nervous system, every sexual peculiarity is absolutely preserved.

It is therefore evident that an ovum, by natural means, may at any time enter the tubes, and that no congestion of the tube, no erection of the tube, and no reflex spasmodic grasping of the ovary by the tube are necessary.

Menstruation is simply an evidence that a fecundated ovum is not present in the tube or in the uterus. Practically no part of the endometrium is thrown off. It seems as if the blood thus lost simply gave an exit to the secretion of the ovary, which, if retained too long in the body, produces in pregnancy certain normal changes, and in a large number of cases abnormal processes. In pregnancy the ovarian secretion stimulates the uterus to enlargement and growth, it stimulates the formation of blood, produces tension and congestion in the vascular system, and stimulates the function of the breasts. After labor, lactation is stimulated by this secretion, so that little or no effect is exerted upon the uterus; therefore it rarely undergoes the periodical stimulation and has a tendency to atrophy. The changes occurring in the decidua menstrualis and the decidua graviditatis are certainly evidences of the action of a secreted substance. The method in which the ovum is embedded in the decidua, and the processes occurring in its immediate vicinity, as well as the fact that in extra-uterine gravidity a decidua graviditatis is formed in the uterus, with decided enlargement of this organ, are likewise proofs of this fact.

Decidua.—The decidua graviditatis shows an enormous thickening of the endometrium. In the first month of pregnancy it is 1 cm. in thickness. Its surface is uneven, deep grooves dividing it into irregular fields. These changes are greatest at the fundus. In the region of the internal os the changes are less noticeable, the lining of the cervix, except for a high degree of hyperæmia, having no part in these changes. The increase of volume in the decidua depends greatly upon the growth of the round cells in the endometrium, and upon their change into decidua cells. The round cells of the connective tissue, situated in a meshwork of spindle- and star-shaped cells forming the stroma, enlarge. The protoplasm increases greatly in amount, and the nucleus becomes larger. These cells appear at first in the upper layer, and so prominently that this layer of the decidua graviditatis is called the compacta, in contrast to the lower layer, the spongiosa, where the glands, although closed, are retained. These cells increase in size from five to ten times, and are found already in the first three months, not alone in the mucous lining, but likewise in the wall of the uterus. That these cells are due to a direct stimulation of ovarian secretions is proved by the fact that they are found in the uterus in extra-uterine gestation, likewise in the mucous membrane of the tube in a normal gestation, occasionally on the peritoneum, on the ovaries, and, in one specimen of mine, were found upon the tube. The glands, in addition to enlarging, show a hyperplasia of the epithelium.

Embedding of the Ovum.—Spee and von Herff have shown that in the guinea-pig the ovum forms an opening through the epithelial lining of the uterus, and that, after having passed entirely through the mucous membrane, it develops further in the region of the subepithelial connective tissue. The opening thus formed is closed by lymph exuadtion, and there results about the ovum a so-called lymph space, showing that an exchange between the ovum and the surrounding tissue exerts upon the latter a certain reaction. That the same process occurs in the human being is to be expected, for the following reasons: 1. By analogy with the above process. 2. In human beings there is no epithelium, nor are there any gland openings on the surface of the so-called reflexa, facing the ovum. 3. The youngest human ova found in the uterus show no prominence into the uterine cavity, which would be the case if they developed upon the decidua vera, and were enveloped by a decidua reflexa.

Peters examined an ovum supposedly five days old, found in a young girl whose last menstruation was on September 1st, and who at the end of September, with a cessation of menstruation, had among other symptoms, vomiting. Because of her fear of pregnancy she committed suicide on October 1st, and a post-mortem examination, a few hours later, revealed the following condition: The uterus was slightly enlarged and soft. The decidua at the fundus and on the posterior wall was 8 mm. thick; on the anterior, 5 mm. The lining of the cervix was hyperæmic. On the posterior wall was a very sligh prominence, which proved to be the ovum, whose largest diameter was found to be 1.6 mm. The ovum was embedded in the compact part of the decidua, which portion, as before stated, showed only a slight prominence. The summit of the ovum was uncovered by a capsule, but showed a spot of blood granulation.

Only in the immediate circumference of the ovum was there a clear division into compacta and spongiosa. The tissue between the glands near the surface in other parts was slightly increased, so that the early stages of a subsequent division into the two layers were evident. The spaces between the cells were filled with a pale homogeneous plasma, an evidence of the serous infiltration of the endometrium. The nearer to the ovum, the more frequently were free red and white blood cells found between the cells of the stroma and in the plasma. Nowhere was there an evidence of fatty changes in the superficial layers. The mucosa was everywhere extremely vascular. The venous channels showed superficially often only a simple canal of thin endothelium, without adventitia. The arteries preserved their adventitia up to the covering epithelium. The nearer to the ovum, the greater was the vascularization. In this case fecundation took place shortly before the expected menstrual period, confirming the view which Leopold gained through one of his cases, and one which Reichert likewise holds for the same reason. The fact that this ovum had made its way into the decidua, wherein it was firmly embedded, proves, analogous to the observation of Spee, that an ovum can develop only on a spot free of epithelium, and that, through reaction upon the surrounding tissue, an ovum sinks into the decidua, and that this reaction causes a dilatation of the surrounding lymph spaces, with a resulting localized

œdema. This reaction likewise stimulates the decidua to an exchange of products between itself and the ovum, a process undoubtedly aided by the ovarian secretion, with the result that for this reason, and not through a reflex stimulation, the decidua develops further instead of diminishing in size and changing in character, as occurs naturally when, in menstruation, this ovarian secretion is lost.

A further proof of the direct influence which the ovum exerts upon the decidua is shown by the manner in which the space formed by the embedding of the ovum is filled up. There is no possibility, by the way, that an ovum has been taken up in a gland, since the glands are far too small. The character of the œdematous zone about the ovum shows that it is due partly to enormous vascularization, and partly to the accumulation of products of exchange between mother and ovum. The thickened compacta cells are swollen, and there exist wide meshes and spaces separating the individual cells. These spaces are filled with a clear fluid medium in which blood cells are plentifully present. There is, therefore, not alone an infiltration with plasma, but also an invasion of blood elements, which is certainly a proof of reaction. In the edges of the groove in which the ovum is embedded, and also deeper down, a more decided hemorrhagic œdema takes place, and minute blood extravasations force their way up to the epithelium and lift it off. The resulting coagulation, containing likewise the remains of these cells, serves to close the opening and to cover the ovum.

It must, therefore, be taken for granted that the ovum embeds itself in the decidua; and that an active growth of the latter up to and surrounding the ovum, with a formation of the so-called decidua reflexa, by no means takes place.

The stimulative effect of the ovarian secretion upon the endometrium is evidenced by the fact that the decidua in an extra-uterine gravidity possesses all the characteristics of a decidua vera. The reaction produced by the ovum is here also evident from the fact that the intensity of this decidual reaction in the endometrium is dependent upon the nearness of insertion and the grade of development of the ovum. The nearer the ovum is to the ostium uterinum, and the younger the pregnancy, the clearer and more decided are the characteristics of the decidua. In the tube, as a rule, the lining undergoes a like change, but only in the immediate neighborhood of the ovum. At times the other non-pregnant tube shows decidual growth. A further evidence of stimulation is given by the fact that the decidua is rarely thrown off unless the extra-uterine gestation be interrupted.

If, however, it be thrown off, it is not renewed. The throwing off of a decidua occurs, as a rule, only upon the death of the fœtus, upon rupture of the tube, in tubal abortion, or in bleeding into the tube. As the death of the fœtus does not result with every rupture or bleeding, the throwing off of the decidua is an evidence clinically of a disturbance in the process of fœtal development (Winter).

Another of the functions, then, of ovarian secretion is to be found in its stimulation of the round cells of the stroma to growth and to the formation of decidua cells; for these cells are found likewise in certain forms of endometritis with menorrhagia, and in dysmenorrhœa membranacea, in both of which cases we find an over-stimulation of endometrial processes. In the latter especially, the ovarian secretion also stimulates a contraction of the uterus, as in menstruation, in pregnancy, and in uterine dysmenorrhœa, so that the secretion which has in dysmenorrhœa membranacea caused this advanced change in the cells, causes at the same time pains equal to those of labor, with a result that the lining of the uterus is thrown off in parts or in whole. As a matter of fact, this over-stimulation is evidenced by the fact that the endometrium in these cases differs in no way, in the intervals between menstruation, from that of the normal endometrium, and that only at menstruation is found an interstitial endometritis containing these large cells, like those in a decidua graviditatis.

Constitutional Changes.—Were we to consider the relation between the ovary and the uterus, and between the genitalia and other organs to exist through the medium of the cerebro-spinal or sympathetic systems, why should we find the walls of the tubes thin and containing more connective tissue in cases of poorly developed ovaries, and at the menopause, when no primary follicles and no Graafian follicles are present in the ovaries? The uterus then shrinks, the walls become thin and flabby, the mucous membrane atrophies, the connective-tissue elements are more prominent, and the ciliated epithelium disappears. Is it not extraordinary to make the occurrence of these decided changes dependent upon a cessation of ovarian congestion? That these differences are not due to the lack simply of reflex stimulation on the part of the ovary is sufficiently evidenced by the constitutional changes occurring at puberty, at menstruation, during pregnancy, and at the menopause. The relation between the changes occurring at puberty and at the menopause, before menstruation and after menstruation, during pregnancy and after pregnancy, show a decided resemblance. Until shortly before each menstrual period, temperature, pulse, muscular activity, lung capacity, and the excretion of urea increase, and reach their maximum two to three days before the appearance of blood. During this period we find hyperæmia, œdema, increased activity of the ovary, changes in all the mucous membranes, and increased function of the glandular apparatus. The occurrence of swelling of the breasts, tenderness of the abdomen, even pain and the passage from the vagina of increased mucus, sometimes mixed with blood, prove at the beginning of each menstrual period a wave movement, and an increased blood tension by no possibility due to reflex causes. During and after menstruation regressive changes are evident, and the excretion of nitrogenous elements is diminished.

During pregnancy we have an increased amount of the watery elements of the blood, an increased proportion of fibrin, a diminished amount of albumin, an increase in the white blood cells, a relative diminution in the number of red blood cells and in the amount of hæmoglobin.

Before labor the temperature is highest in the last three months of pregnancy, and there is an increase in the elements of the body, equal to one-thirteenth of the body weight. This increase is due to serous infiltration, and to the increased ability of the body to form organized tissue. Post partum, after a temporarily short rise, the temperature is lower, the blood pressure sinks, and becomes normal on the ninth day. The loss in body weight is equal to one-ninth of the weight of the pregnant person. For labor and post partum together, there is a loss of weight nearly equal to one-fifth of the body weight at full term. After labor there is a diminution of tissue change and a diminution in the amount of urine.

Therefore as regards temperature, blood pressure, body weight, the amount of urine secreted, etc., there is always a similar increase before menstruation, and a like decrease in intensity during and after menstruation, as during and after parturition, so that Virchow has well characterized menstruation as being a pregnancy *en miniature*.

According to Loewenthal, who believes that every ovum is embedded in the mucous membrane of the uterus, we may say that labor is a menstruation in which a fully developed ovum is expelled. The co-

incidence of labor with a menstrual period seems therefore natural. The resemblance of the mechanical processes concerned in menstruation and in labor is remarkable, and these changes can be due only to the stimulative effect of the ovarian secretion, acting not alone upon the uterus and the genital organs, but likewise upon the breasts, upon the blood elements, and upon blood tension. This secretion is a stimulus likewise to uterine contractions, and is the probable cause of the contractions normally occurring during labor. The action upon the uterus at the end of pregnancy of this accumulated secretion is probably the cause of labor pains.

The action of the ovarian secretion upon pulse tension, and its effect upon the mucous membranes of the body generally, are likewise evidenced by the congestion of the vocal cords during menstruation, so that during this time the singing voice is poor. The secretion of intestinal mucus is also greater, there is increased perspiration, the lower turbinated bones are swollen, and the eye suffers limitations in power. The best evidence of the constitutional elements involved in the process of menstruation is the occurrence of vicarious menstruation. Under this designation we consider bleedings occurring at regular intervals in a patient suffering from amenorrhœa. The most frequent spot for this bleeding is the nose, usually the lower turbinated bones.

Fleiss described a two-year-old child with well developed pubes and breasts, who had periodical bleedings from the nose. In a second case, a girl fourteen years old, well developed, suffered from regular bleedings from the nose, which stopped, however, when real menstruation began. In another case the regular nose bleedings at intervals of twenty-nine days stopped during pregnancy, only to begin afterward, and after a continuation of eight months ceased again on the occurrence of a second pregnancy. Bleedings of the same kind have been described as occurring regularly from other mucous membranes, the trachea, the lungs, and the stomach. In the latter instance the bleedings were not always associated with vomiting, the blood being usually found in the fæces. In other cases there were bleedings into the thyroid gland. In cases with poorly developed uteri, these bleedings disappeared only when the uterus began to functionate properly.

The secretion of the ovary exerts through the medium of the blood a stimulating effect upon the breasts, noticeable before menstruation, during pregnancy, and during the period of lactation.

Goltz cut through the cord of a dog at the level of the first lumbar vertebra, and later saw the signs of rut appear. After coitus one dead and two living young were born. The breasts were well developed, and lactation and nursing followed the normal course. Since these changes, the sexual tendency and the process of labor, could not have been excited through the cord, it must be that a certain secretion of the ovary, acting through the medium of the circulation, gives the stimulus for the exercise of those functions.

Ovarian secretion exerts a most decided effect upon the development of the uterus and the genitalia, as well as upon the breasts. It is absolutely necessary for the preservation of the developed uterus, the other genitalia, and the breasts. An over-production of ovarian secretion or a disturbance in the function of the ovary causes pathological changes; an under-production of ovarian secretion is likewise the cause of pathological conditions. The production of ovarian secretion and its action for a certain period of time are the probable causes of the pains of labor.

The Trophic Action of Ovarian Secretion.—Halban transplanted the ovaries in newly born guinea-pigs to see what effect transplantation and castration would exert upon the development of the genitalia and the breasts. The comparisons with non-castrated animals are very interesting. In the castrated guinea-pig the breasts were later found to be one-fourth the normal size; the genitalia were small, the vulva was one-third smaller than normal; the uterus was as small as at birth, showing very slight development of muscle and endometrium, and containing no ciliated cells. The breasts showed no glandular tissue, the mammillæ were hypoplastic, the vaginal mucous membrane showed both squamous and cylindrical epithelium—a novel condition. When the ovaries were transplanted under the skin, the uterus was well developed, the tubes were normal, the vulva was large, as were the mammillæ likewise. In the transplantation of one ovary a part of the uterus and a piece of the tube had likewise been taken, and these grew in a normal manner, and increased in size. The transplanted piece of uterus contained well developed muscle and normally secreting glands. The portion of tube showed muscle, epithelium, and ciliated cells. Halban thus showed the influence of the ovary, as a secreting organ, upon the uterus, vagina, vulva, and mamma. He considers it probable that the ovarian secretion acts upon the uterus; the uterine secretion acting in turn upon the mammary gland.

Ribbert implanted the mamma of a young guinea-pig, with its covering of skin, into a cut near the ear. The wound healed, and five months after the operation, the animal having borne two young, this mamma secreted milk normally, a proof that the connection between the breasts and the ovary and uterus is to be found in no other channels than those of the circulation.

Hegar and Kehrer showed that in newly born animals, after castration, the uterus does not develop, but remains at the same stage, or even undergoes atrophy.

Sokoloff castrated rabbits and dogs and found that, a short time after, they became fat and apathetic, and grew constantly worse. Subsequent examination of the uterus divulged muscular atrophy, especially of the circular layer; the vessels were fewer, the walls thicker, the lumen was small and even obliterated. The mucosa, however, remained unchanged. When only one ovary had been removed, there was no change in the sexual development of these animals, the young ones evidencing a normal and constant development of the genitalia.

Jentzer and Beuttner examined the organs of cows within one year to twenty-two months after castration, and found all the layers of the uterus atrophied and substituted by connective tissue. The stratum vasculare had greatly changed, the atrophy of the mucosa, while not constant, was in most cases acute. They castrated rabbits, gave subsequently hypodermatic injections of ovarin, and yet the uterus atrophied. The objections to considering this last procedure conclusive are: 1. That the ovarin of cows was used. 2. That it was given hypodermatically. 3. That there was no sufficient increase in the amounts used. The castration of other rabbits showed that the cylindrical epithelium became lower, the protoplasm degenerated, these processes becoming more defined the longer after castration the animals were examined. The muscularis was found to be atrophied; the larger vessels were gone. Although glands were present, the mucosa showed decided atrophy. In dogs castration produced atrophy of the muscle, but only after three or four months; the epithelium of the uterus was lower, the protoplasma cloudy, the glands were degenerated, and the vessel walls thickened.

Knauer transplanted the ovaries of rabbits and dogs between the fasciæ of the abdominal wall and into the mesometrium, being careful to remove absolutely every bit of ovarian structure. In the mesentery he fastened the ovary with two sutures between two folds

of peritoneum, the ovaries being then nourished through endosmosis or through plasmatic circulation. New vessels grew into the ovarian tissue and furnished its subsequent support; this change began as early as the fourth day. Examination at various periods showed that a small part of each ovary usually degenerated, and new connective tissue appeared in place of the lost cells. In all cases in which a complete degeneration of the ovaries was found, atrophy of the breasts and of the genitalia had occurred. The muscle of the uterus was atrophied, the intermuscular connective tissue was increased, the mucous membrane was atrophied—changes like those which occurred after double castration. Retention of function on the part of the transplanted ovaries was always evidenced by the growth of follicles in a normal manner, by the ripening of the follicles, and by the discharge of the ova. In all such cases the normal character of the breasts, of the uterus, and of the genitalia was preserved, and in the younger animals all these organs underwent a natural development. In one dog with well-developed breasts, thirteen months after transplantation an opening of the abdomen showed the right ovary to be of normal size and to contain three follicles. The left ovary was small. Two months later coitus took place, and after two more months two well-developed young were born. Three years after transplantation had been done, this animal on examination showed externally a normal condition of development of the breasts and the genitalia. The right ovary was the size of a pea and contained follicles; the left ovary was larger than on the previous examination. The right ovary was covered with germinal epithelium; many follicles but no primary follicles being present. A like condition was found in the left ovary. The uterus was normal in every way; the mucous lining contained many glands and ciliated epithelium. The breasts were of normal character, with normal secretion and glands. Knauer's results proved that the preservation to the organism of the functionating ovaries preserves the breasts, the genital organs, and the sexual instinct, a result possible only through the absorption into the circulation of ovarian secretion; and that the function which the ovary exerts upon the body stands in closest relation to its ability to form ripe ova. Ovarian tissue which has ceased to develop ova has lost its other function, that is, secretion. Therefore the numerous nerves of the ovary are in all probability only vessel nerves. Knauer transplanted in sixteen cases the ovaries of animals into each other, obtaining the above good results in only two cases, since in the others the ovaries degenerated. This shows that a certain relation exists between the cells of one and the same body. Although difficult, transplantation of ovaries from one animal to another is possible.

Morris removed the adnexa in a patient and sewed a piece of one ovary into the stump of the right tube. One month later the patient became gravid, aborting in the third month. Into a twenty-year-old girl with uterus infantilis and rudimentary adnexa, with suppressio mensium, he transplanted a piece of the ovary of a thirty-year-old patient, fixing it in the fundus of the uterus. Eight weeks later a profuse menstruation, lasting ten days, occurred; after six weeks a normal one lasting five days; the third one five days later. The fourth and fifth menstruations were normal, at intervals of four weeks.

Glass transplanted an ovary of a seventeen-year-old girl into a twenty-nine-year-old patient from whom both ovaries had been removed two years before. The ovary was fixed in its normal situation through an opening in the sack of Douglas, per vaginam. Sixteen days later occurred a bleeding lasting two days; six months afterward a menstruation of three days; eight months after operation the patient showed good color, was of good appearance, with a return to former mental and body conditions, after two years of artificial climax.

Dudley implanted an ovary into the fundus of the uterus after removal of a pyosalpinx duplex, and regular menstruation continued.

An examination of the uterus after castration in women shows an atrophy of the cervix, an immediate atrophy of the corpus, a sclerosis of the vessels, which show a growth of the intima, and an endarteritis obliterans, especially in the larger vessels. Few glands are present, and the connective tissue is increased.

Gottschalk found an exceptional condition in one case, in which the muscularis was well preserved, although the mucous lining had almost entirely disappeared.

Cholmogoroff found the uteri at climacterium to contain a large amount of connective tissue, the vessels being greatly sclerosed. I have found the same condition in a high degree in two cases of my own.

A normal menstruation is absolute evidence of the presence of a normally functionating ovary. The abscence of ovaries, a poor development of these glands, an insufficient secretion of ovarian substance, or a diversion of ovarian secretion to other organs of the body, always causes a failure of uterine development or uterine atrophy. It is possible that, with partial or total absence or atrophy of the uterus or other genital organs, normal ovaries may be present. It is likewise possible for poorly developed ovaries to be the result of a failure of development of the body in general or to be simply a failure of development of the ovary itself, through embryonal disturbances.

Winckel has shown that, in the development of the uterus and tubes, the situation of the Wolffian body close to the ducts of Müller may influence, to a very great degree, their growth and is a frequent cause of malformation. The early completion of the Wolffian bodies, their opening into the sinus urogenitalis, the growth of the Müller's ducts along the Wolffian, and their crossing at that spot where the union of Müller's ducts finds its upper limit, are anatomical embryological factors easily recognized as causes of uterine maldevelopment and hypoplasia. Further, the origin of the ligamentum ileo-genitale rotundum at this upper limit, its close union with the ducts of Müller, the fact that its line of development in a measure opposes the union of the ducts, in addition to tension, pressure, and torsion exerted by the neighboring organs, such as the Wolffian bodies, the bladder, the ureters, the vessels and nerves of the uterus and rectum, are important factors influencing the development of the uterus. In addition, Winckel recognizes the occurrence of abnormal cells in the septum between the ducts of Müller, and general hypoplasia of the vessel system, as additional causes of maldevelopment. Aside from secondary atrophy, the result of constitutional diseases, the embryological causes here mentioned, and the forms associated with general hypoplasia, we recognize in the ovary and its secretion the factor which governs the development of the uterus, the genitalia, and the breasts, and the factor which is concerned in the preservation of these organs and the regulation of menstruation.

Eberlin describes a patient with vaginal defects, who, in her eighteenth year, had vicarious menstruation from the nose at regular intervals for six months, after which no recurrence was noted. Her mammæ and external genitalia were small. She suffered from molimina menstrualia every three weeks, at first for periods of three to four days. Eventually severe pain was experienced constantly, associated with sickness at the stomach and vomiting. Laparotomy divulged a uterus rudimentarius, with absence of the adnexa of the

left side. The right tube and ovary were almost normal. The uterus was 3.5 cm. in length, differing microscopically in nowise from the normal as regards muscle, but possessing no cavity. The ovary showed a thickening and a hyaline degeneration of the vessel walls. In addition to the corpus luteum, very few follicles but no Graafian follicles were present. After castration all the annoying symptoms disappeared.

Fritsch operated in a like case in which severe molimina menstrualia, sickness at the stomach, and rectal bleedings were the indications.

In all, Eberlin finds twenty-one cases of this sort associated with vaginal defect to have been operated upon. The ovary in the above-cited case of Eberlin, though containing few follicles, nevertheless secreted sufficiently to cause the severe symptoms. Since no endometrium was present, and no excretion by that channel took place, the ovarian secretion, through cumulative action, was responsible for the severity of the pain. Whatever part the uterus took in these attacks must have been the result of uterine contraction, since congestion alone is not responsible for so much pain, as is evidenced by the absence of such suffering in pure congestions of the uterus, associated with metritis, etc.

Amenorrhœa.—Under amenorrhœa we group those cases which show an absence, a too late appearance, or a too early cessation of menstruation. In these cases we find: 1. An atrophy or poor development of the uterus, which is of two kinds—concentric, the severe form, and eccentric, usually temporary. 2. An absence of the uterus with or without the presence of normal ovaries. 3. Uterus fœtalis. It may be taken for granted, if the ovaries on examination are found to be present and large, and if molimina menstrualia occur, that the ovaries are not at fault, but that the condition is due to the causes mentioned by Winckel, or to a general hypoplasia. 4. The amenorrhœa so frequently a symptom of chlorosis, in a large number of cases due to a temporary functional inactivity of the ovary. 5. The amenorrhœa of lactation, accompanied by hyperinvolution, in all probability due to the fact that the ovarian secretion, diverted to stimulation of the mammæ, fails to act sufficiently upon the uterus. 6. Amenorrhœa is not infrequently said to be the result of adiposity, and on the other hand adiposity occurs, as a rule, after the menopause or after castration. As a matter of fact, in both these cases, adiposity is partly the result of a failure of sufficient ovarian secretion, the amenorrhœa then being an evidence of this failure.

In the case of poorly developed ovaries, menstruation, if present, is usually unaccompanied by pain, and the girls have irregular, weak, or eventually no menstruation. Although these persons are well developed, yet they show poorly developed genitalia. In connection with small ovaries is found a small uterus, the breasts being well developed, but containing little glandular tissue. There is a tendency to fat, which distinguishes these individuals from those with well-developed genitalia.

Uterine Atrophy.—Under atrophy of the uterus belong strictly only those cases in which the uterus was previously normal in size, with a cavity of normal length. These cases are seen: 1. At menopause. 2. At climacterium præcox, artificial or natural, and always associated with the symptoms of the climacterium. 3. In lactation atrophy. The changes found in the first two classes have already been described. The changes occurring in lactation atrophy are: *a.* Concentric with a cavity of 5.5 cm. or less; *b.* eccentric, with a cavity of normal size but with a deficiency of muscular elements. These latter cases are not infrequently associated with small adnexa. As an evidence of the part which ovarian secretion plays in stimulating the metabolism of the body, it may be mentioned that the majority of nursing women who have a uterus under the normal size show all the evidences of poor nutrition, and especially laxity and flabbiness of the general body structures. In "prematurely aged women" lactation is poorly borne. It is in these cases that Frommell finds the greatest amount of uterine atrophy, and he supposes it to be an evidence that nursing deprives the body of a large amount of nutrition. It is true that the ovarian secretion, diverted almost exclusively to stimulating the process of lactation, deprives the body of great support, as is evidenced by the improvement in these persons after stopping lactation. It is likewise true that the subsequent improvement is due to the fact that the ovarian secretion then exerts its force upon the body functions in general; for I believe that by no means so much energy is involved in the process of lactation as in the process of pregnancy, and it is an ever-existing marvel that the majority of these women show all evidences of stimulation of every bodily function during pregnancy, a stimulation which can be attributed only to the tonic effect of the ovarian substance.

Thorne considers lactation atrophy to be a reflex trophoneurosis, and believes that every nursing amenorrhœic woman has a hyperinvoluted uterus, without, however, an involvement of the ovaries. He acknowledges the frequency of anæmic conditions associated therewith, but observes that those cases menstruating during nursing show no atrophy of the uterus. This associated menstruation is an evidence of sufficient ovarian stimulation.

Engstrom saw atrophy only in anæmic, or poorly nourished cases, and I believe the diminished function of the ovary, and its diversion to other centres, to be the causes of the anæmia and the atrophy of the uterus. On the other hand, galactorrhœa is a significant proof of this statement of stimulation by the ovary through the medium of the circulation; for so soon as menstruation occurs galactorrhœa ceases. Abegg overcame this affection in one case by the use of hot vaginal douches, which had the effect of causing menstruation.

Gottschalk overcame a lactation atrophy of the uterus and an associated galactorrhœa, by dilatation of the uterus, and through energetic scarification of the portio. As a further evidence of the value of ovarian secretion to the uterus and its lining, may be considered its function in stimulating uterine contraction. When poorly developed ovaries are present, with ovarian changes at the climacterium, and after castration, the muscular wall and the mucosa atrophy. The fact that the presence of normal ovaries preserves uterine muscular tone is sufficient in itself to warrant the statement that the ovarian secretion must exert an influence upon uterine contraction.

Dysmenorrhœa.—In dysmenorrhœa either the muscle wall or the mucosa may be at fault. Dysmenorrhœa means a painful feeling or decided pain before or during menstruation. Leaving out those cases coming under the head of dysmenorrhœa parametralis or peritonealis, we have among uterine forms those showing a stenosis of the cervix. Leaving out those cases in which, with a movable and well-developed uterus, there is a decidedly sharp anteflexion, the stenosis is usually found at the internal os. On the whole, contrary to general opinion, simple stenosis is rarely the cause of dysmenorrhœa, and only those cases cured by dilatation can be positively accepted having been so affected. The other cases include those with poorly developed uteri, or those showing local changes or hyperæsthesia of the endometrium. The former include all degrees, from decided atrophy to those cases in which, in spite of poor development, improvement occurs after marriage or after conception.

In part of these cases in which embryological disturbances have caused a hypoplasia of the uterus, but in which the ovaries are well developed, the ovarian

secretion not alone stimulates the muscular contraction of the uterus, but also causes a congestion of the mucosa, with its small vessels. In these cases the pain is naturally great, as the congestion is relieved slowly. In those cases of dysmenorrhœa occurring in chlorosis, we have, through delayed development of the ovaries, and through temporarily insufficient secretion, an insufficient development of the uterus. That in these cases the dysmenorrhœa is the result of uterine stimulation is evidenced by the fact that very often dysmenorrhœa does not occur during the first appearances of the irregular menstruation, but appears often years later when, with the development of the uterus, the congestion gradually becomes greater. This form, however, rarely occurs after marriage, if not present before. In those individuals in whom a pure hyperæsthesia of the endometrium is present, we must consider the local condition to be a result of insufficient local trophic stimulation, since very frequently in these cases there is an involvement of the entire nervous system. Since, however, the other cases of stenosis do not show this local sensitiveness of the mucosa, we must consider contraction of the uterus to be the common element in dysmenorrhœa; for only such treatment as brings about a freer flow of blood from the mucosa itself gives relief. It is generally known that the smaller the amount of blood lost the greater the pain, and, as a rule, simple stenosis is not the real cause. Dysmenorrhœa membranacea certainly speaks for ovarian stimulation of the uterus, physically and trophically; for the birth of the membrane furnishes us with two conditions usually found only in pregnancy. 1. Acute and continued contractions of the uterus, which expel the membrane in pieces or as a whole. 2. A membrane containing a large growth of decidua cells.

The frequent occurrence of amenorrhœa and uterine hypoplasia in chlorotic girls is an interesting link associating the ovary as a secreting organ with the vital functions of the body.

Chlorosis.—Chlorosis is an illness occurring exclusively in girls, most frequently during the years of development and the years immediately following, and showing a tendency to recur. It develops spontaneously without evident cause, and has no connection with conditions relating solely to nutrition, since its occurrence among the better classes is very frequent. It affects directly only the condition of the blood, without causing constitutional degeneration, and without great injury to the general nutrition. Chlorosis is a disease, and not a symptom of a disease. Such patients as lose weight, with evidences of general weakness, have these symptoms as a result of complications. Heredity plays a part, since not infrequently the mother as well as sisters have suffered in turn. The cardinal symptom is anæmia, showing a diminution in the number of red blood cells and a decided diminution in the amount of hæmoglobin. This condition must be distinguished from the chlorosis associated with hypoplasia of the vascular system; for chlorosis is a curable affection while the latter is not. No theory with regard to chlorosis which leaves out of consideration its occurrence in girls only, at the time of, or in connection with, sexual development, deserves attention. It occurs most frequently between the fourteenth and twentieth years. According to Niemeyer, such cases as occur after the twenty-fourth year are almost never chlorosis.

Von Noorden believes the stimulation which the ovary exerts upon the blood-forming centres to be one of its important functions. This action is not exerted reflexly, but through the channels of circulation by means of the ovarian secretion. There is in chlorosis a relative and absolute increase in the number of eosinophile cells. In osteomalacia, Neusser found a change in the number of the eosinophile cells. Upon recovery after castration they are diminished in number. Since osteomalacia is due to an oversecretion or a malsecretion on the part of the ovaries, these changes in the blood speak for the contention of v. Noorden. Further, Neusser believes the skin to be an important blood-forming centre, and considers the ovary and skin to stand in most intimate functional relation. If, then, the ovarian secretion exerts a trophic influence upon the skin, we can understand the frequent occurrence of skin affections, associated with menstruation and its disturbances.

In chlorosis there is often associated a poor development of the genitalia. The pelvis in a certain proportion of cases is of the child's type, in others there is a poor development of the external genitalia, or a uterus infantilis, small ovaries, poorly developed breasts, etc. Seventy-four per cent. have failures of genital development of one form or another. Among non-chlorotics these conditions are found in only twenty per cent. Menstruation is, as a rule, disturbed. During the chlorosis there is very frequently absolute or relative amenorrhœa. Those affected with menorrhagia always show a decided change in the mucosa. In all, seventy-seven per cent. present a weakening of the menstrual function.

A justification for the statement that chlorosis is due to diminished ovarian secretion is furnished by the effects of ovarin therapy in these cases.

Bestion de Camboulas obtained excellent results in amenorrhœa and chlorosis.

Saalfeld found the results obtained by this method exceedingly valuable in the treatment of affections associated with chlorosis.

Seeligman obtained excellent results, especially in chlorosis, likewise Touvenaint.

Jacobs and Dalché speak for the splendid improvement obtained by the use of ovarin.

On the other hand it may be considered that chlorosis, with a failure of proper stimulation of the uterus and its lining, in causing a diminished menstruation, prevents thereby an excretion through the menstrual blood of toxins produced at puberty. There may likewise, at this stage, be a certain antagonism between the thyroid gland and the ovary. Since many of the cases of chlorosis present symptoms not unlike those found in Basedow's disease, it is possible that a too greatly diminished secretion of ovarian extract causes a relatively increased amount of thyroid extract to circulate in the blood. For this speak the good results obtained by Seeligman and others, in the treatment of typical morbus Basedowi with ovarin. The ovarian secretion is a stimulator of blood formation, and causes a congestion of the genital organs. Thyroid extract, on the contrary, causes anæmia of the genital organs, as is seen in the good results obtained by the treatment of uterine fibroids with thyroid extract. It is possible that those chlorotic patients who take on fat have not alone a diminution in the function of the ovary, but likewise a diminution in the function of the thyroid, while those suffering with the symptoms of morbus Basedowi, have a diminished secretion from the ovary, but an oversecretion on the part of the thyroid gland.

The symptoms caused at the climacterium, artificial or natural, are certainly due to diminution or absence of function on the part of the ovary, as is proved by the good results obtained by treatment with ovarin.

Seeligman obtained excellent results in treating fifteen cases of castration menopause, and affections of puberty, with ovarin.

Touvenaint saw decided improvement in six cases of castration menopause and two cases of natural menopause.

Jouin publishes excellent results with ovarin, for

morbus Basedowi, for artificial and natural menopause, and for atrophy of the genitalia.

Mainzer, in the clinic of Landau, found that disturbances in the vasomotor system, resulting after castration, disappear upon the administration of ovarin, that disturbances after the natural climacterium are benefited, that the results in primary or secondary amenorrhœa are satisfactory, but that no effect is exerted upon general hysteria.

After castration, the reduction of oxygen exchange amounts to twenty per cent., the general gas exchange being likewise diminished; the weight, as a rule, increasing. The effect of ovarin if given within two and three months after castration not only overcomes this change, but increases the gas exchange above the normal, this increase lasting a variable time, and diminishing gradually. On normal animals no effect is observed. The use of preparations obtained from the male organs exerts no effect on the female deprived of ovaries.

Osteomalacia.—A further evidence of the influence of ovarian secretion upon the body in general may be found in its relation to osteomalacia, occurring as it does so frequently in pregnancy. Siegert described four cases observed in children, and verified upon autopsy, proving that it affects growing bones as well as the completely developed skeleton. He finds phosphorus to be powerless against rhachitis but to be a specific in osteomalacia. Heubner likewise finds phosphorus of no value in rhachitis, since the latter is a condition due to non-calcification. Siegert considers osteomalacia to be a loss of calcium salts in already formed bones.

Ringel found in the literature only two cases of osteomalacia in men; his own case was verified upon autopsy. Hahn found in the literature forty-two cases occurring in men. Of these only five were bettered or cured.

Schnitzler found twenty-four cases in the literature of Wuerttemberg, occurring once in a man, once in a child, twice in nulliparæ. It occurs in far the largest number of cases in women during or after pregnancy.

Following the analogy of the supposed reflex action from the ovaries as the cause of menstruation, Fehling, who found that castration was of decided value in this affection, considers it to be a trophoneurosis. Ferrione found the ovaries in two cases to be larger than normal. They contained small hyaline spots, the vessels of the stroma were increased, their media and adventitia thickened and degenerated in spots.

Heyse found in the ovaries of his patients an abnormal richness in dilated arteries and capillaries, whose walls showed hyaline degeneration of the media and intima. He found a diminution in the number of follicles, a condition which Hofheimer denies.

Schnell found the ovaries in his cases to be small, with a disappearance of follicles, a degeneration of the connective tissue, and hyaline degeneration of the vessels in the stroma. The more severe the affection, the greater was found to be the degeneration. He distinguishes two forms—the slow, and the progressive. The former usually occurs during pregnancy, with a tendency to improvement after labor. The progressive form is not dependent upon gravidity, since it also occurs in nulliparæ. This form goes on without cessation, and furnishes the most severe cases. He finds that multiparæ have no predisposition to this affection; on the contrary, the more labors that have taken place, the less the tendency. The earlier the affection appears, the worse is the form. It occurs usually between the thirty-seventh and forty-fifth years.

Consentino finds that the affection makes its greatest progress in those cases in which ovulation continues during pregnancy. The generally accepted view is that the fertility of these patients is very great, which seems to speak for an oversecretion, or a malsecretion on the part on the ovary. At any rate, although the slighter forms may recover spontaneously after labor, or may be improved by baths and by the administration of phosphorus, by far the larger number are to be benefited only by castration.

Frey considers one of the advantages of castration to be the prevention of pregnancy, since these patients seem to be decidedly fertile. He rejects the theory of a bacterial cause, and gives a list of thirty-five cases on whom the operation of Porro was performed, and five cases of sectio cæsarea with castration. Of these two died of ileus, two of peritonitis, one through uterine rupture. The results judged within a period of two months to three years were either good, improved, or cured, with the exception of one patient of Beaucamps, who had a recurrence after two years.

Orthmann speaks of excellent results in eighteen cases. Piretti observed an increase of 20 cm. in length in one patient, five months after castration.

Consentino claims for castration decided benefits, even in non-puerperal cases.

Eckstein recommends the phosphorus treatment for light and medium cases, and in cases at or near the climacterium. For the severe cases, castration gives decided results, but only in menstruating women.

Schnell treated sixteen patients with cod-liver oil and baths, with such good results that no operation was necessary. In eleven cases of the severer form castration was performed. In four acute cases, at the end of gravidity, the Porro operation was done. Of these patients, six castrated and one Porro were cured. The other castrated patients and another Porro were probably cured. Two of the Porro cases terminated in death as a result of the operation.

A list of one hundred and twenty-five cases of osteomalacia in which the ovaries were removed shows that seventy-two per cent. of the patients are cured, twenty-three per cent. improved, with no effect in five per cent. (Günther). Truzzi found in ninety-seven cases that eighty-three per cent. of the patients were cured by removal of the ovaries.

Eclampsia.—The two theories as to the cause of this condition are those of Veit and Fehling. Veit considers it to be a bacterial infection. Fehling considers it to be an auto-intoxication, for which the products given off by the fœtus are responsible, giving as one reason for this theory the frequency and severity of the attacks in twin pregnancy.

Ludwig and Savor have found that the poisons given off in the normal urine are diminished in pregnancy, but are increased in amount and virulence after labor, especially in cases of eclampsia. The blood serum, however, in gravidity is more toxic than in non-pregnant cases, being especially poisonous in eclampsic patients. Therefore, there circulates in the blood during eclampsia a toxic substance, the supposed cause of the convulsive seizures. Before a seizure there is, as a rule, oliguria or anuria. The presence of albumin in the urine of these cases is to be considered the result of this toxic action, rather than the cause, since very frequently the kidneys are affected without any annoying symptoms, and on the other hand these cases occur with no involvement of the kidneys whatsoever.

Primiparæ are more frequently affected than multiparæ. Twin pregnancy seems to predispose to this affection. It has been found that these attacks occur more frequently, and to a severer degree, in cold and humid weather—a fact which speaks for the retention of toxins through diminution in the function of the skin. In a tabulation of three hundred and sixteen cases, sixty-two attacks occurred shortly before labor, one hundred and ninety during labor, sixty-four after labor. Another tabulation of four hundred and fifty-

three cases gives thirty-eight cases as occurring before labor, two hundred and ninety-two during labor, and one hundred and twenty-three after labor.

Stroganof found among forty-five cases that twenty-four occurred before, and twenty after labor. The fact that, with the exception of a few isolated cases, this condition occurs at full term, and the fact that not infrequently uterine contractions during the seizures are extremely severe, speak for the existence in the blood of a substance which is intimately connected with the process of parturition. Since the ovarian secretion is the cause of menstruation, itself a process like labor, it is only a natural conclusion that this ovarian secretion is likewise a cause of those changes through which labor is brought about. And it is a logical sequence that this same substance or a product of it is the direct cause of eclampsia.

Chorea.—Chorea is a disease affecting chiefly children, and occurring in a severe form in pregnancy. Over seventy per cent. of the non-pregnant cases are females. After puberty the percentage in females increases. This disease is most common between the ages of five and fifteen. A choreic patient may become pregnant, but more frequently the disease occurs during pregnancy. According to Osler, Buist has tabulated two hundred and twenty-six cases in pregnant patients. Of these, in six chorea preceded the pregnancy; in one hundred and five it occurred during pregnancy; in thirty-one in recurrent pregnancy; forty-five cases terminated fatally, and in sixteen cases the chorea developed post partum. Beginning in the first three months were one hundred and eight cases, in the second three months seventy cases, in the last three months twenty-five cases. In eight cases there was a history of attacks of chorea in other members of the family.

The predominance of the disease in females, its onset in children near or at puberty, its frequent occurrence in pregnancy, and the resemblance, in some degree, of its symptoms to those of eclampsia, justify the theory that this affection has a relation to the quality or to the amount of the ovarian secretion, especially as it occurs so often at a period when the ovary begins to assert its decided interest in the development of the body. The occurrence of chorea, at this period, in girls bears a resemblance to its occurrence in pregnancy, for in the latter instance, as it makes its appearance during the first three months of gravidity, it seems likely that we have an action due to a suddenly increased or altered amount of ovarian secretion.

The relation of the ovary to the normal functions of a special character in women is decidedly clear; its relation to pathological states is highly probable. The weaker sex with its tendency to these affections and to hysteria will probably in the future be less frequently treated as possessors of nerves alone. It is not probable that ovarin replaces all that the ovaries should furnish, nor can ovarin in a short time overcome injuries long existing; that its action in the above-mentioned affections, verifying, as it does in a measure, the results of animal experimentation, may lead to a more rational treatment of certain diseases in the female, both medically and surgically, is not to be doubted.

127 East Sixty-First Street.

Prognosis of Locomotor Ataxia.—I am of the opinion that with many a too gloomy prognosis is made. In my experience the arrest of the disease is not infrequent when the treatment is commenced in the preataxic stage, and considerable improvement is possible even when the second and third stages of the disease have been reached prior to its commencement. —Brower.

THE USE OF SUPRARENAL CAPSULE IN HÆMOPTYSIS.

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Not a few articles have lately been published in regard to the use of suprarenal capsule in the control of hemorrhage from the eye, ear, nose, and throat, and a few instances of its successful employment in uterine hemorrhage have also been cited, but, so far, very little seems to have been said in regard to its use in hæmoptysis.

The necessity for a prompt and reliable remedy, free from toxic or unpleasant after-effects, to control hæmoptysis is never more thoroughly realized than when one is called suddenly to treat a profuse hemorrhage from the lungs in a patient who has previously shown no marked signs of pulmonary disease.

This emergency, although fortunately comparatively rare, was amply exemplified last summer in a case that came under my care, in the following way:

A. F——, who had apparently always enjoyed fairly good health, aside from a slight cough that had never aroused any suspicions, came to Milford with his family to spend the summer.

After a somewhat protracted bicycle ride, he suddenly experienced a violent attack of coughing, which at first appeared to be free from any expectoration. In the course of the next ten minutes, however, he began to bring up large mouthfuls of clear, frothy blood. This continued for about two hours and a half, and was attended with the loss of nearly a pint of blood, although opium, ergot, and gallic acid were administered, ice was applied to the chest, and absolute rest insisted upon.

The following day the hemorrhage began again about 4 P.M., and about two hours later, not quite so much blood being lost as on the preceding day. The treatment was the same as before, the opium and ergot having been given continuously every three hours since the first hemorrhage.

On the day following the hemorrhage began at 10 A.M. I saw the patient about an hour afterward, and found him in the following condition: Pulse, 140, weak and irregular; temperature, 102° F.; respiration, 40, and hemorrhage still continuing.

There were some consolidation at the apex of the left lung, harsh bronchial breathing over the upper part of the chest on both sides, and innumerable moist and bubbling râles anteriorly and posteriorly in the lower lobes, presumably from blood in the air cells.

I gave him suprarenal capsule in three-grain powders, one every half-hour, until three were taken; then one every two hours, until three more were taken; then one three times daily for one week, to be taken dry on the tongue, chewed and swallowed without water.

The first powder was taken at 12 o'clock, and in less than five minutes the hemorrhage had ceased entirely, and did not return at any time during the next ten weeks that he was under my care. On making a second visit that same evening, I found the pulse down to 90, strong and regular; the temperature, 101° F., and respiration, 28.

The day following the pulse was 80, full, strong, and regular, very similar in character to a digitalis pulse; temperature, 99.4° F., and respiration, 28.

When he left Milford some two months later, his pulse had been 75 to 80 for some time, which would lead me to believe that the action of suprarenal capsule on the heart is more permanent than is generally supposed, as this observation was made at least six weeks after the drug had been discontinued.

One peculiarity noticed in this case was the reversal of the usual rise and fall of temperature, morning tem-

perature being 99° to 99.4°, and evening temperature normal.

There was a gain of eighteen pounds in weight during the ten weeks' stay in Milford, and, in my opinion, the suprarenal capsule, by stopping the hemorrhage immediately, contributed largely to the subsequent improvement.

In fourteen cases in which the suprarenal capsule was given to control hæmoptysis, in no case did it fail to accomplish its purpose, and in only one case did the hemorrhage continue for fifteen minutes after the administration of the first powder, the subsequent doses, although probably not absolutely necessary, being given as a precautionary measure, as the drug seems to have no deleterious effect, even when its administration is continued for a considerable length of time.

In each and every case there was a decided strengthening and slowing of the pulse, a lessening of the cough and expectoration, and a marked improvement in respiration. To sum up, I should say that suprarenal capsule is the most prompt, surest, safest, most reliable drug that we have at our command for the control of hæmoptysis, and that its possibilities for the future are many and varied.

Post-Influenzal Tracheal Hemorrhage.—James Donelan describes a series of cases presenting the common symptom of hæmoptysis in connection with grippe, but in which no diagnosis of tuberculosis could be made from the evidence at hand. It was found, on careful examination, that during the attack the trachea was coated with blood which appeared to be uniformly spread over its mucosa. As the acute phase passed away, the upper part of the trachea was coated with clotted blood more or less uniformly or in the shape of tear-like clots. When the bleeding had nearly ceased, the larynx, including the vocal cords, was seen to be generally congested. It was, however, in the subglottic region that the greatest abnormality was observed. The trachea from the sixth ring up was intensely congested, and a close plexus of submucous dilated vessels could be seen occupying the intercartilaginous spaces, and in some places crossing over from one space to the next above or below. Sometimes the examination provoked cough, and then blood was observed to ooze forth in this direction, and it was plain that it did not come from any point farther down, as it was possible to see the windpipe to the bifurcation. Except for the above condition, there was no other evidence of respiratory disease, and it became clear that the cases were of influenza complicated with tracheal hemorrhage.—*Journal of Laryngology*, January, 1901.

Notes of a Case of Sclerema Neonatorum.—E. Alan Mackay reports the case of a child born May 28, 1900. This infant was a girl, and the tenth child. All of the other children have been healthy since birth. The child was very much cyanosed at birth, but was resuscitated. When she was about a week old the skin over the upper part of the back was hard and thick, and when at three weeks old she was brought back to the hospital, there was marked induration of the skin over the back from the lowest ribs upward. There was no pitting. The edges of the induration were clearly defined. The centre of the indurated area was of a dull red color. The affected skin had a waxy feeling. Pressure did not appear to give pain. The treatment consisted in daily inunction with five-per cent. ichthyol ointment, and gr. $\frac{1}{16}$ hydrargyri subchloridum three times daily. As there was no improvement, the mercury was discontinued and mistura cinchonæ given instead. As this caused retching, quinine in gr. ⅛ powders was given: this also caused sickness and was stopped, only local treatment being kept up. On June 30th the induration was much less, and the discoloration was gone. A fortnight later all trace of it had disappeared, and the child was thoroughly well, and has remained so ever since. —*Intercolonial Medical Journal of Australasia*, December 20, 1900.

The Real Value of Quinine in Labor.—M. H. Fussell strongly urges that quinine be used in all cases of multiparæ, when labor has actually begun, and when the pains are slow and ineffectual and the os is fairly well dilated. In fifteen minutes to half an hour the pains will increase in frequency and strength. If there is no obstruction the labor will be speedily terminated. The employment of the drug will frequently obviate the use of forceps in uterine inertia. Necessarily it should not be used, and valuable time lost, when the failure of the head to engage is due to malpositions or to some disproportion between the sizes of the head of the child and the pelvis of the mother.—*The Therapeutic Gazette*, January 15, 1901.

Arsenic in Food and Drink.—In regard to the recent disclosures made in England as to the presence of arsenic in the beer of certain breweries, an editorial calls attention to the fact that legislation directed against "arsenic in beer" would be of too limited a nature to protect the public. The glucose from which most of the arsenic has been derived, is extensively used in the manufacture of sweetmeats, confectionery, jam, and other articles. Nothing is more probable than that a maker of arsenical glucose with a stock on hand no longer salable to brewers, would endeavor to dispose of it at a reduction to jam makers, in the hope that the quantity consumed would be too small to produce any deleterious effect.—*The Hospital*, January 19, 1901.

Affections of the Heart Substance.—Thomas E. Satterthwaite classifies the following varieties under the simple heading "Diseases of the Heart Walls." 1. Fatty changes—(*a*) degenerations, (*b*) depositions. 2. Simple hypertrophies as caused by (*a*) severe exercises—voluntary; (*b*) pregnancy; (*c*) vascular obstruction, including aneurisms and atheroma; (*d*) unusually small vessels, congenital, acquired; (*e*) the emotional or neurotic heart; (*f*) the heart in mechanical injury. 3. Simple dilatations as caused by (*a*) infections, (*b*) anæmia, etc. 4. Atrophies of the heart. There exists both physiological and pathological cardiac hypertrophy. Among the writer's records of the latter class the majority are hypertrophies of the left ventricle due to defects in the aortic or mitral valves. There is a form of large heart seen in hysteria and various nervous affections, which might be called the neurotic heart. It is apt to be complicated with valvular difficulties. The tobacco heart is apt to be enlarged. There is a close relation between cardiac hypertrophy and dilatation and they often coexist (eccentric hypertrophy), though not always. Atrophy of the heart is less common than hypertrophy. Syphilis of the heart has been recognized from very early times. Any part of the heart may be diseased. It is more common in the male sex, and is usually seen between the ages of twenty and forty. The prognosis is bad but not altogether so. Sclerosis may lead to cardiac aneurism, the sclerotic or fibroid tissue yielding under the contractions of the organ so that the heart walls bag out. Spinal deformities cause mechanical embarrassment to the circulation, leading at first to hypertrophy, possible distortion of the valves, and, eventually, to heart failure.—*The Post-Graduate*, January, 1901.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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REPORT OF THE SURGEON-GENERAL OF THE NAVY.

THIS report, like that of the army, grows more bulky and covers more ground each year. The naval forces of the United States, during the period of which the report treats, have been as usual scattered in various parts of the globe, but the large proportion of the war ships have been serving on the Asiatic station, owing to the situation in the Far East. The Philippines have naturally been the headquarters, and the health of the squadron there, considering the climatic conditions and the necessary exposure, is stated to have been remarkably good.

The health record of the navy and marine corps for the calendar year 1899, shows a marked decrease in the ratio of admissions to the sick list per 1,000 of strength, when compared with the previous report, despite the continued presence and prolonged cruising of ships in tropical waters and the occupation of shore stations in tropical possessions. The ratio during the past year was 783.08 as against 871.69 in 1898, 838.53 in 1895, 775.75 in 1896, and 748.24 in 1897.

The average strength of the active list for the year 1899 was 20,819. The average strength of the force afloat was 13,519 distributed as follows:

North Atlantic Station, 6,588; South Atlantic Station, 423; Pacific Station, 4,652, and receiving ships, 1,856. The total number of admissions for disease was 12,794, and for injuries 2,955, giving a ratio per 1,000 of strength of 636.11 and 146.92 respectively. The ratios for 1898 were 695.42 and 176.27. The daily average of patients was 645.82 and the ratio per 1,000 of strength 32.11 as against a ratio of 29.46 in 1898. The total number of sick days was 235,725, giving an average of 11.22 days for each man of the navy and marine corps, and 14.97 days as the average duration of treatment per case. In 1898 the corresponding averages were 10.75 and 12.33 respectively. There were 153 deaths during the year, of which 95 were from disease and 58 from injuries (including poison). The death rate was 7.35 per 1,000 of strength. The death rate per 1,000 of strength in 1898 (exclusive of the *Maine* casualties) was 7.21.

Malarial diseases head the list as regards the number of sick, there being 943 cases; however, there were only two deaths from maladies of this nature. Diarrhœal affections amounted to 900 with 3 deaths. Gun-shot wounds were responsible for 884 cases of disablement, the deaths resulting from these injuries being 21. Rheumatic affections numbered 716; the deaths from acute articular rheumatism were but 2. Bronchial affections accounted for 685 cases of sickness, 3 of which proved fatal. Epidemic catarrh and dengue caused 675 and 297 cases of sickness respectively, with no deaths. Alcohol placed on the sick list 193 navy men, 4 of whom died. Heat-stroke overcame 154, a fatal result occurring in only one instance. Typhoid fever attacked 134 of the sailors and marine corps, and caused the death of 11. Pneumonia proved the most deadly disease, for while the number of those who suffered from it was less than from any of the above-mentioned complaints, 117, the deaths reached 15. Eighty-seven men contracted pulmonic tuberculosis, and 8 died. Dysentery cases numbered 68, with no deaths. There were 42 cases of organic heart disease, the mortality from all descriptions of heart affections being 9. Measles and nephritis attacked 37 and 31 men respectively, but caused no mortality. Scarlet fever was responsible for 29 cases of sickness, and caused 2 deaths. Yellow fever was contracted by 8 sailors, half of whom died. There were six cases of smallpox, 4 of which ended fatally. The cases of venereal origin were as follows: Gonorrhœa, 517; primary syphilis, 84; secondary syphilis, 297, the last of which caused 2 deaths. Of other diseases, appendicitis caused 3 deaths; apoplexy, 8; carcinoma, 4; meningitis, 3; miliary tuberculosis, 3; aneurism, 2; asphyxia, 2; kidney disease, 2; hepatitis, 2; septicæmia, 1; poisons, 1; œdema of glottis 1; gastric ulcer, 1, and poisoned wounds, 1. Twenty men met their death by drowning.

The total number of cases under treatment in the various naval hospitals was 3,377, a decrease of 294 as compared with the year 1898. The average number of patients daily under treatment was 328.15, a ratio of 16.32 per 1,000 of force. The deaths numbered 57, and the invalided from service 474, the ratio per 1,000 of cases treated being 16.88 for the former and 140.36 for the latter. The corresponding ratios for the previous year were 19.61 and 200.21 respectively.

In the report upon the United States steamship *Baltimore*, complaint is made as to the situation of the sick bay. The temperature due to its location, directly over the dynamo and steering-engine, is stated to be far too high. It has no water supply and no bath tub, and is separated the whole length of the ship from the dispensary and medical store-room. The light, too, is very deficient. Many of the ships are said to be ventilated in a defective manner, but upon the whole the hygienic arrangements of all the vessels appear to be satisfactory. Some of the special reports are of the greatest possible interest, that contributed by Dr. Corbin J. Decker, surgeon U. S. N., on the establishment of a temporary naval hospital at Taku during recent disturbances in China, being particularly interesting. The Japanese were the first to have a temporary hospital in working order in China. The American hospital, established by the advice of Dr. Decker and placed under his charge, was opened on June 22d, and

closed on July 25th. Its staff performed efficient service, not only to Americans, but to English, Germans, and Russians. The report is well compiled, the several contributions are, as a rule, couched in meritoriously clear and concise language, and show throughout that the health of our sea forces is excellently looked after by our naval medical officers. It is a matter for regret that there are many vacancies—seventeen in the list of assistant surgeons—but the surgeon-general of the navy expresses the hope that these vacancies will be filled as soon as it is generally known that recent legislation gives assistant surgeons in the navy the same rank as assistant surgeons in the army.

THE NEW YORK STATE BOARD OF CHARITIES.

This board, in its thirty-fourth annual report, commences with a defence of its work in the past, and urges, as a reason why the present system of managing and supervising the charities of the State should be continued, the non-partisan policy of the board. The following recommendations for legislation are made:

1. That all the special appropriations for the State institutions within the jurisdiction of the board be included in one bill, with such provisions as will insure in every instance the most careful and economical expenditure of the moneys appropriated, in exact accordance with the intentions of the legislature.

2. That the present site of the State Industrial School in the city of Rochester be sold, and a less costly site be purchased in the country, to which the school can be removed.

3. That the House of Refuge on Randall's Island be also removed to the country, and that the girls' department of the institution be discontinued, the older girls being sent to the new reformatory at Bedford, and the younger to the New York Juvenile Asylum and the New York Catholic Protectory, or like institutions.

Also, that this institution be placed under the rules of the State civil-service commission.

4. That legislation be enacted to prevent the continuance of the fourteen liquor saloons at the gates of the New York State Soldiers' and Sailors' Home, at Bath, which are supported by the patronage of members of the home, and are regarded as a source of demoralization to its discipline.

The recommendations for appropriations to the State institutions within the board's jurisdiction amount to $1,733,755.24; the amount recommended for maintenance being $1,108,800.89, and for extraordinary expenses, mainly for construction work, $624,954.35. A new table of statistics in the report shows the number of inmates in the State institutions, subject to the visitation and inspection of the board, on September 30, 1900, arranged with reference to representation from the various counties of the State.

Out of a total population of 4,250 in eleven such institutions, the counties more largely represented are as follows: New York, 877; Kings, 344; Erie, 299; Monroe, 207; Onondaga, 179; Westchester, 129; Oneida, 112; Rensselaer, 107; Albany, 89; Niagara, 82; St. Lawrence, 81; Orange, 77; Jefferson, 69; Ulster, 67; Steuben, 66; Dutchess and Delaware, 64; Cayuga, 60; Broome, 57; Ontario, 52; Chautauqua and Saratoga, 51.

The report draws attention to the fact that a State hospital for the care of crippled and deformed indigent children has been opened at Tarrytown, and the board has recommended special appropriations for equipment, apparatus, etc., amounting to $4,250 and a maintenance appropriation of $10,000.

The State hospital for the treatment of incipient pulmonary tuberculosis is also specially referred to in the report.

It would appear that, upon the whole, the condition of the charities of New York State is good, and to the board must be accorded great credit for the efficient performance of its trying duties.

RECIPROCITY IN MEDICAL PRACTICE.

No subject connected with medical reform has been discussed so fully within the past few years as that of reciprocity in medical practice. The question has been treated from every conceivable point of view—indeed, many will think that there can be nothing further to say, and that to dwell upon the matter again is but a waste of pen and ink. Interstate medical reciprocity, however, concerns intimately every physician in the United States, and, in a scarcely less degree, the community at large. It is of surpassing importance, and should be—until needful reforms have been introduced—ever kept before the eyes of the medical profession and the general public. There is a saying that "constant dropping will wear away a stone," and upon the same principle, by constantly harping upon the subject, it is to be hoped that physicians may be roused from their lethargy and as a body be brought to appreciate the fact that a uniform raising of the standard of medical education must be of benefit to them, and also that the lay population of the country may become convinced that it will be to their advantage to be enabled to avail themselves of the services of thoroughly competent physicians. The London *Lancet* of January 22d takes as its text two pamphlets written by Dr. Emil Amberg, of Detroit, dealing with interstate reciprocity, and considers the question at some length. A part of the article reads as follows: "The great object in legislation in regard to medical qualifications in all countries is to secure competency in those who receive a license to practise. The only way to attain this security is by regulating the number of bodies having the power to grant qualifications, by depriving them of excuses for competing downward in such work, and by supervising the work they do with competent and independent inspection. The multiplication of medical colleges and corporations, with power to grant licenses beyond all inspections and control by a supervising or central body, is the sure way to lower standards and to retard and degrade medical education, at the expense of the public. This is the unhappy state of matters in the United States,

which constitutes almost the despair of those responsible for American medical education, than whom there are none in the world more anxious to promote the advance of medical science in the interests of the people."

The above is a fair presentation of the conditions prevailing in the United States so far as medical education is concerned. The remedy suggested also would tend to bring about an amelioration of the existing unsatisfactory and anomalous situation.

The truth is that interstate medical reciprocity is at a complete standstill, and will continue to be so until the first necessary steps shall be taken.

That a solution of the difficulty hinges upon a uniform standard of medical education throughout the country is indisputable. Dr. William Warren Potter hits the right nail on the head when he says under the heading "Equality of Standards a Basis for Reciprocity": "The only equitable basis upon which reciprocity can be established that appears both feasible and practicable is that of equality of standards for admission to the study and practice of medicine. This implies an equalization of the preliminary requirements of medical students and a uniformity of applying the tests, a uniform period of collegiate training, including uniformity of methods of teaching, and finally an absolute similarity in the method of conducting State examinations and granting licenses."

The MEDICAL RECORD, March 18, 1899, expressed views of a like nature, phrased thus: "That in no instance should a medical degree be conferred unless the candidate has undergone a course of study, of at least four years, and that the final examination shall be undertaken by an independent and unbiassed board."

The crux of the problem is the manner in which this uniformity is to be compassed. The hope is vain that in a week, or even in a year, such a radical change can be attained. The process of evolution must go on slowly in order to reach sound and practical results. The question then comes up, Can nothing be done at once to initiate the desired reforms? Dr. Emil Amberg thinks this question may be answered in the affirmative, and is of the opinion that the States might be temporarily divided into six groups, taking as a basis the preliminary education, the medical education proper, and the final State examination. Although this plan sounds rather cumbersome, it might, if feasible, be worthy of trial, for the reason, as Dr. Amberg says, "that six groups are preferable to fifty-one or more groups."

The medical profession until recently has shown itself somewhat apathetic and indifferent on the subject. Of late it has awakened to the seriousness of its position, and by its press, medical societies, and individual members, has demonstrated an interest in interstate reciprocity. If it will continue in this path and follow the strenuous example of the Wayne County Medical Society, there can be no doubt that in the course of time the end in view will be gained. In the mean while the medical profession and press must urge the matter by every means in their power, and endeavor to impress upon the non-medical part of the population the great desirability of a uniform high standard of medical education in every State of the country.

News of the Week.

New York Academy of Medicine. — At the next stated meeting, March 21st, 8 P.M., will be considered the modern treatment of gonorrhœa and its complications and sequelæ.

Kentucky State Medical Society.—The forty-sixth annual session of the Kentucky State Medical Society will be held in the city of Louisville, Ky., May 22, 23, and 24, 1901.

Physical Examination before Marriage. — The Indiana Senate has passed a bill for the physical examination of all parties contemplating matrimony. The board to be appointed by the governor is composed of two physicians, two mothers, and one attorney.

Plague at Cape Town.—The progress of the bubonic plague causes deep anxiety and apprehension in Cape Town. The Cape government has decided to remove the people from one-third of the city area and to cleanse it. Every precaution will be taken should the disease spread to the troops.

Famine in China.—The distress from famine in China is increasing with the severity of the weather and more than one hundred thousand persons will perish from cold and hunger. Many stations for free distribution of rice have been established, but they are pitifully insufficient.

Bill for Hospital in New York for Treatment of Nervous and Mental Diseases.—Assemblyman Henry introduced his bill for the establishment of the above hospital, on Thursday, March 7th. The purpose for which the hospital is to be founded was fully explained in the MEDICAL RECORD some weeks ago.

Fined for Practising without a License in Australia.—A man has been fined $250 in Sydney, N. S. W., for representing himself to be a legally qualified medical practitioner and using the title of "doctor." The prosecution was made under the Medical Practitioners Amendment Act which has only just come into force.—*Medical Press.*

Control of Sex.—Dr. Schenk has recently published another book entitled "A Compendium for Determining the Sex of an Unborn Child." He stoutly adheres to his original theory that the determination of sex rest entirely with the mother, and details a number of cases in which he says this theory was demonstrated. He likewise gives records of the diets prescribed, the foods being principally albuminous when males are expected.

Osteopathy Condemned.—A letter to Governor Odell from J. P. Arnold and H. Walters of the Mechane-Newral-Theray School of Trenton, N. J., has aroused additional interest in Assemblyman Seymour's bill regulating and licensing the practice of oste-

opathy. The letter says that osteopathy is only a new way of perverting young women, and an easier way for malpractice. The letter was turned over to Assemblyman Henry, chairman of the public health committee, and he regards the matter as of such seriousness that he is inclined to give another hearing on the bill, and have Messrs. Arnold and Walters come to Albany to speak on the subject.—*New York Sun.*

A Negro Hospital in North Carolina.—Winton-Salem, N. C., is to have a negro hospital. The building is to cost $10,000, of which sum R. J. Reynolds, a white citizen, contributed $5,000, while the negroes of the community raised the remainder. The hospital will be operated in connection with the Slater Industrial School.

The Qualifications of the President of the State Commission in Lunacy.—The Medical Society of the County of New York has entered an earnest protest against the bills before the New York legislature, repealing the existing provision of law which requires the president of the commission to be a physician who has had "five years' actual experience in the care and treatment of the insane, and who has had experience in the management of institutions for the insane."

JOHN VAN DOREN YOUNG, *Secretary.*

Candidates for Appointment as Dental Surgeons in United States Army will be examined in the following named branches: Anatomy, physiology, histology, physics, chemistry, metallurgy, dental anatomy and physiology, dental materia medica and therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry (theoretical), prosthetic dentistry (theoretical), operative dentistry (practical), prosthetic dentistry (practical).

An average of seventy-five per cent. will be required in each subject for theoretical examination, and eighty-five per cent. in the practical examinations.

College of Physicians of Philadelphia.—At a stated meeting held March 7th, Dr. W. W. Keen demonstrated "Bloom's Apparatus for Artificial Respiration." It consists of a bellows connected by a rubber tube with an intubation-apparatus for introduction into the larynx, through which air can be introduced into the lungs, and from which it can escape. If it be deemed desirable, the vapor of an anæsthetic can be introduced into the air passages in the same way. Dr. George W. Crile, of Cleveland, Ohio, read by invitation a paper entitled "Experimental Research into Surgical Shock and Collapse," with stereopticon illustrations. As a result of experiments on dogs, he had found that little or no shock followed even severe manipulation of skin, muscles, and bone, while such shock followed injuries of nerves, of the peritoneum, violent traction of the tongue, and especially manipulations about the larynx. He pointed out that when death results suddenly from drowning, it is not then due to asphyxia, which is a slow process, but to inhibition of the action of the heart, from the entrance of water into the larynx unclosed by the epiglottis. Collapse was attributed especially to failure in the vasomotor mechanism, in consequence of which the blood was not propelled from the periphery and, particularly, from the veins to the heart. When such a condition arose, no remedy was known that was capable of correcting it. The importance of prophylactic measures was thus obviously urgent.

The Western Ophthalmologic and Oto-Laryngologic Association will meet in its next annual session in Cincinnati, Ohio, April 11th and 12th. Dr. C. R. Holmes, of Cincinnati, is chairman of the local committee of arrangements. Dr. M. A. Goldstein, of St. Louis, is the president, and Dr. W. L. Ballenger, of Chicago, is the secretary.

A Believer in Dowie Refuses Physician's Aid for her Dying Husband.—In Chicago a man named Rades was reported recently to be dying of rheumatism of the heart, and his wife, who is a follower of Dowie, would allow no physician to visit him. The police when appealed to visited the house with two physicians, but upon being refused admittance declined to force an entrance, declaring that such action would be against the law unless authorized by a member of the family. The sick man himself was stated not to be a believer in Dowie, and his friends asserted that if he had not been delirious he would have demanded the services of a physician.

Annual Meeting of the Association of Medical Officers of the Army and Navy of the Confederacy.—The Association of Medical Officers of the Army and Navy of the Confederacy will convene in Memphis, Tenn., May 28–30, 1901, during the meeting of the Confederate Reunion. All surgeons, assistant surgeons, acting assistant surgeons, or contract physicians and hospital stewards, in the army and navy of the Confederate States, and all regular physicians who served honorably in any capacity in the Confederate States army and navy, and all regular physicians who are sons of Confederate veterans, are eligible to membership.

Druggists' Insurance against the Results of Carelessness.—It is said that about a thousand druggists of this city and vicinity are insured in several fidelity and casualty companies against damages arising from errors in compounding prescriptions. The idea of insuring druggists against loss from their own mistakes originated in the belief of a number of leading pharmacists that they were the victims of a gang of rogues who made a practice of pretending that wrong medicines had been given to some member of their families, sometimes with serious results. The gang was partly broken up by the fidelity company which first assumed the responsibility of protecting druggists. The yearly premium for a protecting policy varies from $15 to $25.

An International Congress of Nurses will be held in Buffalo next September, during the time of the Pan-American Exposition, with the object of cementing and strengthening the national and international organizations which the nurses of this country, Great

Britain and the colonies, Denmark, and Holland, have established in the last few years. All of these countries have now national organizations of nurses, pledged to uphold the honor and best interests of their profession, and to work for a steadily advancing educational standard and ethical development. The nurses of the English-speaking countries have also in view the attainment of State examination and registration.

Academy of Medicine.—In the section of obstetrics and gynæcology, Dr. Abram Brothers has been elected *Chairman* and Dr. Sara Welt-Kakels *Secretary*.

Physician Kills Wife and Commits Suicide.—Dr. W. F. Aiken, of Savannah, Ga., an eye and ear specialist, shot and killed his wife on February 27th, and then shot and killed himself. Dr. Aiken, who was a graduate of Yale, was born in New York, and at one time was in the city health department. He was a man of considerable literary and scientific attainments, and is said to have been very successful in practice in Savannah. Dr. Aiken was thirty-six years of age.

Alcohol as a Food.—Alcohol as a food was condemned at Friday's, March 1st, session of the superintendent's department of the National Educational Association. On this subject and the report submitted by a committee of seven appointed a year ago to investigate the value of alcohol as a food, a lively debate was expected. The report of the committee, however, simply stated that "no authority has been found to maintain that alcohol is a food," and recommended literature discussing the subject. It was adopted with little discussion, this action being regarded as a victory for the conservative element among the educators. School children, accordingly, will simply be told that alcohol is injurious, and no special course of instruction on the human system will be given.—*Tribune*.

Pathological Society of Philadelphia.—At a stated meeting held February 28th, Drs. Richard H. Harte and Robert N. Willson, Jr., presented a communication entitled "Primary Carcinoma Limited to the Vermiform Appendix." The patient was a young woman, twenty-four years old, who had presented symptoms of appendicitis. When the appendix was removed, its lumen was found almost completely obliterated, but the presence of a new growth was disclosed only on histological examination. Drs. D. J. McCarthy and M. P. Ravenel presented a communication entitled "Melanosis of the Cerebro-spinal Membranes in a Case of Rabies." The specimen was obtained from a cow, the pia being deeply pigmented, both upon the spinal cord and in part also upon the brain. Dr. William S. Wadsworth read a paper entitled "Injuries to the Brain," in which he pointed out many of the circumstances that contribute indirectly to lesions of the brain in connection with traumatism. Dr. M. B. Hartzell read a communication entitled "Lenticular Cancer of the Skin." Following an operation for excision of an ulcerated lesion upon the sole of the foot, thought to be epitheliomatous, numerous small nodules appeared in the skin of the leg. These, on histological examination, were found to present appearances strongly suggestive of carcinoma, yet not wholly unlike sarcoma. Dr. John B. Roberts read a paper entitled "Multiple Tumors of the Sciatic Nerve." The growths were probably fibromata, and were present in considerable number.

The Tenement-House Commission.—The tenement-house commission declares that in the building of nearly all the recently constructed tenement houses in New York the law has been violated. There is little hope of tuberculosis being stamped out, or even checked, if the building laws are not rigidly enforced.

The German Hospital, New York.—In the annual report of the trustees of the German Hospital, just published, it is shown that, among the 22,595 patients treated in 1900, bakers were most numerous. There were 134 of them, also 110 clerks, 72 drivers, 67 butchers, and 70 waiters.

Charity Workers Hopeful.—The officers and members of the various charitable organizations in New York City, who have been opposing Governor Odell's plan to take the charities of the State from the management of an independent board and place them in control of a political party, believe now that their efforts will be successful, and that Governor Odell will abandon his scheme.

His Leg Cut Off Six Times.—*The Kansas City Journal* is responsible for the following veracious and affecting tale: Edward Conrad, a railroad gateman of Allegheny, Pa., suffered an injury some years ago which made it necessary to amputate one of his legs. Since then he has had five accidents, in each of which his artificial leg, which was provided him in lieu of the one he lost, was cut off.

Died at the Age of One Hundred and Seventeen Years.—George Peter Newkirk, a negro, known as "Old George Pete," died at his home in Hurley, N. Y., February 25th, at the extraordinary age of one hundred and seventeen years. "George Pete" had been a familiar figure to generations of prominent men and women whose early lives were passed in Ulster County. He was born and brought up a slave in the Newkirk family, and continued to reside with some member of that family all his life.

Anti-Christian Science Bill. — Missouri's house passed the measure prohibiting unlicensed healing. The Missouri medical bill, which has been so objectionable to Christian scientists because it prohibited them from attempting to heal the sick without a license from the State board of health, passed the house of representatives March 2d, by a vote of eighty-four to forty-two. The bill got seventy-seven votes on engrossment two weeks ago. The action was a great surprise to the Christian scientists, who had brought all their forces to bear to defeat the bill. The same bill, introduced in the senate, was engrossed there on February 27th, and the indications are that the senate will pass it by a good vote. The bill prohibits persons not now registered as physicians from practising medicine or surgery in any of its departments or from professing to cure or attempting to treat the sick, except when healers are

examined as to their fitness to engage in such practice. The bill does not repeal the law allowing osteopaths to practise, but it applies to all others who heal the sick for pay. Examinations are conducted and licenses issued by the State board of health. The bill allows persons who have no licenses to treat cases of illness in case of emergency, but they can make no charges for such services.

Sanitation in Pekin.—The London *Morning Post* has received a despatch from Pekin, to the effect that the foreign administrators of that city are taking precautionary measures against epidemics in the spring. The same despatch states that the Americans are more careless in this respect than the other nationalities. The sanitary regulations being carried out by the British are said considerably to surprise the Chinese.

War on Rats at Cardiff.—Cardiff, in Wales, a town of very considerable size and a seaport of world-wide fame, has been attacked by plague. Up to the present but two or three cases have developed, but as may be well imagined even these few have caused widespread alarm. A vigorous crusade against rats has been undertaken, as it has been clearly proved that some rats found dead in Cardiff had died of the plague. At Cape Town, where plague-stricken rats are also reported to have been found, a reward of six cents per head of these vermin has been offered, and a special staff is engaged in exterminating them in the docks.

Medical Practitioners in Austria.—The government return for medical practitioners actually engaged in the profession is 10,576; of these, 3,054 are in Lower Austria, 369 in Upper Austria, 114 in Salzburg, 674 in Styria, 141 in Carinthia, 99 in Craniola, 331 in Cortland, 548 in Tyrol and Voraelberg, 2,563 in Bohemia, 881 in Moravia, 225 in Silesia, 1,313 in Galicia, 134 in Bucowina, 131 in Dalmatia, while in Bosnia and Herzegovina there are only 97 in practice. Vienna itself has 2,442; Trieste, 185; Prague, 450; Brünn, 162; Grätz, 258; Innsbruck, 61, etc. It will be seen from these figures that the capital towns contain most of the medical men in practice. The government is dissatisfied with this distribution, and desires them to go farther into the country.—*Medical Press.*

The London School Board and the Coal-Smoke Nuisance.—That excellent body, says the London *Pall Mall Gazette*, the Coal Smoke Abatement Society, has addressed a letter to the London school board, urging it to look after its grates and stoves. A good example set by so influential an institution would, in the opinion of the C. S. A. S., have a most salutary effect. The suggestion is, therefore, that, when occasion arises, the board should specify some form of apparatus that will materially reduce the evil of an imperfect combustion. The board might possibly retort that the C. S. A. S. should give point to its gentle admonition by mentioning some particular stove or stoves. The Coal Smoke Abatement Society has at any rate justified its existence by jogging up the school board and other public organizations, which, as it cautiously reminds them, are amenable to the law for allowing their chimneys to emit a black and evil-smelling cloud. Its crusade against domestic chimneys is a more difficult undertaking, and it falls back upon that vague phrase, "the gradual education of public opinion." Very gradual, we fear.

The "Practitioner" on the South African Hospital Commission.—The London *Practitioner* for February, which has always been, of the British medical journals, the most clamorous for reform in the army medical service, discourses as follows on the result of the South African hospital commission: "The report of the hospital commission is, in its general tenor, exactly such as had been foreseen by all who knew anything of the Royal Army Medical Corps and the conditions under which it had to work in South Africa. The report is by no means a mere 'whitewashing'; it is a decisive acquittal on nearly all the counts of Mr. Burdett-Coutts' sweeping indictment. No finer tribute to the general efficiency, as well as the heroism and devotion, of the medical officers of the army has ever been paid; but the commission lays its fingers on many defects. It would be wonderful, indeed, if in a large body of men working under such terrible stress, mental and physical, as was the lot of the R. A. M. C. in South Africa, there had not been found some who failed to come up to the highest ideal of the medical profession. All the serious defects, however, pointed out by the commissioners, are clearly shown to be due, not so much to the shortcomings of the R. A. M. C., as to those of the war office. For years it has been predicted by *The Practitioner* and other medical journals that the insensate folly of the military pedants, who have so persistently opposed every attempt to place the army medical service on a sound and efficient footing, would lead to a breakdown in case of war. Now that the responsibility for the grievous suffering which our troops have undergone as a consequence of this policy has been publicly placed on the right shoulders, there is a prospect that the evil tradition of war-office perversity and obstructiveness may be swept away and the whole organization of the Royal Army Medical Corps thoroughly reformed."

Proposed Law for the Prevention of Malaria in Italy.—The text of the bill as drawn up by Celli and others has been published. It consists of five articles, the first of which provides for the official declaration of affected zones, and the second for the gratuitous distribution of quinine to the poor by municipal authorities, and the taxation of property for the purpose of raising the necessary funds. Article 3 makes it incumbent upon the government department or government contractor responsible for the execution of any public works which give rise to the occurrence of malarial fevers to supply quinine gratuitously, and requires that if any person dies or becomes permanently disabled from malaria while employed on such works, the same indemnity must be paid as that established for persons under the employers' liability act of 1893. Article 4 enjoins protection against the

entrance of insects to all homes within the malarial zone, inhabited by persons employed in the public service and on public works, from the beginning of June to the end of December, and offers rewards not exceeding 1,000 lire ($200) to proprietors and manufacturers who do the like for the houses of their employés and of the peasants. Article 5 empowers the government to take whatever further measures may seem necessary for the carrying out of the provisions of the law, after such measures have been approved by the Superior Council of Sanitation and by the Council of State.—*Lancet.*

Attendance at German Universities.—*The Lancet* says: "The number of students registered at the German universities this winter is 34,363, as compared with 27,784 in the winter of 1894–95, so that an increase of 20 per cent. has taken place during the past six years. The attendance of students at the various universities is as follows: 6,673 in Berlin, 4,184 in Munich, 3,584 in Leipsic, 1,917 in Bonn, 1,731 in Halle, 1,638 in Breslau, 1,350 in Tübingen, 1,317 in Göttingen, 1,280 in Heidelberg, 1,218 in Freiburg, 1,264 in Würzburg, 1,132 in Strasburg, 1,053 in Marburg, 967 in Erlangen, 874 in Königsberg, 847 in Giessen, 780 in Kiel, 733 in Munster, 726 in Greifswald, 681 in Jena, and 512 in Rostock. As regards attendance in the various faculties, there are 2,327 students of Protestant theology, 1,584 of Roman Catholic theology, 10,511 of law and national economy, 7,113 of medicine, 5,200 of philosophy and history, 4,722 of mathematics and natural science, 1,157 of pharmacy, 1,512 of agriculture, and 448 of dental surgery. Moreover, at the University of Giessen there are 126 students of veterinary medicine, but in other parts of Germany veterinary medicine is taught at special colleges not belonging to universities. These figures, compared with those of the previous year, show that the students of Protestant theology have decreased by 86, and the students of medicine by 430. The students of other branches have increased considerably, especially the students of law, where the increase has been 47 per cent. during the past ten years. At the University of Berlin there are 366 students registered in the faculty of theology, 2,359 in the faculty of jurisprudence, 1,312 in the faculty of medicine, and 2,636 in the faculty of philosophy. With respect to nationality, 4,679 students come from Prussia, 994 from the other states of the empire, and 714 from foreign countries. Of foreigners of European origin the majority (318) come from Russia, 112 from Austria, 88 from Switzerland, 62 from Hungary, 32 from Great Britain and Ireland, 22 from Italy, 20 from France, 20 from Roumania, 17 from Turkey, 17 from Servia, 16 from Bulgaria, 15 from Sweden, 15 from Greece, 12 from the Netherlands, 11 from Luxembourg, 5 from Belgium, 4 from Spain, 3 from Denmark, and 1 from Portugal. Of foreign students from distant parts of the world, 114 come from America, 62 from Asia, 3 from Africa, and 1 from Australia. Berlin is, therefore, in reality cosmopolitan. In addition to the duly registered students, there are 5,466 persons who are entitled to attend the lectures there; for instance, the students of the technical and other academies and others to whom this right has been granted by a special decree of the senate of the university. The number of female students is 439."

Death Rate of Montreal for 1900.—There were 7,351 deaths in Montreal in the year 1900. This was the largest number which has been recorded since 1885, when 7,825 deaths occurred; but since that year the city has immensely increased in population. In 1885 the death rate per 1,000 was 26.91, and in 1900 it was 25.47. In other recent years the rate was as follows: 1894, 27.27; 1895, 24.81; 1896, 21.92; 1897, 22.48; 1898, 20.66, and 1899, 24.51.

Mr. Reginald Harrison, of London, the famous genito-urinary surgeon who is on a short pleasure visit to America, arrived in New York on Sunday, March 10th, *en route* for Palm Beach, Fla. During his sojourn in this city he was the guest of Dr. Frederic S. Dennis, who entertained him at dinner on Tuesday evening. Dr. Samuel Alexander gave him a luncheon on Wednesday at the University Club, which was largely attended by prominent surgeons and other distinguished guests. In the afternoon, by invitation of Dr. Alexander, he lectured at the Cornell Medical College on some practical points in prostatic disease and tension of the kidney, before a representative audience of hospital surgeons and students. He intends to return home March 30th.

A Very Young Mother.—Dr. R. R. Thompson, of Kingston, N. Y., writes: "March 5th I attended a case of labor in which the mother of the child was thirteen years of age on February 4, 1901. This made the little mother but thirteen years one month and one day old. The infant was an eight months' child. The labor extended altogether over a period of about four hours, and was normal in every respect. There was not the slightest laceration of the perineum. The child weighed six pounds. The girl had menstruated only two or three times."

Medical Society of the Missouri Valley.—The thirteenth semi-annual meeting of this society will be held at Omaha, Neb., March 21, 1901.

Monument to Professor Ollier.—A committee has been formed in America, similar to those formed in several European countries, for the purpose of receiving subscriptions for a monument commemorative of the distinguished scientific services of Professor Leopold Ollier. The municipality of the city of Lyons has dedicated an open space adjacent to the quarters of the various academic faculties, on the border of the Rhone, named in his honor "Place Leopold Ollier." The committee hopes to raise not less than $1,000 as a testimonial from the profession of America. Checks should be forwarded to W. W. Keen, 1729 Chestnut street, Philadelphia, Pa., and at as early a date as possible.

A Tribute to the Efficacy of Female Nursing.—Perhaps, says the *The Hospital Nursing Mirror*, the most interesting feature to nurses in the letter in the *Times*, February 13th, of Mr. Burdett-Coutts, M.P.,

on the South African hospital commission report, is his reference to the nursing at the Volks Hospital, Bloemfontein. He says: "The Volks Hospital, Bloemfontein, was the only one in which the patients were properly nursed by female nurses. Its principal doctor was Dr. Keller, formerly mayor of Bloemfontein; its matron, Miss Maud Young, a strong, able, and efficient superintendent, who had a staff of eight nurses under her. There was no royal army medical corps doctor or trained orderly in the hospital. The equipment was plain, simple, convenient, but in no way elaborate or luxurious. As admitted by the report with regard to the private hospitals, the serious cases gravitated to this one also. Its proportion of admitted convalescents would be *nil*. It had to deal with the epidemic under the same conditions of pressure, climate, provisions, water, and other matters, as the rest of the hospitals around it; but owing to the untiring energy and devotion of its matron and female staff it was properly nursed. What was the result? The general enteric mortality was twenty-one per cent. The same mortality in the Volks Hospital was 7.75. This is the best practical proof that could be given of the value of female nursing of sick and wounded soldiers."

Plague-Infected Rats on Ship.—Some anxiety was felt lately at Hamburg when the port sanitary authorities found many dead rats on board the steamer *Pergamon*, and bacteriological examination showed that the animals had suffered from plague. The steamer and the cargo were therefore thoroughly disinfected, and everything that the rats had gnawed was burned by the fire brigade. No case of plague has subsequently occurred among the crew.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for week ending March 9, 1901. Assistant Surgeon O. M. Eakins detached from the *Ajax* when put out of commission and ordered home to wait orders. Surgeon F. J. B. Corderio detached from the *New Orleans* and ordered to the *Buffalo*. Passed Assistant Surgeon R'Spear detached from the *Buffalo* and ordered to the *Isla de Luzon*. Passed Assistant Surgeon R. M. Kennedy detached from the *Newark* and ordered to the *Bennington*. Assistant Surgeon J. J. Snyder detached from *Isla de Cuba* and ordered to duty with a detachment of marines at Pollock, P. I. Assistant Surgeon M. V. Stone detached from the *Isla de Luzon* and ordered to the *Buffalo*. Assistant Surgeon J. H. Payne, Jr., detached from duty at Pollock, P. I., and ordered to the *Isla de Cuba*. Assistant Surgeon E. O. Huntington detached from the *Bennington* and ordered to the *Newark*.

Tragedy in a Paris Sanatorium.—The "Villa de la Gulle," a sanatorium kept by a Paris doctor in the Route de Versailles, has been the scene of a tragic shooting affair. Among the boarders inhabiting the villa were a Monsieur Henri Bellencontre and Monsieur A. Yanés. The latter was suffering from the persecution mania, and had consulted several physicians, who suggested only quietude and agreeable surroundings, both of which were to be sought in the villa in question. It appears that M. Yanés one evening, while in a restless mood, entered the library where some boarders were reading and chatting. M. Bellencontre rose to bid him good evening and offer his chair, whereupon M. Yanés produced a revolver from his pocket and shot, afterward turning the barrel toward himself and firing.

Obituary Notes.—Dr. Robert Stone, son of the late Joel Stone, died at the Hotel San Remo on March 7th, aged sixty-four years. Dr. Stone was born in Barclay Street, New York City, studied in Frankfort, Germany, and in Paris, and was graduated from the College of Physicians and Surgeons, New York. He practised medicine in New Haven and later in Irvington, Tarrytown, and Yonkers, and retired fifteen years ago.

Dr. John Dean Ross died at Williamsburg, Pa., on March 5th, at the age of ninety-five years. He was graduated from the medical department of the University of Pennsylvania in 1832. He founded and was the first president of the Blair County Medical Society.

Progress of Medical Science.

New York Medical Journal, March 9, 1901.

The Surgery of the Turbinal Bodies with a New Method of Operating.—J. E. Boylan advocates, in dealing with turbinal redundancy, the judicious amputation of the offending portions rather than their reduction with the cautery. He concludes from a study of over one hundred cases: (1) That turbinal hypertrophy is usually greatest at the extremities of the bones, rather than in the middle; (2) that the relief of obstruction is accomplished more certainly and accurately by ablation than by cauterization; (3) that while venous dilatation is greatest at the posterior extremities, obstruction is rarely due to hypertrophy at this point alone. For the removal of the offending tissue he uses either the saw or scissors, or both, or the cold wire snare. In order to prevent the latter from slipping he has frequently fixed the end of the loop by burying the point of a fine tenaculum (the hook of which was bent so as to be somewhat at an acute angle) into the lower margin of the turbinated body at the point of operation, carrying the loop over the handle into the meatus and adjusting it so that it passed behind and was held in place by the back of the hook. In forty-two cases it was possible to examine the nose one year after operation, and in no instance was there a complaint of discomfort attributable to the operation—a condition of affairs which the author was not able to obtain from the use of the cautery.

Blood in the Urine and the Diagnosis of its Source.—J. Wiener, Jr., does not believe that reliance is to be placed wholly on the cystoscope and the ureteral catheter, to the entire exclusion of other and older plans; for these two diagnostic methods are not always applicable. In the presence of hæmaturia, we are to ask ourselves as to the source and the cause of the bleeding. The diagnosis may be made from the history of the case, the examination of the urine, and the examination of all the organs. History should include inquiries into the family history, previous personal history, age, time at which the blood appears in the urinary flow, frequency and duration of attacks, and the effects of exercise or of complete rest in the course of an attack. The urine should be examined macroscopically, microscopically, and chemically. Other organs, as the heart, lungs, spleen, etc., should all be carefully examined, for their condition may suggest the origin of the hæmaturia. The author then discusses the peculiarities of hemorrhage from the urethra, prostate, bladder, and kidney, respectively.

The Radical Treatment of Malignant Disease of the Larynx.—By Ernest Waggett. The author takes issue with the statements of J. N. Mackenzie (see *New York Medical Journal*, September 8, 1900) on the advisability of early total extirpation of the entire organ, with its tributary lymphatics and glands. He claims that Mackenzie has not done justice to the most recent statistics on thyre-

otomy, and that the latter operation in the last few years has won for itself a deserving place in the treatment of malignant laryngeal tumors. Waggett's paper is largely statistical and does not well lend itself to abstracting. He claims that the figures of thyreotomy of these later years are infinitely superior to those of total extirpation, and that, as at present practised by English surgeons, the former is yielding brilliant results.

Resorcin as a Preservative for Suprarenal Solution.—S. Oppenheimer recommends the addition of sixty grains of desiccated suprarenal extract to one ounce of a one-per-cent. resorcin solution in sterile water. The preparation is free from septic properties and the vasomotor properties of the extract are in nowise diminished. The solution has been kept for six months without impairment.

Ichthyol in the Treatment of Deep-Seated Inflammations.—By W. T. Slevin. The following formula is given: Ichthyol, gr. xlv.; lead iodide, gr. xlv.; ammonium chloride, gr. x., and petrolatum to make one ounce. This preparation is to be rubbed on. Clinical histories are given illustrating its efficacy in erysipelas, quinsy, and bronchopneumonia.

The Specific Treatment of Acute Dysentery.—By W. J. Cruikshank.

The Pathology of Intra-uterine Death.—By Neil McPhatter.

Philadelphia Medical Journal, March 9, 1901.

Operative Treatment of Tuberculous Lymphomata of the Neck.—Prescott Le Breton quotes Horace Grant's opinions concerning this subject: Although in the removal of the lymphatics there is a loss of protection for a time, the remaining glands and newly formed lymphatic channels soon perform an extra duty, just as one kidney will do the work of two, or as one part of the brain will do the work of a part previously excised. The difficulties of complete removal in competent hands are never insurmountable. Dissemination of tubercle bacilli may be prevented by careful dissection and cleanliness during the operation. The writer adds that undoubtedly the general trend of opinion among surgeons in this country is toward radical operation in all cases that have withstood medical treatment. Watson Cheyne gives the most practical classification according to clinical characteristics and indications for treatment: (1) Cases in which the glands remain hard, small, and movable, with no marked tendency to softening or matting together. As long as the glands are quiescent they may be left alone, and medical treatment alone instituted. (2) Cases in which the glands enlarge steadily, or at intervals, till the whole side of the neck is involved. This condition demands complete excision. (3) Cases in which the inflammation is very active and suppuration takes place. Excision, with removal of capsules, fat, and neighboring glands is indicated. (4) Cases in which there are unopened abscesses; if only one or two glands enlarge and suppurate, by making an oval incision over the mass and dissecting outside the abscess, one may often enucleate the abscess and glands *in toto*. If the abscess is accidentally opened while being dissected, the pus should be washed away immediately. When the abscess has broken through the deep fascia and undermined the skin, it is sometimes wise to incise and drain three to four weeks and then operate, rather than excise the thin skin over the abscess and leave a large scar that may stretch. (5) A series of long-standing cases in which ulcers and sinuses remain with remnants of broken-down tuberculous tissues and glands at the bottom; the treatment is either excision or scraping, with the application of iodoform or carbolic acid. It is most important in operating to go wide of the disease, as in operating upon malignant growths. An important adjunct to the treatment is the removal of adenoids and hypertrophied tonsils, and the care of carious teeth. Eczema of the scalp, rhinitis, and otitis demand attention.

Albuminous Nutrition and Nutritious Albumen.—Albert Bernheim, in reviewing the work that has been done on this subject, gives a *résumé* of the nature and use of a prepared food which consists of nutritious albumen: (1) It is a powder of almost chemically pure albumen of animal and vegetable origin, in the average proportion in which the daily food is usually mixed. (2) It is slightly brownish, odorless, and tasteless. (3) It is sterile and can be kept for any length of time in any climate without deterioration. (4) The plain preparation is not soluble in water, but is readily accessible to the secretory juices of the alimentary apparatus. The iron mixture is soluble. (5) It is resorbable to an extent of more than ninety per cent. of its weight taken into the body. (6) It can be eaten as food by itself, or readily be added and mixed with any other food without changing taste or flavor of the food. (7) It is an exceedingly cheap proteid food for the sick as well as for the healthy person. It is ideal nourishment for the soldier and traveller. (8) Its bulk is small, so it yields good results in malnutrition of the insane, anæmics, consumptives, etc.; in diabetes and gout. (9) It loses none of its good qualities, as it is insoluble in water. (10) It will and must become one of the foods of the future.

On the Necessity for the Organization of Bacteriological Commissions for the Study and Investigation of Quarantinable Diseases, under the Formation and Control of the Governing Authorities of the Countries Interested; an Absolute Necessity for the Scientific Management and Betterment of Maritime Hygiene and Quarantine.—By Henry R. Horlbeck.

The Actions of Morphine upon Metabolism, with Especial Reference to "Internal Secretion" and its Bearing upon Toxicology.—By Edward T. Reichert.

A Skiagraph of Bennett's Fracture of the Metacarpal Bone of the Thumb or "Stave of the Thumb."—By John B. Roberts.

A Cast and Skiagraph of the So-Called Smith's Fracture of the Lower End of the Radius.—By John B. Roberts.

The Function and Distribution of Combined Hydrochloric Acid in Proteolytic Digestion.—By A. E. Austin.

False Pregnancy (Pseudocyesis) and Myxœdema.—By Edward P. Davis.

Paresis Simulating Brain Tumor.—By Wharton Sinkler.

Boston Medical and Surgical Journal, March 7, 1901.

The Interpretation of Bacteriological Findings in Diphtheria Diagnosis.—Hibbert Winslow Hill says that the relation of the board of health to the patient showing a positive culture is comparatively simple. It does not take the position that a sick person is necessarily suffering from the disease of diphtheria simply because a positive culture has been obtained, although this is usually true. The board does insist, however, that such a person is a nucleus from which the bacilli may be spread, and remains such until the bacilli disappear. The patient may be harmless, despite the positive culture, if the bacilli in his nose or throat are not actively producing toxins. But it being impossible to apply the methods for determining that the bacilli fail to produce toxins, in many cases, the board feels justified in assuming that those cases are virulent, on the strength of very much evidence which shows that the error involved in this assumption is small.

Case of Recovery after Operation for Acute Pancreatitis.—J. C. Munro reports a case in which the pancreas was broken up and the wound drained. The patient was very ill, and a month later the wound had to be explored and more diseased matter resembling pea soup removed. Four days later the writer opened through the sinus into another cavity that went up behind the lesser peritoneal cavity. At the lowermost part of all these cavities a free opening was made in the loin. The patient continued to discharge grayish material for some time, but finally the sinus closed, and she has been well ever since, except for one or two slight gall-stone attacks. She has gained in weight and apparently digests everything.

Destruction of the Left Eye and Frontal Lobe of Brain from a Shotgun Explosion.—Edward Swasey reports the case of a boy aged sixteen years, whose whole frontal lobe was practically destroyed as the result of the explosion of his gun. The breech-pin and screw were embedded in the wound made and had to be removed, and were found to be very rusty and dirty. Meningeal hemorrhage, collapse, or meningitis were feared, but for four weeks after the operation the boy led a very comfortable existence, and then died suddenly.

Acute Pancreatitis.—M. H. Richardson thinks that in all obscure inflammations of the epigastrium, attended by acute sudden pain, we ought to explore. If we cannot do anything else, we can at least drain. From the nature of things, we probably cannot save many cases. The diagnosis of these obscure lesions is practically impossible unless time is taken for study, which the imperative call for operation forbids. In all of the cases which the author has seen in which the diagnosis of pancreatitis was confirmed, death has followed.

Cancer of the Extremity of the Common Bile Duct.—By Robert J. Edes.

Convulsions in Children.—By William N. Bullard.

Medical News, March 9, 1901.

The Prevention of Insanity.—Henry Waldo Coe states that not less than fifty per cent. of the insane should never have been born, and that for this mistake physicians are to a certain extent responsible. The author sees no serious objection to the marriage of a woman who has recovered from insanity, if the dangers of the puerperium are eliminated and the prospects of progeny done away with through the removal of the ovaries, the future husband being informed of the true state of affairs. It is a rule to be invariably advocated that, when insanity is in a family, inter-

marriage should not be contracted. After marriage has taken place, the advice that no children shall be born is good but not always effective. During pregnancy and lactation the mother must be treated with the greatest gentleness. Sleep is the greatest foe which insanity has, as syphilis and heredity are its greatest friends. The administration of drugs should be most careful. The food for the growing child of neurotic taint should be carefully selected and prepared. Masturbation in a boy should be guarded against. The schooling of the child should be carefully planned. In all things the child should have his life shaped so that he is to be a man in the middle of the marching column—neither at the head nor at the foot. As a business man, he should enjoy an out-of-door life as much as possible. The surgical defects of patients who have possibilities for mental trouble should have the careful attention of our surgeons. Syphilis must be treated. All epilepsies demand closest attention. Hysteria and neurasthenia and kindred states must not be overlooked. Alcoholism and the gambling habit must be avoided.

The Present Status of the Subarachnoidean Injection of Cocaine for Anæsthesia (Corning-Bier Method).—John S. Miller declares that the enthusiasm of the surgeon must be tempered by the conscientious observance of the most minute details. To be misled by the *furor* is both reprehensible and sad. Cases should be carefully selected, and this variety of anæsthesia should be used only when ether and chloroform are contraindicated. Cocaine is at times very perverse in its physiological effects. A decided advantage over general anæsthesia is that the respiratory, cardiac, and renal organs are not so seriously disturbed as by the inhalation method. The patient can also confer with the surgeon during the operation in case a modification of the original plan must be made. Among the disadvantages are almost uncontrollable headache, lasting sometimes a week, nausea, vomiting, vertigo, cyanosis, elevated temperature, weakness, and relaxation of the sphincters sometimes lasting several days. Psychological disturbance may be extreme. On the whole, the reports of American operators are more favorable than those of our European colleagues. The matter of preparing the solution has not been settled. The writer believes that there is a medico-legal element in these experiments. The absolute consent of patient and family would be advisable before operation.

The Intravesical Evidences of Perivesical Inflammatory Processes in the Female.—By Frederic Bierhoff.

The Tonometer and its Value in Determining Arterial Tension.—By Henry L. K. Shaw.

Our Duties Toward the Consumptive Poor.—By S. A. Knopf.

Journal of the American Medical Ass'n, March 9, 1901.

Municipal Sanitation.—Walter Wyman declares that in municipal sanitation the chief attention should be centered upon the worst parts of the city. The sewerage, paving, light, and ventilation should be carefully considered. Good sanitary environment, enhancing the general health, is the best means of eliminating contagious diseases. Among the sanitarians we need good lawyers and men of extreme wealth. The average doctor or "sanitarian" is as a child in these matters. Sanitary tenements are necessary. As to the appointment of health officers, they should not be too frequently subject to political change and they should command the respect and receive the support of the practitioners of medicine whose influence in this direction is all-powerful. The sanitation of seaport cities which habitually breed yellow fever is being seriously considered. There should be international agreement in sanitation. There might be a convention composed of public sanitarians, civil engineers, and financiers, whose duty it should be to prepare a treaty providing for the examination of the chief yellow-fever ports by a commission representing the nations concerned.

Acute Temporary Dilatation of the Heart Accompanying Thermic Fever.—C. F. Close reports two cases. The first was that of a boy aged seventeen years, who had to work where the heat was very intense. He had a sunstroke with the usual symptoms. The heart was found to be greatly enlarged in all its dimensions, but especially to the right, reaching to the right border of the sternum. Under the ordinary treatment—recumbent position with elevation of, and ice compressor to, the head; cathartics, etc.—he recovered rapidly, and ten days later the heart had subsided to its normal boundaries. The second patient was a woman aged twenty-three years. She was overcome by heat and presented the same symptoms as the first patient. The heart was increased in size, chiefly to the right. In two weeks it was again normal. The writer believes the cause of this phenomenon to be in the nervous system—a part of the general muscular relaxation and the result of profound shock. There is also a general venous congestion which especially overtaxes the right ventricle.

Rupture of the Membrana Tympani from Indirect Violence, with Concussion of the Labyrinth and Complete Deafness.—Richmond McKinney describes this case, which he saw on the day following the accident. The patient had been struck on the right side of the head with a wagon-wheel spoke and had lain senseless for half an hour. On examination, the entire drum membrane of the affected ear, excepting the membrana flaccida, was found congested. The handle of the malleus was also congested. In the posterior half of the membrane was a perforation—perfectly straight and not gaping—running for almost two-thirds of its diameter. The patient was completely deaf. In a few days the perforation had entirely healed. In about three weeks the patient had returned to work, with a practically perfect drum, but was still stone deaf in the affected ear. For several days after the accident the patient had spit blood at intervals.

Hereditary Subnormal Color Perception.—F. Savary Pearce reports a case of this kind. The patient, a man, suffered from hypochondriasis and recurrent melancholy. He was very intelligent. He had arteriosclerosis; there was present also a chronic cystitis. He could not distinguish red from green. His mental fabric was always queer, and one year after examination he was committed to an asylum for the insane. Autopsy showed an absence of organic disease of the brain.

Treatment of Deflection of the Nasal Septum, Complicated by Traumatic Deformity of the External Nose.—By E. B. Gleason.

Anastomosis of the Ureters with the Intestine; a Historical and Experimental Research.—By Reuben Peterson.

Extensive Laceration of the External Ocular Muscles; Diplopia; Spontaneous Recovery.—By Walter L. Pyle.

Sarcoma of the Intestines, with Table of Fifteen Cases of Resection.—By C. Van Zwalenburg.

The Simplest Explanation of the Functions of the Nervous System.—By G. W. Drake.

Rest Treatment for Hysterical Diseases.—By John K. Mitchell.

Results of Surgery in the Aged.—By James P. Tuttle.

Exstrophy of the Bladder.—By F. Gregory Connell.

Psychic Therapeutics.—By J. C. Culbertson.

The Lancet, March 2, 1901.

On the Quantitative Estimation of the Bactericidal Power of the Blood.—By A. E. Wright. Second paper (first paper in *Lancet* of December 1, 1900). A full account with statistical tables is given of the author's experiments, which show in his estimation the following facts: What is measured by the gelatin method described in his former communication is rather the total antibacterial power of the blood than the bactericidal power proper. To determine how much of the result which is registered is referable to an inhibition of the growth of the bacteria, and how much to a direct bactericidal action, it is necessary, after the cultivation-tubes have been incubated and examined microscopically, to melt down the gelatin and to blow out the contents of the tubes into sterile nutrient broth. When it is desired separately to estimate the bactericidal power, this can readily be done by making a series of graduated dilutions of a bacterial cultivation in broth, and by mixing one volume of each of these with one volume of undiluted—or, if necessity should arise, diluted—serum. This method may appropriately be applied when we are dealing with bacteria, such as the vibrio of cholera or the typhoid and diphtheria bacilli, which are readily killed off by the normal human blood. When the method last in question is employed, and when the bacteria in the culture employed have been enumerated in the manner indicated, a convenient arithmetical expression for the bactericidal power is obtained by specifying the number of micro-organisms which one cubic millimetre of serum is capable of killing. When (as in the case of the staphylococcus and apparently, also, in the case of the streptococcus and bacillus of plague) we have to deal with bacteria which are not killed off, or which are killed off only in small numbers, by the normal human blood, or, again, when we are dealing with conditions such as those frequently met with in persons recently convalescent from typhoid fever, when the blood has lost much of its normal bactericidal power, the gelatin method, measuring as it does the combined inhibitory and bactericidal power, may appropriately find application.

On the Influence of Ozone on the Vitality of Some Pathogenic and Other Bacteria.—By A. Ransome and A. G. R. Foulerton. The authors conclude from their own experiments that ozone, in the dry state and moderately strong, has no appreciable effect on the vitality of most of the common bacteria, such, for instance, as the following: Sarcina ventriculi; micrococcus melitensis; micrococcus

candicans; bacillus mallei; bacillus diphtheriæ; bacillus anthracis (from twenty-four-hour-old culture in broth, non-sporing); bacillus anthracis (from old sporing culture on potato); bacillus typhosus; bacillus coli communis; bacillus pyocyaneus; bacillus pneumoniæ; and bacillus prodigiosus. Nor did a prolonged exposure to ozone diminish in any way the pathogenic virulence of bacillus tuberculosis in sputum. Single experiments would also tend to show that ozone can have little if any effect on the pathogenic virulence of bacillus mallei and bacillus anthracis. On the other hand, ozone probably possesses a bactericidal property when passed through a fluid medium containing bacteria in suspension. A comparison of the inactivity of ozone as a disinfectant in the dry state, with its action in the presence of water, suggests a superficial resemblance with other gases, such as chlorine and sulphur dioxide. In the dry state, and under the conditions in which it occurs in nature, ozone, then, is not capable of any injurious action on bacteria, so far as can be judged from the experiments here detailed; and the authors conclude that any purifying action which ozone may have in the economy of nature is due to the direct chemical oxidation of putrescible organic matter, and that it does not in any way hinder the action of bacteria, which latter are, indeed, in their own way working toward the same end as is the ozone itself, in resolving dead organic matter to simpler non-putrescible substances.

A Method of Distinguishing Bacillus Coli Communis from Bacillus Typhosus by the Use of Neutral Red.—W. Hunter maintains: (1) That bacillus coli communis possesses to a marked degree the power of reducing neutral red, producing a superb canary yellow fluorescent color of the medium. (2) That the so-called bacillus enteritidis of Gaertner also produces this reaction, and is probably only a variety of bacillus coli communis. (3) That the bacillus typhosus never possesses this power of reduction. (4) That the common pathogenic micro-organisms do not give this reaction. (5) That by means of neutral red it is possible within from twelve to twenty-four hours to diagnose with absolute accuracy the presence of bacillus coli communis. Finally, as far as his experience goes, it is possible to diagnose by means of neutral red the true coli group from the typhoid group of micro-organisms.

Notes on a Case of Influenza with Meningitis as a Complication.—By A. Foster. The patient was a woman aged fifty-five years, who fell ill with general grippe symptoms, and on the third day developed meningeal complications. She died from the latter complications two days later. The author considers death from influenza meningitis to be of rare occurrence. Two forms are described: (1) That in which there is a simple benign lesion, seldom fatal and which is due to the special action of the toxins secreted by the influenza microbes, producing inhibition phenomena, toxins which appear to have a predilection for the nerve centres and for which the cerebro-spinal fluid serves as a receptacle. (2) That in which the lesion is more severe, generally fatal, and in which the streptococcus, staphylococcus, or other bacilli play an important part.

Three Cases of Cervical Spina Bifida Treated as Out-Patients by Open Operation.—By J. H. Nicoll. All three ended in recovery, two of them being pure meningoceles and the operations presenting nothing of special interest. Cervical cases are the best for post-operative treatment as out-patients.

Four Cases in which Pain was Relieved by Suprarenal Extract.—By E. A. Peters. The designations of the cases are, respectively, recurrent scirrhus of the mamma, stricture of the œsophagus (cancer?), tuberculosis of the larynx and periodontitis.

Result of Major Amputations Treated Antiseptically in the Royal Infirmary, Newcastle-on-Tyne, during the Year 1899 and for Twenty-One Years and Nine Months, viz., from April 1, 1878, to December 31, 1899.—By H. Brunton Angus.

Public Health and Housing; the Influence of the Dwelling upon Health in Relation to the Changing Style of Habitation.—First Milroy lecture by John F. J. Sykes.

A Case of Fracture of the Sternum.—By J. S. Martin.

A Case of Cerebro-Spinal Meningitis.—By F. Riley.

History of Renal Surgery.—By David Newman.

Ad Terram.—By Sir F. S. Haden.

British Medical Journal, March 2, 1901.

Ad Terram; the Earth and the Soil.—Sir Francis Seymour Haden considers that soil is manure, the very medium in which with so much confidence we are making our experiments—the one great fertilizing agent, without which the earth would starve, its populations die out, and the atmosphere itself, deprived as it would then be of its means of renewal, and being, consequently, without a purpose, might, not impossibly, also cease to exist. The writer believes the earth to be the very opposite of all this. The soil is organic, the earth, inorganic. While the soil has its origin on the periphery of the globe, the earth has its origin in its own centre, and its earliest development is the breaking up and gradual disintegration of its own primitive rocks, till at last they are reduced to the friable matter which we know as "earth." As to the age of these two bodies, while that of the soil can in no case exceed the age of the animal or vegetable which produces it, the age of the earth is measurable only by the countless ages during which we know it to have been in the course of formation. These bodies can have nothing in common till by a provision of nature (gravitation?) they are brought into actual contact, giving rise on their admixture to a change of their elements, or to the creation of a new force. For the interposition of the microbe in changes and metamorphoses of this kind, the writer sees no necessity, or for the interposition of any foreign body. The physical properties of the soil, its weight, its volume, and its great value as a fertilizing agent are measurable only by the whole extent of the earth's surface, and by the amount of organic life, animal as well as vegetable, which is its immediate source of supply. As to its weight and the pressure which it exerts on the earth's surface, it is that of the atmosphere, plus its own density, and the weight represented by the pressure which it exercises on the earth as the effect of gravitation. The writer calls attention to the difference between his views and those of other investigators as depending on the fact that, while they have made most of their experiments within doors, and on the strength of prearranged lines of inquiry, he has worked wholly out of doors, and on lines suggested simply by what he has met with and seen there.

The Campaign against Ague.—Herbert E. Durham has observed that all the pools in which he has met with anopheles larvæ have been muddy and without manifest green growth. As to the use of culicicidal agents, the most profitable time for their employment would be during the dry season, especially at its close. Nature's own culicicides, in the form of tadpoles, water beetles, etc., may be enabled to spread from pool to pool, and assist in the destruction of the anopheles larvæ. As to quinine, its administration causes a rapid disappearance of the malaria parasite in its asexual form from the blood, but the sexual forms can still be found, even after long periods of quinine taking. The writer believes that arsenic is the best drug now known for destroying the sexual forms. For the patient's own safety he must be given quinine in some form or other; for the safety of the community he must at the same time be given some drug such as arsenic.

A Case of Puerperal Eclampsia and its Treatment by Morphine.—George Elder reports a case of this kind in which one-third grain of morphine hypodermically administered stopped the convulsions and produced two hours' sleep. He states that, after making due allowance for cases having other than a renal origin, it must be admitted that the majority have that origin. Prophylaxis is what is wanted in the treatment of this affection. As soon as there is evidence of kidney failure, a rigid milk diet, measures for stimulating the functions of the skin, the kidneys, and the bowels, would generally obviate the necessity of premature induction of labor.

A Case of Multilocular Cystoma of the Omentum; Removal; Recovery.—By N. Percy Marsh and Keith Monsarrat.

Painless Calculous Pyonephrosis without Fever; Nephrectomy; Recovery.—By Alban Doran.

A Case of Spoon-Shaped Indentations of the Skull of an Infant.—By T. S. Finch Hudson.

The Treatment of Puerperal Eclampsia by Saline Diuretic Infusions.—By Robert Jardine.

The Milroy Lectures on the Influence of the Dwelling upon Health.—By John F. J. Sykes.

A Clinical Lecture on Some Points Relating to Varicocele.—By William H. Bennett.

Congenital Misplacement of the Heart.—By E. H. Monks.

A Case of Pancreatic Diabetes.—By R. L. Bealey-Smith.

Treatment of Acne Pustulosa.—By H. Leslie Jones.

French Journals.

Concerning the Histological Process in Acute Epididymitis.—Ch. Audry and Dalous give the following *résumé* of their paper: As to the initial localization of the lesions, it can be accepted that in the suppurative cases of epididymitis of blennorrhagia this must be searched for in the intertubular connective tissue and in the region of the lymphatics. The same conclusion is applicable, but less strictly so, in subacute epididymitis. The lesions of the epithelium show similar characteristics, principally an energetic metaplasia tending to revert to the cubical type, low and bare—the cylindrical and ciliated epithelium of the cones as well as that of the canal of the epididymis. This change may come from the action of the contents of the tubes, or it may

be from troubles of nutrition. In subacute epididymitis it is observed that the epithelium is influenced at first by these same causes, and besides by the energetic action of the intra-epithelial diapedesis. In a general way the lesions of the cones and of the canal are similar; in a general manner there exist constantly healthy areas in this infected region. The contents of the cones and of the canal are composed sometimes of leucocytes, and sometimes of leucocytes and spermatozoa. In acute epididymitis the leucocytes have not traversed the walls which contain them, at least at those points which were examined. It is not the same in subacute epididymitis. Epididymectomy, total and systematic, is the proceeding most rapid and most sure in the treatment of suppurative non-tuberculous epididymitis.—*Archives Provinciales de Chirurgie*, February 1, 1901.

The Diazo Reaction of Ehrlich in Variola.—Ed. Sergent states that this reaction was seen the first time by Ehrlich in 1882, in the urine of typhoid-fever patients, and has never been found in the urine of healthy persons. The illnesses in which it appears in the urine are very different. They can be ranged in three groups, according to Zunz: Those in which this reaction appears from the beginning, as in typhoid fever; those in which it appears only at the end of the disease, as in pulmonary tuberulosis; and those in which it is rare. Its presence constitutes an element of diagnosis for typhoid fever, and an element of prognosis for pulmonary tuberculosis. The urine of 53 patients ill with variola was examined daily in the Pasteur Hospital. During the eruption the reaction was positive in 9 cases, negative in 2 cases. During suppuration it was positive in 31 cases, negative in 4 cases. During desiccation it was positive in 9 cases, negative in 42 cases. Since the diazo reaction is almost constantly present in the course of variola in full evolution, it would seem to offer a factor of differential diagnosis between variola and varicella, which latter, according to those who have studied the disease, does not as a rule show the diazo reaction. Although the observations so far made are not numerous enough for a conclusion to be drawn, nevertheless they are suggestive. —*Le Bulletin Médical*, February 16, 1901.

Gelatinized Serum in Gynæcology.—Lafond-Grellety believes that gelatinized serum is the most convenient and the surest hæmostatic in the hemorrhages of pregnancy; that in endometritis and in metritis it always arrests hemorrhage, it diminishes leucorrhœa without curing it, and it renders the uterine mucosa less liable to hemorrhage during curettage. He also believes that in curettage, with or without amputation of the cervix, it permits of hæmostasis, without hindrance during the operation. It economizes for the patient a certain amount of chloroform. It renders possible, together with the aid of appropriate solutions, antisepsis of the field of operation. It has the advantage over hæmostatic forceps in that it does not constrict a region that is not easily accessible and which is limited. He believes also that in inoperable cancers of the uterus it arrests and diminishes the frequency of hemorrhage, and it relieves, for some time at least, the suffering attendant upon this affliction.—*Gazette hebdomadaire des Sciences Médicales de Bordeaux*, February 19, 1901.

Contribution to the Study of the Perforation of the Skull by Sarcomata which Originate in the Orbit.—Vieusse presents the following conclusions: Sarcomata which develop in the orbit are almost all melanotic in type; they are essentially malignant tumors, often causing the death of the patient. Their malignancy appears to be due to the pigmented material which they contain. In certain cases, not numerous it is true, the neoplasm penetrates into the skull by breaking through the walls of the orbit; it does not ordinarily cause cerebral troubles, because that part of the tumor which invades the cranial cavity is smaller and develops slowly. The perforation of the skull by a sarcoma of the orbit has no influence on the surgical treatment which these tumors demand.—*Recueil D'Ophthalmologie*, December, 1900.

A Foreign Body in the Rectum.—A. Fraikin reports this case. The patient was a man aged fifty-four years, who came to the surgeon in order to have a foreign body extracted from the rectum. This was done by means of the hand. It proved to be a paint-brush handle sixteen centimetres long and as large as two fists. It had caused no functional trouble. It was extracted without pain and without entailing any complication.—*Journal de Médecine de Bordeaux*, February 10, 1901.

Münchener med. Wochenschrift, Feb. 5 and 12, 1901.

Acute Puerperal Inversion of the Uterus.—A. Fleischmann calls attention to the extreme rarity of this accident, for in a period of fifty-four years, during which 200,000 patients were delivered, it was not observed at the St. Petersburg Lying-in Hospital, and at the London Maternity Hospital 140,800 deliveries were made without its occurrence. Great interest, therefore, attaches to two cases which he reports. The first was that of a primipara in whom the uterus did not contract after the child was born, and which was refractory to the usual methods of stimulation. As some bleeding was going on, an attempt was made to expel the placenta by Credé's method, with the result that the organ suddenly slipped from the compressing hand and a moment later appeared at the vulvar outlet. The patient at once went into collapse, which persisted while the placenta was peeled from the inverted uterine surface and during the act of reposition, which was successfully accomplished by gently compressing the tumor till it could be replaced in the vagina, when by dilating the tightly contracted cervix with the outspread fingers of one hand under simultaneous pressure on the fundus with the palm, it was possible to effect its return to its normal position. Under ergot and hot lysol injections it speedily contracted and the patient made an uncomplicated recovery. In the other case the accident was caused by an effort on the part of a midwife to extract the placenta by traction on the cord. When the patient came under observation, she was unconscious and pulseless. Reposition was readily effected, and prompt recovery from shock followed appropriate stimulation. The most striking observation in both of these cases is the severe general prostration produced instantly on the occurrence of the inversion, which receded just as promptly when reposition had been accomplished.

Intermittent Fever as a Symptom of Mediastinal Tumor.—K. Witthauer reports a highly interesting case of sarcoma of the mediastinum which progressed under rather unusual circumstances. The patient was a woman aged twenty-four years, who came under treatment for pleurisy with exudation, an unfortunate circumstance, since the slight physical signs which were subsequently elicited, and which were due to the new growth, were very naturally attributed to changes secondary to the pleural inflammation. After the acute stage of the pleurisy had subsided the patient did very well, except that up to the time of her death, a period of five months, every third or fourth day her temperature would go up several degrees and then gradually fall again to normal on the second day. In the fever-free intervals she was up and about, but at each temperature rise she suffered from great prostration, dyspnœa, pain in the cardiac region, and cough. All attempts to discover the cause of this unusual phenomenon were fruitless, and no impression was made by a very extensive antipyretic therapy, while the patient grew gradually weaker and finally succumbed to an attack of acute dyspnœa. On autopsy it was found that the heart was pushed forward by a sarcomatous growth which had actually invaded the auricles themselves and involved the whole lower lobe of the right lung and also pressed on the left bronchus. Apparently, the only conclusion possible is that the tumor in some way, perhaps by a more or less regular liberation of toxins, caused the fever, and that this must therefore be included in the list of symptoms of the disease.

The Treatment of Eczema.—Kromayer and Grüneberg sum up the indications for the treatment of eczema as follows: (1) The skin must be set at rest and protected against external and internal injuries, by the application of bland powders, ointments, or moist dressings. This alone is sufficient to insure the cure of all acute cases. (2) Dispersion of chronic tissue changes in old-standing cases by means of reducing agents such as tar, sulphur, pyrogallol, chrysarobin, etc. Since most eczemas are combinations of acute and chronic inflammations, these two indications are often opposed to each other. (3) In obstinate cases cauterization by means of caustic potash or green soap, or preferably by the application of lenigallol. This is the triacetate of pyrogallic acid, and has the property of liberating pyrogallic acid when it is brought into contact with inflamed skin. Its advantages are that it is unirritating, since on normal skin it remains unchanged; that on chronically inflamed surfaces the liberation of pyrogallol takes place very slowly, and therefore it is milder in its action than pyrogallic acid itself; while in spots where the horny layer has been lost its decomposition takes place much more rapidly and its effect is more powerful. When the lesion is deep seated, lenigallol alone is not sufficient to effect a cure, but its application must be followed by some stronger preparation such as tar, while milder forms may be quickly relieved by the use of lenigallol alone.

Quinic Acid, a New Remedy for Gout.—Hugo Sternfeld reports very favorably on this agent as a uric-acid solvent. Quinic acid, which in contradistinction to quinine does not exhibit any untoward by-effects, is in the body converted into benzoic acid, and this again into hippuric acid, which, while closely related to uric acid, greatly surpasses it in solubility in water. By combining it with some diuretic an increased excretion of uric acid follows and the

preparation that has been found most suitable is a quinate of lithium. This is best given in tablets containing gr. viiss., of which ten a day may be administered. The only objection that can be urged against the preparation is its expense, while the results are so gratifying as to justify the conclusion that this agent is as specific for gout as the salicylates are for rheumatism or quinine is for malaria.

Perineuritis of the Sacral Plexus and its Treatment.—A. Guttenberg describes a form of inflammation of the pelvic nerve trunks which is most common in women and is characterized by beaded thickenings along the course of the nerves. The symptoms vary according to the number of nerves implicated and to whether the disease is on one or both sides. At first there is a vague sense of pelvic discomfort, with pain in the loins and back and coxalgia; later on pain develops in the sexual organs and bladder, and extends down the thigh to the knee or even the foot. Walking and stooping are painful, as is extension of the leg, while secondary atrophy of the muscles, due to inactivity, may be observed. The treatment consists of general tonic therapy, together with local massage and passive movements of the limbs.

What is the Value of Tetanus Antitoxin in Human Tetanus?—Wilms would set the value of serum therapy for this disease very low, since in four successive cases treated by him in this way the fatal termination was not averted. Behring has postulated that any case, in order to have value as evidence for or against the serum, must have received antitoxin injections not later than thirty hours after the first tetanus symptoms have been noted, and that not less than one hundred antitoxin units must have been employed. In Wilms' cases these conditions were more than fulfilled, yet death occurred on the second, third, fourth, and sixth days of the disease respectively, and the course of the malady did not seem to be in any way affected by the injections.

The Method of Freezing-Point Determinations and the Freezing-Point of the Blood in Typhoid.—By O. Rumpel.

Contribution to the Results after Abdominal Extirpation of Sarcoma and Carcinoma.—By A. Funke.

The Functional Results of Tendon Transplantation in Paralytic Deformities.—By E. Kunik.

The Palliative and Radical Treatment of Uterine Myomata.—By L. Schaller.

Epityphlitis and its Treatment.—By F. Berndt. A continued article.

The Upper Temperature Limit of Life.—By H. Steudel.

A Simple Uterine Support.—By Reismann.

Menabea Venenata Baillon.—By A. Model.

Berliner klinische Wochenschrift, No. 7, Feb. 18, 1901.

A New Medico-Legal Test for Distinguishing between Human and Animal Blood.—By A. Wassermann and A. Schuetze. This procedure is based upon the experiments of Bordet with hæmolysin and precipitin. Bordet showed that, after the incorporation of the red blood cells of a species of animal different from that experimented on, there were developed, in the blood of the latter, substances which combine the red cells (agglutinin) and other substances which decompose them (hæmolysin). The test is made in the following manner: Rabbits are injected five or six times with eight to ten cubic centimetres of human blood serum. Six days after the last injection, the animals are bled by opening the carotid and the blood is allowed to separate, under a very low temperature, into clot and serum. A portion of the suspicious substance to be tested is washed with physiological salt solution, which is filtered until completely clear, and the clear filtrate is divided into two portions which are placed in sterilized vessels. To one vessel is added one-half cubic centimetre of the serum of a rabbit treated with human serum, and to the other a similar quantity of the blood of a rabbit not so treated. In a third vessel, serving also as a control, are placed four or five cubic centimetres of a blood from some other animal, such as a sheep or swine, the solution being made colorless by the removal of the red cells, and to this third vessel is also added one-half centimetre of blood of a rabbit treated with human serum. The three vessels are then placed in a temperature of 37° C. In the course of an hour the vessel which contains the suspicious material, and to which has been added the blood of the rabbit treated with human serum, begins to show a turbidity and a precipitate, while the contents of both the other vessels remain clear and unchanged. The resulting turbidity and precipitate are to be taken as evidence that the suspicious material examined contains human blood, for no other blood except that of the ass will give such a reaction. The authors claim that this test is applicable in the case of suspicious material, when it is impossible to obtain for recognition intact red cells, and even when it is no longer possible to extract hæmin crystals.

Abortion from Poisoning.—G. Schwarzwaeller gives the clinical histories of several cases of abortion, in which various preparations of lead had been taken with criminal intent. He advises that a careful examination of the gums be made in all cases of abortion from obscure causes.

The Removal of the Waste Water of Cities.—By Professor Gaertner.

The Feeding of Nurslings with Undiluted Milk.—By E. Schlesinger.

American Journal of the Medical Sciences, March, 1901.

A Study of Congenital Sarcoma of the Liver and Suprarenal.—William Pepper reports a case of this kind which came under his observation. From a search through the literature he finds five similar cases, and tabulates the points of resemblance as follows: The early age of which the first symptom—swelling of the abdomen—was observed, varying from the time of birth to five weeks. This seems to prove the congenital nature of the affection, especially when taking into consideration the extensive involvement of the liver. The time at which the children died varied from ten days to sixteen weeks. This shows great malignancy. The growth of the tumor was rapid. All were females with the exception of one case, of which the sex is not mentioned. The clinical symptoms are: Distention of the abdomen, which was present in all. Wasting existed in varying degrees. Ascites is not noted in any case, nor is jaundice or any form of skin pigmentation. The children all nursed well till shortly before death. There was apparently not much pain, nor is rise of temperature mentioned. There was neither any history nor were signs of syphilis found. The growth of the liver in these cases was identical in its appearance, and showed the same equally infiltrative proliferation by the sarcomatous tissue, with practically complete destruction of the entire normal liver structure. The growth in the suprarenals was very hemorrhagic. In no case was any other organ or part of the body involved by the new growth. The various diagnoses were: round-celled sarcoma, myxosarcoma, and lymphosarcoma. The primary seat in three cases was thought to be the liver; in two, the right suprarenal; in one it was called a sarcoma of the liver and both suprarenals. The absence of the following points in these cases differentiates them from a possible syphilitic affection of the liver and suprarenals: (1) There was no overgrowth of connective tissue in any of the tumor masses. (2) There was no amyloid change in any organ. (3) There was no perihepatitis. (4) There was no jaundice. (5) There was no enlargement of the spleen. (6) There was very little if any pain in the neighborhood of the liver. (7) There was no nephritis. There was a markedly hemorrhagic condition of the tumors. These cases are very dissimilar to all other reported cases of primary sarcoma, either of the suprarenals or of the liver.

The Surgical Treatment of Ascites due to Cirrhosis of the Liver, with Report of Two Cases.—Frederick A. Packard and Robert G. Le Conte conclude that: *A priori* cases of cirrhosis of the liver stand injury badly, and therefore are poor subjects for operation. The resistance of their tissues is presumably much less than in health. The exact estimation of the amount of degeneration of the various organs, including the liver, is extremely difficult or impossible, consequently the mortality of the operation under consideration would naturally be expected to be relatively high. Without operation these patients as a class are doomed to a life of perpetual invalidism, requiring constant treatment and repeated tappings to make life bearable. The writers believe that when the diagnosis of pure portal cirrhosis of the liver can be made, and when persistent and well-directed medical treatment is productive of insignificant results, the operation should be strongly recommended. On the other hand, it would seem that the operation is scarcely indicated, if indeed not contraindicated, in cases of ascites associated with other kinds of cirrhosis (Hanot's, syphilitic, mixed, etc.), or with chronic peritonitis.

A Case of Sarcoma of the Thigh, for which Disarticulation was Performed through the Hip-Joint, with the Formation of a Posterior Flap.—By John Chalmers Da Costa.

Splenic Myelogenous Leukæmia with Pulmonary Tuberculosis.—By Henry L. Elsner and William A. Groat.

Hemorrhagic Typhoid Fever.—By Augustus A. Eshner and T. H. Weisenberg.

Stereoagnosis and Allied Conditions.—By Charles W. Burr.

Clinical Study of Acute Myocarditis.—By Beverley Robinson.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT, HOSPITALS COMMISSION, MINISTERIAL PROMISE, THE HUNTERIAN ORATION—ADJOURNED DEBATE ON ARSENICAL POISONING—MR. V. HORSLEY ON THE MEDICAL COUNCIL.

LONDON, February 22, 1901.

THE hospitals commission has already come before parliament, and a measure of reform is promised by Mr. Broderick. Sir Walter Foster once more aired his grievance that the government did not send him on a trip to the Cape as the sanitary adviser. But if the government had wanted an expert on that subject, surely he does not rank as such. Mr. Burdett-Coutts called the conclusions of the commissioners "lame and impotent," and indulged in further abuse in which the member for Bow rivalled him. Mr. Broderick showed that the difficulties of the army medical department had been brought about by the crusade against its cost, undertaken fourteen years ago, and the determination of the House of Commons to reduce the number of doctors and all the expenses of the department. Could they wonder, he said, that when we sent six army corps to South Africa the staff, restricted to three at home and two abroad, was somewhat strained? He acknowledged the great devotion displayed by the doctors under the circumstances, and mentioned some of the grievances that ought to be redressed. He entered on the question of titles, hinted at study leave, and so on. But the great point is that he proved that for fourteen years parliament had kept the department down, and promised if the house supported him that no effort shall be wanting and no prejudice shall be allowed to prevent his giving the army in the future an effective medical service, though he could not pretend to make a complete reform in a few weeks. So far it is well. The responsible minister has promised. The country will support him. The army surgeons may take courage and hope.

The Hunterian oration at the Royal College of Surgeons was delivered, as usual, on the 14th inst. This year the duty was performed by Mr. N. C. Macnamara, who, having referred to the death of the Queen and the interest taken by her late Majesty, as well as by her successor, in all beneficent work, alluded to the loss sustained by the college since the last oration in the death of Sir James Paget. He then passed to the subject he had chosen—craniology. Pointing to the portrait which adorns the walls of the lecture theatre, he remarked that the painter had clearly drawn a human skull and the skull of a chimpanzee on the open pages of the book before Hunter, who he thought was thus shown to be interested in the subject when the portrait was painted. From this the orator proceeded to trace the facts and the speculations which have accumulated as to the relation of man and apes, from Lawrence's lectures at the college in 1819 to Keith's in 1899. The effect of the late closure of the anterior sutures in man on the development of his brain was mentioned, and incidentally that men have, bulk for bulk, four times as much superficial brain surface as anthropoid apes. He agreed with Edinger that the gyri of both brains are similar in character, with the marked exception of the frontal lobes. On which those who do not agree with him might say there is great virtue in the word similar, and the "marked exception" is very marked indeed. Further admitting that in apes the speech centre exists only in a rudimentary condition if at all, the orator thought it probable that to this is due their inferior intelligence, man's intellectual development depending on the possession of the faculty of speech. He attributed the condition of the ape's frontal lobes, to a large extent, to the premature ossification of that part of the skull which encloses the fore-brain, and said the specimens in the museum showed that in the later tertiary and early quaternary period the inhabitants of western Europe resembled, as regards this ossification, the chimpanzee more than the present European. This brought him to the consideration of the skull of man, from the earliest ages to the present time, and the changes in form which have taken places. These changes, largely due to the environment, have occupied long periods of time, and find expression in the hereditary transmission of physical differences among the inhabitants of different regions. To the same causes the orator attributed the development of specialized areas of nerve structure in their brains, by means of which men of the same race come to think and feel alike, and so take common action on matters affecting their well-being, their innate sentiments harmonizing, though they live at great distances and under different climates and environments, because their progenitors developed and transmitted the specialized nerve centres which have become crystallized in their laws, religion, and social institutions.

In illustration of this view, Mr. Macnamara referred to the recent election when he said the inhabitants of England and Scotland, mainly of Anglo-Saxon origin, voted together, while a contrary opinion was held by a greater proportion of the inhabitants of Ireland, and, to a large extent, by the Welsh, most of whom descend from Ibero-Mongolians. He found it difficult to account for this unless we consider it due to racial mental qualities. Environment, he admitted, had played a large part in the evolution of these peoples; but he held that inherited racial character has had more to do with the position which the Anglo-Saxon race has gained than the mineral wealth, climate, or protection afforded by our sea-girt coast.

According to this notion, we owe all our progress in civilization, our intellectual capacity, our laws and social institutions, even our religion, to the exercise over long periods of time of a speck of specialized cerebral tissue, inherited as a speech centre—just as constant practice may develop the fingers of a Paganini—for this is what such evolution amounts to. Nay, "the man that hath no music in his soul" might, by continual practice, develop finer finger muscles than the master, but he could not therefore rival Paganini in making the violin speak. And what about the speech centre of inferior races? Some of them have developed languages the richness and power of which very few have investigated.

The adjourned debate on arsenical beer poisoning, which had been delayed by the special meeting, came off on the 12th inst. It was opened by Dr. E. S. Reynolds, of Manchester, who first traced the cause of the epidemic. He illustrated, by projections of photographs of patients, the succession of the leading symptoms, which usually appeared in the following order: Congestion of the conjunctiva, then of the face and legs, with œdema; erythromelalgia, eruptions, pigmentations, keratosis, etc. The first onset of paralysis is seen in inability to oppose thumb and little finger. He also exhibited for Dr. Delépine photographs of crystals obtained by Reinsch's test of 1 in 100,000 in beer and other things.

Dr. Dixon Mann, of Manchester, referred to the following unusual types: (1) Cases with neither neuritis nor skin lesions, but with sweatings, mental apathy tending towards rambling, weak heart, œdema of the lungs, no pain, fever of 1° to 3°, and sudden death from syncope. (2) Cases without fever, but with tendency to collapse, diarrhœa, vomiting, and other symptoms of subacute arsenical poisoning. The metal, he said, could be detected in the urine one-half hour after taking five minims of liq. arsenicalis, though in fatal acute poisoning it is seldom found in the body if the victim has survived from fourteen to sixteen days. In this epidemic the poison has been cumulative, but time is not the only factor, for none was found post mortem in one woman who died twenty-one days after admission, and in another woman, who survived fifty-two days, it was found. He had seen patients who eliminated arsenic but had no symptom of its presence.

Dr. Judson Berry, of Manchester, had never before seen such severe hyperæsthesia of the limbs, which persisted months after the keratosis and paralysis. In some cases pain and effusion into joints and tenderness of bones were noticed, and he thought the paralysis more widespread than in other forms of peripheral neuritis. In the hand the marked paralysis of extension led to curved fingers. He believed he had seen peripheral neuritis in spirit drinkers.

Dr. Nathan Raw, of Liverpool, found arsenic in five cases out of thirty-three he tested, but never later than ten days after admission. He referred to Osler's observation that liquor arsenicalis had more effect when given in brandy than in water.

Dr. Kelynack showed many photographs, drawings, and casts. He believed the alcoholic vehicle accentuated the effect of the poison. He had seen cases in infants point to elimination through the milk. He thought As_2O_3 in glucose was associated with an acid reaction.

Sir Lauder Brunton mentioned Hunter's experiment showing arsenic to be just as poisonous when absorbed from a wound as when entering by the stomach.

Dr. Luff said he had for a long time been suspicious of arsenic in peripheral neuritis, and had suggested testing the urine in doubtful cases. He had once prescribed five minims, three times a day, of liquor arsenicalis to an adult—an alcoholic. Very soon neuritis set in.

Dr. Tunnicliffe had found selenium in beer, glucose, and sulphuric acid.

Dr. Taylor had observed similar tenderness of the calves of the legs in typhoid, diphtheria, and other conditions.

Dr. Ringer thought the action of arsenic akin to that of potassium salts on the muscles of the skeleton and of the heart.

Mr. Victor Horsley's seventh report to his constituents is an interesting and forcible statement of his work in the General Medical Council and a criticism on the proceedings of that body. He treats particularly of the revolt of the

English colleges, medical aid associations, and finance. On all these subjects I have kept you informed, so I have nothing to add except that, in regard to the last point, Mr. Horsley is very outspoken as to the way in which the chairman of the business committee (Dr. MacAlister) has succeeded for three sessions in shelving this important and unpleasant subject from day to day until the last day, when everything is rushed through in a most unbusinesslike manner. That the council's finance is in a muddle is obvious from the fact that two reports, presented and accepted, positively contradict each other. The council has for years been extravagant and wasteful, and it is time it was sharply pulled up. Another point on which Dr. MacAlister has been obstructive is the personation of practitioners. Mr. Horsley's committee on this subject reported two years ago, but the report is still shelved.

This subject reminds me that a case of personation of a student at a preliminary examination has been detected and taken into court. The judge commented on the laxity of the regulations of the examining bodies concerned in a manner calculated to waken them to a sense of their responsibilities.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 7, 1901.

CHARLES L. DANA, M.D., VICE-PRESIDENT, IN THE CHAIR.

Alcohol as a Food.—This was the topic which Prof. R. H. Chittenden, of Yale, had intended to present, but he was unavoidably absent.

DR. CHARLES L. DANA introduced the subject of the evening with a few remarks. He said that unfortunately the effects of alcohol on the human race had been considered in the past chiefly by sentimentalists, and little had been heard from the medical profession regarding the scientific aspect of this subject. He had himself carefully studied three hundred and fifty cases of alcoholism observed by him at Bellevue Hospital. The most frequent form was periodical dipsomania, and the next pseudo-dispsomania. Over two-thirds of the whole number had begun drinking before the age of twenty, and all before thirty. As a rule, the drunkard did not live more than fifteen years, and it was seldom that the human organism could outlive more than three thousand intoxications. Death usually occurred from pneumonia, meningitis, delirium tremens, insanity, or alcoholic dementia.

Beer Drinking and Kidney Disease.—DR. HERMAN M. BIGGS said that in his early experience at Bellevue Hospital he had seen a large number of cases of cirrhosis of the liver, and the common history had been that of indulgence in large quantities of spirituous liquors—ten to twenty glasses of whiskey a day. But this had all changed in the last fifteen years, and it was the exception to obtain such a history at the present time. The vast majority of the patients now gave a history of taking from one to three drinks of whiskey a day, and four or five pints of beer in the same time. With this change in the mode of drinking there had been a change in the character of the lesions observed. Cirrhosis of the liver was relatively much less frequent, while the degenerative effects, such as disease of the heart, the myocardium, the blood-vessels, and the kidneys, were much more common. Some years ago he had looked up the records of deaths at the health department, and had found that during the last twenty years there had been only a very small increase in the number of deaths recorded as due to alcoholism, hepatitis, and cirrhosis of the liver, in spite of the very large increase in the population. During this period there had been an increase of nearly one hundred and fifty per cent. in deaths from disease of the heart and blood-vessels, while the population had increased only from fifty to sixty per cent. Almost the same was true of diseases of the kidney. In the last twenty-five years lager beer had largely replaced the weiss beer formerly used in Germany, and during this period the death rate from disease of the kidneys had greatly increased. These facts appeared to find their explanation in the change in the type of drinking, *i.e.*, this combination of spirituous and malt liquors.

Effect of Alcohol on the Nerve Centres.—DR. M. ALLEN STARR said that in the majority of individuals sherry produced a quarrelsome mood, while, on the other hand, port tended to exert a soothing effect. Champagne produced apparently a decided exhilaration of the flow of thought, while Burgundy made one think more slowly and by no means added to the feeling of conviviality. Whiskey, brandy, and gin had very different effects on the individual; hence, we should remember that we were not dealing with the effects of alcohol *per se*, but with its effects in certain combinations. There was no known disease of the spinal cord produced by alcoholism, although we knew of distinct effects upon the nerves and upon the brain as a result of alcoholism. The alcohol seemed to affect the parts of the brain which were the most highly organized and developed. The highest centres were the ones first attacked; the intermediate centres, and the lower centres of the brain and the spinal cord, did not seem to be specially susceptible to alcohol. The pathology of alcoholic insanity was to-day most clear and distinct. Berkeley had shown that the alcohol acted upon the brain by dissolving, as it were, the dendrites and so rendering the cells incapable of receiving impulses from other cells; hence, the lack of co-ordination and loss of memory, so evident in all conditions of chronic alcoholic insanity.

Care and Treatment of Inebriates.—The hypodermic use of strychnine and atropine was now generally agreed to be the chief measure of usefulness, together with proper attention to the nutrition in cases of acute alcoholism. He did not think it was very common to find a recovery from chronic alcoholism of the type of periodical drinking in which there was an entire cessation of the drinking between the attacks. This form, he believed, was more a matter of moral obliquity than of true insanity. The diagnosis of insanity could not be made from a single symptom; there must be something more than a mere tendency to drinking on which to base the diagnosis.

Religious Influence Potent.—Dr. Starr thought the physician or the family should be able to control these persons legally. A certain amount of moral suasion seemed to be of much more service than anything in the way of medicinal treatment. Most of these individuals were neurasthenic, and if their neurasthenia could be improved their power to resist the drink impulse could be augmented. He was of the opinion that any measure of a religious or of a social character that could be brought to bear on these individuals was well worthy of trial, and he would confess that the only reformed drunkards of whom he had knowledge were those who had been saved, not through medical but through religious influence. After an extensive experience with various institutions, he did not hesitate to say that he did not know of a single one in which it was not comparatively easy for the inmates to secure alcoholic liquors. If we could legalize the commitment of a chronic alcoholic for a certain period to a place where he could be kept from alcohol, it might be possible to save some of these unfortunates. It was well worth while to make an effort in this direction.

DR. ALEXANDER LAMBERT said that he had not gone into a minute study of the alcoholic patients in Bellevue Hospital, because he had long ago lost all faith in their statements. Certainly there was a great differ-

ence in the symptoms presented by those who had been accustomed to drink good liquor, and those who had indulged in the vile spirits of the east-side saloons. Of the twenty-four thousand and three hundred patients in Bellevue Hospital last year, over one-fourth went through the alcoholic wards. Last summer he had tried the effect of threatening the "repeaters" with the workhouse, and had found that in the ensuing six weeks the number of these repeaters had been reduced from sixty to twelve; while in the women's wards, where no such threat had been made, there had been the normal percentage of repeaters. When it had been discovered that this threat was not to be carried out, the usual number of male repeaters came into the wards. Among these patients there were many who had taken the various "cures." Unless we had some law, as in Connecticut, which would permit the detention of the alcoholic until sufficiently recovered to be allowed to go out, the outlook from treatment must be most discouraging. Regarding the question of heredity, statistics were cited to show the enormously large number of defective and diseased children among the progeny of alcoholic parents.

Effect of Alcohol on the Ganglion Cells.—Dr. James Ewing said that he had been interested in the study of the effects of alcohol on the ganglion cells. The cases were conveniently divided into two main classes, viz.: (1) Those which were acute, and (2) those which were very chronic. In the brains of those dying from delirium tremens the appearance was most characteristic, particularly the great venous engorgement on gross examination. On microscopical study with the aid of Nissl's or Golgi's stain, one found changes which were apparently identical with those observed in sunstroke, tetanus, and hydrophobia. There was a complete disappearance of the reserve nutriment or chromophilic bodies. The distribution of the lesions showed that there was a general circulating poison. He had found the lesions in the motor cortex as well as in the less complex cells of the frontal lobes. As a rule, the spinal-cord cells did not show such marked lesions as did the ganglion cells of the brain cortex. Several systematic attempts had been made to reproduce in the lower animals the same condition as delirium tremens of human beings, but so far these had all been failures because if sufficient alcohol were given it acted as an irritant, causing the death of the animal. These experiments perhaps justified the deduction that alcohol acted chiefly on the more highly organized cells of the nervous system. Such lesions as were produced resembled those of chronic alcoholism in man. The chronic abuse of alcohol was followed by distinct lesions in the human subject, though not so marked as in the acute cases. In the brain of the average chronic alcoholic, one found an evidence of wear and tear in the deposit of pigment, usually in large masses in the ganglion cells. Those who were engaged in making autopsies in the hospitals of New York City, he thought, would bear out the statement that the visceral lesions of alcohol were more prominent than were those of either tuberculosis or syphilis.

The Law and the Inebriate.—Dr. Joseph Collins said that it was generally conceded that the habitual inebriate could be reached only by legislation. Strangely enough, New Zealand and Switzerland had led the world in this important matter. Nearly all of the provinces of the Dominion of Canada had passed effective legislation for the care of the inebriate, but legislation for this class in the United States had been spasmodic, desultory, and wholly unsatisfactory. The author then reviewed the laws bearing on this subject that had been enacted in various countries.

Alcoholism and Tuberculosis.—Dr. S. A. Knopf said that alcoholism was a pronounced factor in tuberculosis. Statistics showed that twenty-five per cent. of children committed to sanatoria for the treatment of scrofulous and tuberculous diseases had alcoholic parents. It should be remembered that there was a very prevalent opinion among the laity, and to a certain extent among physicians, that alcohol was a most important agent in the treatment of consumption. If alcohol were given in quantities sufficient to control the temperature, it would convert the phthisical patient into an alcoholic. As to the treatment of inebriates, the speaker said that he approved of moral suasion, arguments, and hypnotic suggestion. Poor tenements and poor cooking were potent factors in the production of alcoholism.

Ignorance a Cause of Alcoholism.—Dr. G. L. Peabody said that the last speaker had sounded the true note when he had called attention to ignorance of the effects of alcohol as a cause of alcoholism. This ignorance was common among people who were by no means ignorant on other matters. They were disposed to think that there was no particular harm in drinking spirits so long as one did not get actually drunk; they did not know, or else ignored, the pathological effect of continued moderate drinking. In these days of working under high pressure, the fatigue experienced toward the end of the day was a cause of indulgence in alcohol. Many business men thought they must take some alcoholic beverage at night either with or before their dinner. At one time the Massachusetts State board of health had analyzed twenty or thirty specimens of "bitters" found in the market. Many of these were recommended as substitutes for alcohol, and as conducive to temperance, yet they were found to contain from forty to fifty per cent. of alcohol. The fact was commonly overlooked that sherry wine was not really a wine in the dictionary sense of that term, but really a flavored spirit containing from thirty to forty-five per cent. of alcohol. Ladies would often take sherry wine, because it was called a wine, though they would shrink from taking any spirit.

Methods of the Gold Cures.—Dr. Peabody said that he had been told by a physician that in the so-called "gold cures" it was the practice to give daily hypodermic injections of strychnine and atropine, the solution being of a golden color, but not containing any gold. After the treatment had been carried out along this line for a certain length of time, the patient was told that he could, if he so desired, go to the sideboard and help himself to liquor in the presence of the physician. Some would accept this invitation. They would then receive what was apparently the customary hypodermic injection, but it was not really so, the physician having smuggled in a dose of apomorphine. Of course, when shortly afterward the patient vomited the liquor, he would be profoundly impressed and disposed to believe the statement made to him that after having gone through the "cure" it would be impossible for him to "digest and retain" liquor, even if he saw fit to take it.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, February 28, 1901.

J. Riddle Goffe, M.D., Chairman.

A Case of Pelvic Suppuration.—Dr. A. Brothers reported this case, and presented the specimen. The patient, a prostitute thirty years of age, had enjoyed good health up to eight days before coming under observation on February 9, 1901. At that time she had developed an intense pain in the right side of the pelvis. On examination he had found a partially mov-

able round tumor on the right side, surmounted by a cylindrical ridge. The tumor was soft and the size of an ordinary apple. A diagnosis of ovarian abscess with agglutinated pus tube was made. She had remained in bed for three days with an ice bag over the hypogastrium, and had frequently used hot douches. The tumor had increased in size. She would not consent at the time to operation, but was finally operated upon on February 18th, in hospital. At that time the tumor was the size of a small cocoanut. It was found to consist of a large ovarian abscess, with agglutinated pus attached to its upper surface. There were firm adhesions to the omentum and to contiguous structures in the deep pelvis. In the process of enucleation the ovarian abscess had been ruptured, and upward of half a pint of greenish pus had escaped. This was mopped out, and peroxide of hydrogen poured into the pelvic cavity. There was an ovarian abscess on the opposite side, about the size of a plum. This was extricated with much difficulty from the surrounding adhesions, and the wound closed without flushing or drainage, three tiers of sutures having been used. One of the house staff, who examined the pus, reported that he found no gonococci or other microorganisms. With the exception of a mild bronchitis and an occasional evening rise of temperature to 101° F., the patient had made an uneventful recovery. The speaker said that the temptation in this case to incise and drain the abscess per vaginam had been great, and while this would unquestionably have given her temporary relief, it would have left a pus sac and a purulent tube on the right side, and an unrecognized smaller tubo-ovarian abscess on the left side, not to mention the adherent omentum above and the numerous pelvic adhesions of the tumors below. He had felt that he was warranted in omitting both flushing of the cavity and drainage, for the following reasons: (1) Gonorrhœal pus was conceded to be the least virulent form known; (2) the tumors were walled off from the general peritoneal cavity with sterile gauze pads before enucleation was attempted; (3) the table was lowered from the Trendelenburg position the instant the rupture occurred; (4) the free pus was mopped up as quickly as possible, and the tumor removed; (5) peroxide of hydrogen was poured into the wound to neutralize the possible septic effects of the pus; (6) the operator wore rubber gloves, which were discarded after the cleansing of the abdominal wound with corrosive sublimate, and all infected instruments, towels, and pads were put to one side after careful wiping of the pelvic cavity, previous to closure of the abdominal incision.

Dr. Ralph Waldo objected to flushing of the peritoneal cavity because such a procedure disseminated the septic material, and mere flushing was not in itself sufficient to remove such matter. It was a rare thing to find sterile pus after careful bacteriological examination. Such an examination presupposed that the pus had been kept in an incubator for at least three or four days.

Dr. H. N. Vineberg remarked that the report of one case of recovery without drainage by no means proved that this practice should be generally followed. In his experience the question of drainage was not so much whether there was pus present or not, but whether or not there was a large, raw surface present for absorption.

Dr. George Gray Ward referred to a recent case of rupture of the tube during operation, in which he had used full-strength peroxide of hydrogen, and had then washed the cavity with water and drained. In this case primary union had occurred, and the patient had made a good recovery. In another case, in which peroxide of hydrogen had been used, no drainage had been employed, and this patient had also recovered.

Dr. Philander A. Harris said that the evacuation of an ovarian abscess through the vagina did not usually secure a complete cure.

Dr. A. Ernest Gallant pointed out that bacteria lost their virulence in old pus tubes. Excellent results followed closure without drainage, and, in a general way, it might be said that the results were best in those cases in which the least was done.

Dr. Le Roy Broun said that he had supposed that the consensus of opinion was in favor of draining ovarian abscesses through the vagina, and doing a more radical operation later if required. This seemed to be a more conservative practice.

Dr. J. Riddle Goffe said that the tumors presented could have been removed just as well per vaginam as by abdominal section.

Dr. Brothers said that it was now recognized that certain cases did not require the elaborate flushing and drainage considered absolutely necessary some years ago. This was the general practice, although there were still a few exponents of the older mode of practice. At the present day it seemed foolish to resort to incision and drainage, with the tiresome secondary operations and tedious convalescence.

Pedunculated Fibroid of the Labia Majora.—Dr. L. J. Ladinski presented this specimen, taken from a woman over eighty years of age. A search through the literature had failed to show a single case of fibroid of the labia recorded. The tumor had been noticed about three years, and the growth had undergone spontaneous sloughing, apparently as a result of the closing up of the blood vessels supplying it. He had removed the mass under cocaine anæsthesia, and had closed the gap with sutures.

A Tumor of the Buttock.—Dr. Ladinski also presented a woman who had come to him the day previous. There was a tumor springing from the buttock, which she claimed had existed for fifteen years. There were also a number of sebaceous cysts in the scalp, and it was probable that the tumor of the buttock was also of this nature.

Dr. S. Marx thought it was a fatty tumor undergoing suppuration.

Dr. Gallant thought, from the appearance and feel, that it was a sebaceous cyst. He had seen a number of such growths.

Dr. Waldo said that some years ago he had assisted in the removal of a similar tumor, except that it was much larger, in the same locality. The pedicle sprang from the cutaneous surface of the labium majus.

Anencephalic Monster.—Dr. S. Marx presented this specimen, which had been taken from a woman thirty-three years of age. This was her tenth pregnancy. Some of the pregnancies had terminated in living children, but not all. The speaker said that he had met with four such cases, and in three of them the diagnosis by palpation had been most difficult, but in each instance it was worthy of note that as soon as the fœtus had been touched by the examining finger it had had a convulsion in utero.

Dr. Malcom McLean said that, while he would pay no attention to maternal impressions in the sixth or eighth month of pregnancy, he had seen a sufficient number of cases in which maternal impressions in the early weeks of pregnancy had been followed by deformity to make him believe there was something in it. For this reason he was interested in the statement of this patient that she had had an impression which had made her fear that her baby would be deformed in the head when born.

Peculiar Globules in the Urine.—Dr. E. J. Ill, of Newark, said that he had drawn the urine by catheter from a woman's bladder and had examined this viscus with the endoscope, with negative result.

On emptying the bladder after the examination he had been surprised to find in the urine numerous globules, the exact nature of which he had been unable to determine. Under the microscope they had resembled smegma. They remained unchanged on boiling, were not dissolved by ether or saponified by alkali.

Dr. M. McLean said that some years ago he had presented a specimen of urine containing very similar globules in enormous numbers. These bodies had been passed periodically, usually at intervals of a few days, and sometimes in quantities of half an ounce at a time. These bodies had been proved to be a form of fatty matter, encrusted with other products, but no satisfactory explanation of their occurrence had ever been offered.

Present Technique in Operations for Repair of Complete and Incomplete Lacerations.—Dr. H. J. Boldt opened a discussion on this subject. He said that after having tried various methods he had come back to the flap-splitting operation revived by the late Mr. Lawson Tait. It was especially satisfactory, because it avoided loss of tissue in the event of there being a failure to secure primary union. By that method he had had no failures, which was more than he could say of the other methods tried. In a multiparous woman, having retroflexion of the uterus and laceration of the perineum, the primary treatment should be rectification of the uterine displacement. When there were deep lateral scars, these should be excised.

Dr. Le Roy Broun said that he had been unable to get as good anatomical results by the flap-splitting operation as by the more generally adopted Emmet operation. But even the best operators conceded that there would be occasional failures in operations for complete laceration. Dr. Emmet always used one line of sutures, introducing these down to, but not through, the rectal mucous membrane. There was apt to be a sinus extending into the rectum above the sphincter muscle. He would attribute this sinus to the liability by this method of missing the fibrous coat of Halsted. It had been shown that when this coat was not included in the suture the hold of the latter was not secure, and as this fibrous coat was close to the mucous membrane the advantage of including the mucous membrane was obvious. The speaker said that he had practised the method of inserting a fine silkworm-gut interrupted suture through this fibrous coat, and had had uniformly good results. The essential point was to pass the sutures through the rectal mucous membrane. He had seen no interference with healing from the pursuit of this course. The fine silkworm gut either rots out in four or five weeks, or may be removed after that time without difficulty. The sutures should be inserted about one-quarter of an inch apart, being entered into the mucous membrane and the fibrous coat and tied on the rectal side. The bowels might be moved on the second day, and the patient allowed ordinary diet.

Dr. Goffe said that in operating upon an incomplete laceration he denuded the necessary area by beginning at the lateral caruncles. This enabled the operator readily to strike the line of cleavage. His first two sutures carried the rectocele up into the vagina, and the next suture, sweeping round widely into the tissues, caught the separated ends of the transverse perineal muscle. The same general method was pursued for complete lacerations, but before passing the sutures he sewed up the rectal wall with an interrupted suture of very light catgut. The sutures were tied on the rectal side, and were expected to come away when the bowels first moved. They were intended to secure good coaptation only temporarily. The last two sutures inserted in this operation took in the ends of the sphincter muscle. He had used this operation for a number of years, and had found it very satisfactory.

Dr. Waldo said that when the laceration was incomplete the operation was done for the purpose of curing the rectocele. When the laceration was complete, the operation was done for curing incontinence of fæces. For the incomplete form it was essential to run up high on the posterior wall, and to denude sufficiently deeply to expose the fascia and muscle. If the denudation were more superficial, the immediate result would be good, but it would not be permanent.

Dr. Ladinski said that for the secondary operation for complete lacerations he had found the flap-splitting operation all-sufficient, but for immediate repair this operation was not well suited, and in these cases he used the operation recommended by Dr. Broun, taking the precaution to stretch the sphincter before the operation and to insert a tampon cannula afterward. When there was very little rectocele, he preferred the Emmet operation.

Dr. Ward exhibited a photograph of a complete tear, showing well the torn ends of the sphincter, and also a photograph giving the result of the operation in that case. He had sewed the rectal wall with sutures of catgut, passed down to the mucous membrane and tied in the wound.

Dr. E. J. Ill said that he was especially interested in the incomplete lacerations. He knew of no surgeon, except the gynæcologist, who would remove normal tissue in performing a plastic operation. If one employed the Hegar denudation, a large amount of normal tissue would be sacrificed. Personally, he made it a practice to remove only scar tissue, lifting up both sides and sewing them together with deep catgut sutures.

Dr. Boldt said that he could not understand why one should desire to remove the vaginal mucous membrane, as it belonged there normally, and such removal of normal tissue was entirely unnecessary, because by a proper flap-splitting operation a perfectly good result could be obtained. It gave a satisfactory result even in complete lacerations. When there was a separation of the vaginal mucous membrane and descent, then denudation was required.

Dr. Gallant said that it might be interesting to many to know just what silkworm gut was. It was obtained by pulling out into strands the mass of gum found in the silkworm. The longer it could be drawn out, the higher its price, because this indicated greater tenuity.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 13, 1901.

Eugene Hodenpyl, M.D., Chairman pro tem.

Ruptured Aneurism of the Basilar Artery.—Dr. O. H. Schultze presented a specimen showing a fusiform aneurism of the basilar artery. It had been taken from a well-nourished man, twenty-eight years of age, who had suddenly collapsed while engaged at his work as stoker on a tugboat. No further history had been obtained. The examination showed that the immediate cause of death had been asphyxia. The blood was fluid, and there was passive hyperæmia of all the organs. Evidence of syphilis was especially looked for, but not found. A small rupture was found with a subpial clot at the base of the brain, and this was the only blood found coagulated in the body. There was a rupture through the roof of the fourth ventricle into the ventricles, which were filled with blood. The aorta showed a marked hypoplasia, corresponding with the development of a young adult woman. The valves of the heart were normal, and the heart itself weighed twelve ounces. The external genitalia were underdeveloped.

Sacculated Aneurism of the Middle Cerebral Artery.—Dr. Schultze also presented a sacculated aneurism of the right middle cerebral artery, near its origin. The ruptured aneurism was covered by a blood clot under the pia, lacerating by compression the cortex of the inner aspect of the right temporal lobe and the pia mater. A very large clot had formed, covering the entire upper and outer surface of the right cerebral hemisphere. The aorta in this case also was markedly hypoplastic, corresponding in development to that of a young adult woman. The muscles and the valves of the heart were quite normal. The aorta showed a very minute lesion of atheroma on the inner aspect of the first portion. There was no history obtained in connection with this case. The man was apparently about thirty years of age, and his muscular development was good. The blood was fluid, and showed that death had occurred by asphyxia from compression of the brain. The specimens were interesting, as showing the absence of syphilis and arteriosclerosis. These cases, the speaker thought, presented an argument in favor of underdevelopment of the arterial system, congenital if not hereditary in origin, as an etiological factor in the formation of aneurism.

Endothelioma of the Breast.—Dr. E. Hodenpyl, in presenting this specimen, said that it was his rule not to make a diagnosis of endothelioma if there was any good reason for calling a tumor anything else. The specimen presented was a tumor of the breast, and he thought it could hardly be called anything else but an endothelioma, although one similar growth had been reported as "a villous carcinoma." The specimen had been taken from an unmarried woman aged sixty years, who had noticed a lump in the left breast for four years before the operation. This had gradually enlarged until the entire organ had become involved. There had been no emaciation or cachexia, and no involvement of the axillary lymph nodes. The radical Halsted operation had been done. After the removal it had been found that almost the entire breast was involved. The tumor was nodular in character, and in places there were hemorrhages and considerable gelatinous infiltration. On section the tumor resembled in its general appearance a papilloma, but on the outlying portions one could see fairly large alveoli, usually lined with a single layer of cells. Some of these cells were almost cylindrical in character. In the smaller alveoli, on the periphery, the growth had made secondary holes with a cell lining. These holes had been found entirely empty, and he was disposed to consider them newly formed lymph channels. Under the microscope the growth bore no resemblance to ordinary carcinoma, and the diagnosis of endothelioma seemed to be warranted.

A Very Large Cyst of the Kidney Removed by Operation.—Dr. Hodenpyl also presented a large multilocular cyst of the kidney which had been taken from a woman fifty-eight years of age, who for fourteen years had noticed a gradual enlargement of the abdomen, principally on the left side. The urine had been examined several times before the operation, and had been found about normal in quantity and in composition. The woman had done well for thirteen days after the operation. The urine had been examined daily after the operation, and for a few days had contained a very slight trace of albumin and a few red cells which had probably arisen from the effect of the operation and the ether. On the 13th she had been suddenly seized with intense pain over the heart, and within five minutes she was dead. No post-mortem examination had been permitted. The tumor retained the general shape of the kidney, and at one end a small portion of the parenchyma of the kidney could be discerned. When fresh the kidney had weighed seven pounds and a half, and had measured thirty inches in circumference, eleven inches in its longest diameter, and six inches in depth. It was almost impossible to say whether this kidney was an acquired condition or was congenital in origin. He was disposed to look upon it as an acquired condition, arising from obstruction produced by a calculus or other obstruction in the ureter.

Dr. Ewing said that he had had an opportunity of carefully studying the tumor of the breast, and it certainly looked very much like an endothelioma, yet at the same time he had seen in the past year or two several tumors which had approached this in type and yet had probably been adeno-carcinomata. However, in neither of these cases had there been the same diffused growth of cells.

Microscopical and Gross Specimens Illustrating the Origin of "Colloid" Carcinoma of the Peritoneum.—Dr. James Ewing said that during the past few years he had been in considerable doubt regarding the origin of the well-known form of colloid carcinoma of the peritoneum, the text-books not stating definitely where these tumors originated. Some of them grew to an enormous size, covering all of the viscera with a thick gelatinous layer, which showed little tendency to infect the bowel. Dr. Jeffries had presented to this society a specimen consisting of a very large number of pearl-like masses scattered all over the peritoneal surface. At that time the general impression had seemed to be that the tumor was made up of the lining epithelium of the peritoneal surface. He had himself been strengthened in this belief by having searched through the entire length of the intestine in two cases without finding any initial lesion throughout the entire mucosa. A few weeks ago he had seen a specimen presenting a very early stage of colloid carcinoma. It was a tumor of the caput coli, causing partial occlusion of the intestine but not involving the peritoneal surface. On section it had presented the typical structure of such growths. This seemed to him to indicate that the growth had developed from the epithelial cells lining the straight tubular glands of the colon. About the same time a small tumor of the colon had come under observation. Sections under the microscope had shown the same general features, yet at the point of demarcation between the normal and affected epithelium there had been a gradual transformation into alveoli. For these reasons he felt constrained to accept the old term of colloid carcinoma. The first specimen presented was a tumor of the caput coli.

Dr. Ewing, continuing, said that there seemed to be two distinct groups of tumors arising from the colon and rectum, viz.: (1) The form just described, and (2) a form of malignant adenoma, which developed large alveoli with very high cells. In addition to these, there was an infiltrating carcinoma, found usually in the form of an ulcer of the rectum or sigmoid. This tumor was entirely different from the second variety. It had almost no alveoli; if they were present, the lining cells were small and low. He had never seen adenoma of the rectum that did not cause ulceration of the intestine. The speaker then presented a specimen from Dr. Buxton's collection, of a papillary adenoma destruens—a rather rare variety. A specimen of the infiltrating variety was also exhibited. As to the exact point of origin of these tumors of the tubular glands of the colon, which presented such distinct varieties, Dr. Ewing said that from the enormous production of mucus in colloid carcinoma it was probable that its origin was the secreting cells, deep down in the tubular glands. Until he had met with the specimens just presented he had never seen any evidence that there was any connection between colloid carcinoma and adenoma destruens, but here he found that the muscular coat was being infiltrated by

a few of the cells of the infiltrating type—in other words, the specimen presented the two types of adenoma destruens and the infiltrating variety. He therefore concluded that all three of the varieties mentioned were derived from the outer or lining cells, which had little power to secrete mucus.

DR. HODENPYL asked if he were to understand that all primary cancers of the peritoneum arose from the mucous membrane of the intestine.

DR. EWING replied in the affirmative.

DR. HODENPYL said he felt sure that he had met with some tumors of the peritoneum that did not have this origin. Moreover, some of these colloid tumors had been found by chemists not to contain mucin.

DR. EWING said he did not see how one could prove that the tumor was derived from the lining epithelium.

DR. SCHULTZE said that when the dissemination was extensive, and yet, as had been said, the intestinal mucous membrane had been found normal, it was difficult to reconcile this with the statement made regarding the origin of such growths. In three cases he had observed a tumor growing from the crypts of the large intestine, about a hazelnut in size, which had reached the peritoneum, and showed a gelatinous character. There was no tumor, strictly speaking, of the peritoneum, but a tumor underneath the peritoneum.

Congenital Cysts of the Kidney.—DR. LEON T. LE WALD presented these specimens, taken from an adult about forty years of age. Both kidneys were markedly cystic, in spite of the fact that the person had lived to this age. The kidney tissue was found only in the strands between the cysts. Apparently they were of congenital origin. The nature of the urine excreted by this person was not known.

Two Cases of Large Uterine Fibroids Complicated by Pregnancy.—Dr. Le Wald also presented these specimens. The first was from a woman of thirty-eight years. Owing to the very rapid enlargement of the uterus an examination had been made by Dr. Studdiford, and it had been decided to terminate pregnancy. This had been done at the end of the third month. In the second specimen it seemed impossible that pregnancy could have gone on much farther after the time the laparotomy had been decided upon. The woman was thirty-five years of age, and had been operated upon by Dr. Coe.

Tuberculous Appendicitis.—Dr. Le Wald presented a specimen of tuberculous appendicitis, occurring in a case of pulmonary tuberculosis. Practically the only tuberculous process in the intestine had been in the appendix. The latter had been about the size of the index finger, and contained several tuberculous ulcers. Several tubercles had been found on the surface of the appendix. There was no history pointing to the appendix.

Prostatic Hypertrophy.—DR. A. E. THAYER presented a number of bladders to show prostatic disease and certain other interesting features. The first one showed ordinary hypertrophy of the middle lobe of the prostate, constituting the so-called "ball valve." In the second specimen hypertrophy of the lateral lobes was quite marked, while there was very little in the middle lobe. In another specimen the consistency of the tumor was such as to suggest sarcoma, but the microscope showed it to be an example of ordinary prostatic hypertrophy. Another specimen had been taken from a negro about sixty years of age. This man had been admitted to a hospital, complaining only of extreme weakness. Physical examination of the lungs had shown apparent consolidation on the right side. The temperature had varied between 100° F. and normal. The urine examination had been negative. In two or three days there had been a sudden rise of temperature, and he had died. At the autopsy the lungs had been found to be free from pathological change, except a small area of latent tubercle in the right apex. In the large intestine were old and deeply pigmented tuberculous ulcerations, and a gangrenous colitis. In the bladder were 40 or 50 c.c. of thick, stringy pus, on the inner surface was a recent slough, and in the trigone were a number of tubercles. The prostate was hypertrophied. There was marked interstitial nephritis, and the pelvis of each kidney contained pus.

The Occurrence of the Bacillus Aerogenes Capsulatus in the Human Body.—DR. HARLOW BROOKS read this paper, dwelling particularly upon the habitat of this bacillus. He said that the condition was most frequently observed in dead bodies during the warm seasons, and when the body had been transported a considerable distance. Almost invariably the "floaters" recovered from the river showed this condition. In four hundred and twenty-seven autopsies performed by himself in this city, there had been only six of gas infection in which the infection played the chief or an important rôle in causing death. In 1897 he had begun a systematic search for the bacillus in the intestinal tract, and after an intermission had taken up the subject again recently. The material had been at once transferred to tubes containing ordinary bouillon, and the tubes had then been sealed with melted paraffin. They had next been placed in an incubator at 37° C. After twelve to twenty-four hours those in which gas had formed showed the discs of paraffin forced upward. The contents of the tube had then been injected into the ear vein of a rabbit and the animal killed. After some hours, if there was no subcutaneous emphysema, the experiment was considered negative. If, however, this was present and the bacillus was identified in smears from the liver, the experiment was considered to be positive. It had been stated that this bacillus might grow without the formation of gas, but he doubted this statement, although admitting that the quantity of gas produced was very variable. The presence of visceral and subcutaneous emphysema in the rabbit seemed to be quite characteristic. Flexner had shown the presence of this bacillus in the Philippine Islands, and from a personal observation, made while hunting in Newfoundland last summer, Dr. Brooks said he felt sure that the bacillus was present even in that cold region. He had examined for this bacillus twelve cadavers in the order in which they had been received at the morgue, and had found the bacillus present in the intestinal canal in all but one, the body of a child. He had examined the urethra in ten cases giving no evidence of infection, and in three the gas bacillus had been obtained. Cultures from the nasal cavities showed abundant gas formation—indeed, his observations on these cavities and on the vagina had led him to believe that the gas bacillus was nearly always present in these passages, both in the living and in the dead subject. His investigation seemed to point to the fact that the bacillus was particularly prone to infect blood clots and give rise to dangerous infection. The importance of this observation in connection with injuries about the pelvic structures was obvious.

A New Rapid Method of Staining the Chromatin of the Malarial Parasite.—DR. L. B. GOLDHORN was the author of this paper. He said that the staining of the chromatin of the malarial parasite had hitherto been rather difficult. The following method that he had worked out was a very simple one and gave very satisfactory results: Fix the preparation, which must be fresh, by immersion in pure methyl alcohol for fifteen seconds. Wash in running water and stain for from seven to thirty seconds in a 0.1 per cent. aqueous solution of eosin. Wash as before and stain in the polychrome solution for from thirty to sixty seconds. Wash again and dry by agitation of the smear in the air; no filter paper should be used; heat should be avoided.

Should the dye by exposure to the air become too alkaline, add a few drops of a four to five per cent. solution of acetic acid. If too much acid had been put in, a few drops of a saturated aqueous solution of lithium carbonate might be added. The stain improved on keeping. This method, it was stated, supplied the long-felt want of a rapid stain for the demonstration of the chromatin of the malarial parasite. The stain, when properly handled, showed that red blood corpuscles containing malarial parasites underwent a peculiar granular degeneration. Rapidity was combined with most satisfactory results. Separate eosin staining was not absolutely necessary; the eosin might be added to the methyl alcohol. The various granulations of leucocytes were seen. Lymphocytes stained beautifully, and so did the blood platelets; the latter showed a purplish granular network on a bluish body. Red corpuscles showed basophilic degeneration whenever it was present. Polychromatophilic degeneration was well shown. Bacteria stained deeply, and their spores remained unstained. The method gave beautiful clear pictures with the gonococcus. In pernicious anæmia the macrocytes showed frequently deeply stained granules. Certain megaloblasts would be seen to be very closely granular. In lymphatic leukæmia a perfect slide was obtained, and the nucleoli of lymphocytes were readily demonstrated by staining for only a short time in the dye. When a smear was somewhat thick, it might be found to be stained heavily, as the greater quantity of alkaline serum present increased the staining-power. As the alkalinity of the blood varied, results varied accordingly. This stain, which should be kept in well stoppered bottles, had been placed on the market.

Dr. Ewing said that he had had the pleasure of looking over some of the specimens stained by this method, and had been greatly delighted with the results, as any one must be who had struggled for years with the older methods of staining. Dr. Goldhorn was to be congratulated, as this put the finishing-touch on many years of patient investigation. He had found that almost any amount of eosin added to the polychrome methylene blue gave a good result. Apparently the method was particularly suitable for the demonstration of the granular degeneration. It did this very much better than any other method with which he was familiar.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 9, 1901:

	Cases.	Deaths.
Tuberculosis	320	170
Typhoid fever	22	12
Scarlet fever	562	32
Measles	274	8
Diphtheria and croup	261	44
Smallpox	54	10
Varicella	65	0

Quinine Hæmoglobinuria.—Dr. Welsford, of Johannesberg, says: "With regard to the theory that the so-called blackwater fever of the tropics is a peculiar condition caused by the administration of quinine in malarious patients, few (if any) practitioners who are experienced in tropical practice believe that this is a common cause, because, while they are in the habit of prescribing quinine in large doses for all varieties of the malarial fevers, they do not practically find that blackwater fever is a strictly localized disease, and that there are some malarious districts in Africa which are free from it."

Cancer in Germany.—The steady increase of malignant disease is the dark shadow on recent medical progress. In Germany and England, where the only exact statistics are available, cancer increases *pari passu* with the decline of consumption. Thus, in the former country, the annual increase of the disease is estimated by Dr. Maeder (*Zeitschrift für Hygiene und Infections-Krankheiten*, xxiii., p. 235) at 0.17 per 10,000 living. This will by the end of the century give a death rate of 22 per 10,000 which is the present consumption mortality of Germany. If by that time the tuberculosis rate is brought down to five, we may congratulate ourselves on having exactly reversed the proportionate destructiveness of the two disease. There is no reason, however, to suppose any connection between the corresponding rise and fall in the two diseases, for the unfortunate people of Saxony and Baden, though they share in the increase of cancer, have hitherto had no part in the decline of consumption. The fact most clearly brought out by Dr. Maeder's statistics is the influence of locality and of town life. Thus in Prussia cancer mortality in towns is more than double that in the country, being 7.9 compared with 3.8 in 1896, and the mortality in the large towns (over 100,000) is relatively greater than in the smaller ones. At the same time certain towns are specially afflicted, forming as it were cancer centres, while others are comparatively exempt. Thus there are relatively more than twice as many deaths from cancer in Stralsund and Schleswig as in Treves and Coblentz.

Medical Aspects of Life Assurance; Female Lives.—In the population at large, the average mortality for women (England and Wales 1861-90) is about 2 per 1,000 less than for men, a difference largely due to their protection from the occupation risks to which men are liable. This difference, however, is not equally distributed over the whole period of life, as between the ages of five and thirty-five years the mortality between the two sexes is nearly equal, while from ten to twenty years the deaths are more numerous among women. Among assured lives however, the reverse holds; instead of a less mortality, a marked excess of varying degree in different returns over the death rate among men is found up to the age of forty-five to fifty years, due partly to incomplete medical examination, partly to the motive for assurance. The increased mortality among women before twenty is largely due to phthisis, which has an earlier age incidence among women than among men, and from the early age has a little interest for assurance purposes. After twenty the increased mortality among women arises from the accidents of childbirth. "Between the ages of twenty-five and forty-five childbirth accounts for nearly 1 in 10 of the total deaths of women, and if the deaths from this cause were removed, the mortality would fall well below that of men" (Hingston Fox). In the general population the percentage of deaths is about 1 in every 200 labors, but for the first labors 1 in 100, or double. Not only is the mortality of childbirth greater for primiparæ, but it is influenced also by the age of the mother. Matthews Duncan states that the age of least mortality is near twenty-five, increasing gradually on either side this age, being 3 per cent. between nineteen and twenty-six; 9.75 per cent. between thirty-six and forty-five. Just as the general mortality is greater among assured women, so the risk of childbirth increases 34 per cent. (H. Fox), the explana-

tion probably being that many of the policies are entered into for this very contingency. Childbirth, then, especially for primiparæ, constitutes such an element of danger, that it must be met by some charge, and this is usually done, a common practice being to make an extra charge of 5*s.* ($1.25) per cent., ceasing at fifty, or a single extra charge of 15*s.* ($3.75) to 20*s.* ($5) on the newly married or those pregnant for the first time. Hingston Fox recommends the following rates: (*a*) If one or more children without difficult labors, accept; (*b*) if difficult labors, accept at an advanced premium; (*c*) if no children and within three years of marriage, accept with a single extra charge; if under twenty or over thirty, postpone till after confinement, because of the high risk. The question of childbirth is the most important in female lives. Other considerations are marriage. The death rate for married women is less than for the unmarried, except at the ages when the risk of childbirth is highest. In phthisis in women, inheritance has a greater influence than in men, but there is much discrepancy of opinion as to the exact proportion. Phthisis also runs a shorter course in women than in men by one and a half to two years (Williams), and appears earlier, there being a marked preponderance in females up to thirty-five, and this incidence is strongly marked from the age of puberty upward, the mortality running very high from fifteen to thirty-five; after forty-five it rapidly declines. In cancer, Dr. Payne concludes that the risk is greater in females, the death rate being higher, the liability being noticeable earlier, even in the decade from twenty-five to thirty-five; the maximum liability is earlier, from forty-five to fifty-five, as against that from fifty-five to sixty-five, and the total period of liability is longer. The evidence of heredity is also much stronger in females than in males. There is also a special risk in them from the frequency with which cancer of the breast (and probably also of the uterine organs) is transmitted by inheritance. He sums up by concluding that the death of the mother requires a substantial addition; if one other female relative has been affected, the risk becomes serious, and in some cases prohibitive. The death of a male relative from cancer is less serious, but no female life with a well-established history of cancer should be accepted at the ordinary rate. Hence an even more careful inquiry into the family history is needed than in the case of men. Hernia requires an advance—if umbilical it is a bar.—Dr. Perkins in February *Practitioner.*

Milk as a General Antitoxic.—A universal antitoxic, applicable to most cases of poisoning, has often been demanded. One exists, and it is very simple and well known, the *Practical Druggist* asserts. This universal antidote is cow's milk. Milk, by its fatty matter (butter), and by its casein, protects the mucous membrane against the corrosive action of acids, alkalies, and other caustic or irritant substances. The chemical rôle of casein is here very remarkable and very valuable. It is able to fill the double part of acid and of base, in presence of compounds with which it is brought into contact. It not only coagulates under the action of acids by combining with them, but it also yields a precipitate with most mineral bases, forming insoluble caseates. If precipitation does not immediately take place with a product having a given reaction (acid or basic), this precipitate will appear through the intervention of another substance of contrary reaction. This is a very important law in toxicology, which, as has been observed by its discoverer, Dr. Crowzel, has never before been formulated or even noticed. This chemist, therefore, proposes to add to the milk five per cent. of borate of sodium. This salt is not toxic and is employed because it precipitates as insoluble borates all the mineral bases, except harmless or slightly poisonous alkaline bases. The poisonous acids decompose it, seizing on the sodium and setting free boric acid, which is less poisonous and less soluble. Borate of sodium thus realizes very remarkable general conditions, which are sufficient to make it a general antidote, although unfortunately not a universal one.

Statistics of the Medical Profession in Germany.—Dr. Schwalbe's "Medical Directory" for 1901 has just appeared. The statistics in this valuable book show that the number of medical men in Germany has again increased, being now 27,374, or 2.6 per cent. more than in the previous year. In 1899 the increase was 3.6 per cent.; between 1894 and 1898 it was from 3.6 to 3.9 per cent. In Prussia there are 16,498 medical men, in Bavaria 3,036, in Saxony 2,048, in Wurtemberg 881, in Baden 1,087, in Hesse 683, in Alsace-Lorraine 683, and the remainder in the other states of the empire. In 1900 there were 5.24 medical men for each 10,000 inhabitants, the proportion being 5.11 in 1899. On an average 5.06 medical men resided in an area of 100 square kilometres (38 square miles) in 1900, and 4.94 in 1899, but this number varied very much in the different parts and provinces of Germany. In Saxony, for instance, there were 13.66 medical men; on the above area in Prussia 4.73; and in Bavaria 4. In several districts of Prussia the proportion was exceedingly small, being only 0.99 in the district of Cöslin and 1.11 in the district of Gumbinnen. Also in some districts of Bavaria there were only 1.68 medical men on 100 square kilometres. As to the great towns, Berlin has 2,360 medical men, as compared with 2,314 in the previous year, being one medical man for each 798 inhabitants; Munich has 694; Hamburg, 555; Breslau, 545; Dresden, 428; Leipsic, 416; Cologne, 338; Frankfort, 334; and Strasburg 213. The above statistics have been published by Dr. Heiman in the *Deutsche medicinische Wochenschrift.*—*London Lancet.*

Infantile Tuberculosis.—In the discussion at the Paris International Medical Congress on this subject, Hutinel dealt with the problems of heredity and said: "If there be anything in immunity, there ought to be an attenuated form of inherited tuberculosis which should render its possessor proof against infection. This inheritance would differ radically from inheritance of a predisposition to the disease. These two forms do not necessarily exclude each other." Moussous, referring to clinical forms, mentions the following: 1. Acute general tuberculosis. 2. Chronic general tuberculosis, which includes the diffuse forms of Aviragnet, and the apyretic form of Marfan, both of which represent a cachexia. 3. Many local types, such as general maldevelopment, adenopathy, tuberculous meningitis, etc. Richardière also spoke of clinical forms, giving as his opinion that "in the young child, tuberculosis is practically a general disease. A state of general bacillosis may be seen even without the formation of tubercles. In these general types some one organ may predominate in symptomatology, but the disease is not actually localized as in the adult. Generalization of the disease from the primary focus appears to be the rule in infancy, and this trait gives to the malady its altogether fatal character."

Etiology of Dysentery.—Dr. Simon Flexner sums up the present knowledge of the cause of dysentery as follows: 1. No bacterial species yet described as the cause has an especial claim to be regarded as the chief micro-organism concerned with the disease. 2. It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause

of endemic dysentery. 3. The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause. 4. The pathogenic action of the amœba coli, in many cases of tropical and in certain examples of sporadic dysentery, has not been disproved by the discovery of amœbæ in the normal intestine and in diseases other than dysentery. While amœbæ are commonly present, and are concerned in the production of the lesions of subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries, even in the tropics. In the former varieties, bacterial association probably has much influence on the pathogenic powers of the amœbæ.

Philanthropy and Scientific Medical Progress.—The following extract from the annual report of Mr. Isaac Wallach, president of Mount Sinai Hospital, is of interest as showing how philanthropic endeavor keeps pace with scientific medical progress: "The nineteenth century has been richer in the advancement of science and civilization than any other which has preceded it. In medicine it has produced anæsthesia, bacteriology, bloodless operating, antisepsis, antitoxin therapy, and the Roentgen rays. During this period, benevolence has fully co-operated with science. In all communities, notably in ours, the well-to-do have evidenced a higher and nobler conception of their obligation toward their less fortunate fellow-men, and have freely shown a readiness to devote their wealth to the development of science, the application of medical skill for the sick poor, and to the support of philanthropic institutions in general. This generosity has manifested itself particularly in the founding and maintaining of hospitals, and it is a noteworthy fact that of the one hundred and five general and special private hospitals and dispensaries in this city, with but two exceptions, all have been brought into existence during this era. Of this number, twenty-eight were established from 1850 to 1870, and sixty-six from 1870 to 1900, showing that seven of these medical institutions were founded in the first half and ninety-six in the latter half of the nineteenth century. From this it may be justly concluded that the charitable tendencies of our citizens have been equal to the growing needs of our community."

The Metric System.—The *Manufacturer* quoted by the New York *Evening Sun*, says: "It looks as if Congress at last is going to go on record for giving the country an indication of far greater intelligence than is usually put down to the credit of that body. It is to pass a law making the metric system the standard of weights and measures. Anent this bill, we have read in technical papers some editorials that rank for linguistic, almost logarithmic density with any ever furnished for the fund of involuted absurdity by Mark Twain at his best. One paper talks of Germany still using Whitworth and Stubb wire gauges 'for the simple reason,' it says, 'that aliquot even subdivisions, according to the multiples of two, using the inch as a standard of length, seem to come out nearer what is desired in practice than decimal multiplication or subdivision of any of the metric units, so far attempted.' What does that mean? Does the metric system do away with two or one, or any unit? Germany keeps the Whitworth and Stubb, because it bought them so long and sticks to them so close that it cannot or will not give them up. But for the one argument against the metric system in this country, Germany had thirty. There was a different kind of measure in thirty different parts of the Empire. If we are wise we will not neglect a system almost universal, and sure to be, in its use. It is all nonsense to say our people will be bothered by terms. It is as easy to learn the names in the metric system as in any other. If a kilogram is a trifle more than two pounds, half a kilogram is a trifle more than a pound. A metre is thirty-nine inches, an inch is a thirteenth of a foot, where now it is a twelfth. A mile is a thousand time a metre or a thousand times three thirteen-inch feet. Why was twelve inches called a foot? It is no harder to think of a thirty-nine-inch standard, than a thirty-six inch one. If we adopt the metric system, we will win our way easier in foreign markets. If we don't, we won't. That is reason enough for its adoption. By adopting the metric system, we only put ourselves in line with most of the world. England and we are the only nations not under this most sensible of all systems. Like it or lump it, if we are to hold our own, to say nothing about making gains in foreign markets, we shall have to go over to decimals in weights and measures. It will pay, too. For the dollar lost by doing so, thousands will be lost by delay. The commerce of the world will be carried on in decimals. When one thinks of what it meant to Continental Europe to give up their old systems for the metric, we can hardly help laughing at the lame or limping excuses given here and in England for not adopting it. A good and wise way to begin the twentieth century would be to adopt the metric system."

Malaria on the West Coast of Africa.—Dr. Hans Ziemann, late government physician in Cameroon, published in the *Journal of Tropical Medicine*, January 1 and 15, 1901, an exhaustive study of the above subject. Referring to the clinical features of the tropical fever of the Cameroons, he says: "During my last service on the West coast, with the exception of the parasites of tropical fever, I never saw quartan parasites in white people, only tertian parasites, and these only in Cameroon, and even there only on three occasions. Koch, in East Africa, found the tertian parasite in ten per cent. of all cases of fever; in Cameroon I found the same only in 1.1 per cent. of the cases. This difference is exceedingly remarkable, and signifies, in other words: In Cameroon the clinical feature of malaria is dominated almost exclusively by the tropical parasite. In negroes in Cameroon and Victoria I also found only the parasite of tropical fever."

Treatment of Typhoid and Dysentery in South Africa.—Dr. Ryerson, who has recently returned from serving with the Canadian volunteers of the British army in South Africa, gave an interesting address in Toronto on his experiences, a short time ago. Speaking of the treatment of typhoid, he said it was practically the same in the British army in South Africa as in Toronto and everywhere else. Disinfection of the bowel either by means of boric acid taken internally or of enemata was considered in many cases to be remarkably successful. Another form of treatment was that of starvation. The patients were starved for seven or eight days. He considered that in some cases it might be dangerous, because a number of men were exhausted when brought in. Nothing whatever to eat was their treatment, nothing at all except water, and all of that they could drink. The medical officer in charge of these cases, and under whose supervision this plan of treatment was carried out, informed Dr. Ryerson that he had fewer deaths than in any other hospital in Bloemfontein.

Want of Medical Officers in the Philippines.—The scarcity of medical officers in the Philippines, since the first days of occupation to the present moment, has been the greatest source of anxiety that has confronted the various chief surgeons. At the present time this scarcity is more apparent than it has ever been, and, roughly speaking, 10,000 troops are

serving at posts with practically no medical attendance. The number of posts in the Philippine Islands is now 375 and is constantly increasing. To fill these posts there are only 336 medical officers now on duty in the islands. Of these 336 officers, 103 are detailed for other duties, leaving an effective force of 233 men to supply 375 posts. As an actual fact, there are at present [August 10, 1900] over 400 posts, and the medical force has been reduced by four. . . . In time of peace in the United States there were, roughly speaking, 20,000 troops and 180 medical officers, which gives 111 men to each surgeon. In the Philippines there are 336 medical officers and 63,000 men, or 187 men to each surgeon. A total of 500 medical officers is needed properly to care for the present number of troops in the Philippines.—Extract from annual report of Colonel Charles R. Greenleaf, chief surgeon, division of the Philippines.

Health Reports.—The following cases of smallpox and yellow fever have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended March 9, 1901:

		Cases.	Deaths.
Smallpox—United States.			
Alabama, Mobile	February 23d to March 2d	..	1
California, San Francisco	February 18th	8	
District of Columbia, Washington	February 23d to March 2d	7	
Florida, Jacksonville	February 23d to March 2d	3	
Illinois, Cairo	February 16th to 23d	6	
Iowa, Ottumwa	February 2d to 9th	1	
Kansas, Lawrence	February 23d to March 2d	2	
Wichita	February 23d to March 2d	12	
Kentucky, Lexington	February 23d to March 2d	2	
Louisiana, New Orleans	February 23d to March 2d	7	2
Michigan, West Bay City	February 23d to March 2d	5	
Minnesota, Winona	February 23d to March 2d	12	
Nebraska, Omaha	February 22d to March 1st	5	
N. Hampshire, Manchester	February 23d to March 2d	27	
New York, Elmira	February 23d to March 2d	1	
New York	February 23d to March 2d	64	11
Yonkers	February 22d to March 1st	1	
North Carolina, Charlotte	February 1st to 28th	16	
Ohio, Ashtabula	February 23d to March 2d	2	
Cincinnati	February 22d to March 1st	2	
Toledo	February 23d to March 2d	8	
Youngstown	February 23d to March 2d	2	
Pennsylvania, Allegheny	February 23d to March 2d	..	2
Philadelphia	February 23d to March 2d	1	
Pittsburg	February 23d to March 2d	4	
Tennessee, Memphis	February 23d to March 2d	16	
Nashville	February 23d to March 2d	17	
Utah, Salt Lake City	February 23d to March 2d	31	
West Virginia, Huntington	February 23d to March 3d	1	
Smallpox—Foreign.			
China, Hong Kong	January 15th to 22d	1	
Great Britain, England, Liverpool	February 8th to 16th	2	
London	February 8th to 16th	1	
Scotland, Dundee	February 8th to 16th	6	
Glasgow	February 15th to 22d	..	20
Mexico, Vera Cruz	February 19th	300	
Yucatan	February 20th	*	
Russia, St. Petersburg	February 2d to 9th	4	1
Warsaw	January 26th to February 2d	..	8
Turkey in Asia, Jaffa	January 1st to 15th	*	
* Epidemic.			
Yellow Fever.			
Cuba, Havana	February 17th to 24th	..	3

The Bacillus of Influenza.—The influenza bacillus is found chiefly in the expectoration, especially in the tough, yellowish-green pus discharged in cases of influenza bronchitis. It is found in this pus both within and outside of the pus cells, the intracellular distribution occurring particularly in the late stages of the disease. It is also found in the nasal discharges in some cases in enormous numbers, and may be found in the discharges from other mucous surfaces communicating with the air passages, as the accessory nasal cavities and the middle ear. The morning sputum is especially to be recommended for examination, according to Pfeiffer. The organism is not, as a rule, found outside the respiratory tract. Since Pfeiffer's original article was published, the great majority of writers agree with him in stating that the disease is essentially a toxic one. Thus Weichselbaum, Huber, Voges, Mossé, Pfuhl, Borchardt, and other careful observers all failed to isolate the organism from the circulation, after numerous attempts. That the organism can occasionally occur outside the respiratory system and its annexes is shown by its isolation from meningeal exudates by Pfuhl, Haedke, Cornil, Durante, and others, and its occasional isolation from the spleen.—George Blumer, *Albany Medical Annals.*

Injury to the Earning-Capacity of the Individual from Partial or Complete Loss of Vision.—Dr. Howard F. Hansell, of Philadelphia, writing on the above subject in the *Annals of Ophthalmology* for October last, concludes as follows: "Blindness is that degree of loss of vision that incapacitates one from earning his living in any occupation requiring the use of the sense of sight, the degree varying according to the demands of the occupation. Vision of less than one-half diminishes the earning-power, and the less the vision the greater the loss of earning-power. Monocular blindness is not incompatible with full earning-capacity. Monocular blindness and weak sight in the remaining eye rapidly diminish the earning-power. The loss of earning-power owing to defective vision may be computed according to a simple system based upon the ratio of the loss of vision to the full earning-capacity at any age and in most occupations."

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A B C Manual of Materia Medica and Therapeutics. By C. Hardy Clark. 8vo, 197 pages. Boericke & Tafel, Philadelphia, Pa.

The Year Book of the Nose, Throat, and Ear. By Albert H. Andrews, M.D. 8vo, 416 pages. The Year Book Publishers, Chicago, Ill.

Obstetrics and Gynecologic Nursing. By Edward P. Davis, M.D. 8vo, 402 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

The American Year Book of Medicine and Surgery. By George M. Gould, M.D. 8vo, 681 pages. W. B. Saunders & Co., Philadelphia, Pa.

Manuel d'Histologie Pathologique. By V. Cornil et L. Ranvier. 8vo, 909 pages. Illustrated. Felix Alcan, Paris, France.

The Retrospect of Medicine. By James Braithwaite, M.D. 12mo, 444 pages. Simpkins, Marshall, Hamilton, Kent & Co., Limited, London.

An Introduction to Physiology. By William Townsend Porter, M.D. 12mo, 314 pages. Illustrated. The University Press, Cambridge, Mass.

Diseases of the Anus and Rectum. By D. H. Goodsall. 8vo, 311 pages. Illustrated. Longmans, Green & Co., London, England.

Oral Sepsis. By William Hunter, M.D. 8vo, 30 pages. Cassell & Co., London, Eng.

The Nursing Profession. By Sir Henry Burdett. 8vo, 365 pages. The Scientific Press, London, Eng.

A Medico-Legal Manual. By William W. Keysor. 8vo, 316 pages. Burkley Printing Co., Omaha, Neb.

State Board of Health and Vital Statistics of Pennsylvania. Vol. I., 795 pages. William Stanley Ray, State Printer of Pennsylvania.

State Board of Health and Vital Statistics of Pennsylvania. Vol. II., 8vo, 474 pages. William Stanley Ray, State Printer of Pennsylvania.

Operative and Practical Surgery. By Thomas Carwardine, M.S. 8vo, 661 pages. Illustrated. John Wright & Co., Bristol and London, Eng.

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Original Articles.

1. A CASE OF AMBULATORY TYPHOID FEVER WITH INTESTINAL PERFORATION. 2. A CASE OF TRAUMATIC RUPTURE OF THE INTESTINE; OPERATION; RECOVERIES.[1]

REMARKS CONCERNING OPERATION IN CASES OF TYPHOID FEVER WITH INTESTINAL PERFORATION.

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CASE I.—Ambulatory typhoid fever in a boy seven years old; perforation of an ulcerated Peyer's patch, with extravasation; diffuse sero-purulent peritonitis; laparotomy; suture of the perforation twenty-two hours after rupture; recovery. Joseph H——, admitted to the surgical service of Dr. Gerster, August 18, 1900, with the diagnosis of diffuse peritonitis following appendicitis. The boy was admitted at 10 o'clock P.M., the mother giving the following history. The child had had no previous illness. The present sickness had commenced about a week previously, with headaches and general lassitude; there had been no abdominal pain. The bowels had moved regularly, and the stools were normal. There had been no fever, and the child had not been in bed at any time, but continued playing about. In the early morning of the day of admission, the child complained of violent cramps in the lower part of the abdomen and in the right iliac fossa. There was no collapse at the time of or following the cramps. There had been one normal stool after their onset. During the day the child had several chills followed by fever, and vomited once.

Physical examination revealed a well-nourished boy, with a temperature of 103°, pulse 136, and respiration rate of 26. The heart and lungs were normal. The abdomen was extremely distended and everywhere very tender, but especially so in the right iliac fossa. The abdominal walls were rigid. There was slight dulness to percussion in the flanks. Per rectum there was slight bulging of Douglas' cul-de-sac, but no inflammatory mass could be made out. The tongue was dry and coated. There was no eruption. The liver and spleen appeared to be normal in size, but the extreme abdominal distention masked the flatness usually obtained over these viscera.

Immediate operation was decided upon and accordingly at 12 o'clock midnight, about twenty-two hours after the acute onset in the morning, under chloroform anæsthesia I opened the abdomen in the right iliac region by the Kammerer incision. There was at once a discharge of sero-purulent material from the free peritoneal cavity. The peritoneum was everywhere intensely injected, and no limiting adhesions were present. The peritoneal lymphatic glands were enormously swollen, some of them being the size of walnuts. The appendix was at once sought for, and readily found in the right iliac fossa; to all appearances it was normal, except that its peritoneal covering shared in the general injection. Its mesentery was secured with a ligature, and the organ itself ligated and ablated. It was quite evident that the appendix had not given rise to the intense peritonitis and lymphatic enlargement that was present, so further search was instituted for the cause. All of the small intestines were much injected and in part dilated. As the intestines were being rapidly passed through the fingers, an enlarged and especially prominent Peyer's patch, low down in the ileum, came into view, and in its centre was a perforation about the size of a millet seed. From this perforation a thin, yellowish-white fluid was discharging into the peritoneal cavity. The perforation was at once closed with a double row of Lembert sutures of silk, so that the entire Peyer's patch was covered by the adjacent intestinal wall. Further search for additional perforations being negative, the abdominal cavity was sponged dry with sea sponges, and a narrow wick of gauze passed down to the appendicular stump, to protect its raw surface. The rest of the abdominal wound was closed by through-and-through sutures. The child collapsed during the progress of the operation but responded nicely to stimulation.

Subsequent history. The child reacted well from the operative attack; during the nine days following the operation the temperature ranged from 100° to 104°, the pulse being 120 to the minute. The bowels moved on the second day and thereafter daily. The stools were not typhoidal in character. There was considerable abdominal distention but no roseola; no Ehrlich reaction was obtained in the urine, which was otherwise also normal. The gauze wick was removed from the abdomen after forty-eight hours. On the sixth day, the wound was again dressed, when all the stitch holes were found to be infected. After the ninth day the temperature became and remained almost normal, likewise the pulse rate. The Widal reaction remained negative up to the nineteenth day of his stay in the hospital, when the assistant pathologist, Dr. Libman, reported it to be positive. Again on the twentieth day the Widal test was reported positive, with a dilution of 1:40. The stitch-hole infection retarded the closure of the abdominal wound; otherwise convalescence was uninterrupted and the child was discharged cured October 10, 1900.

Comments. This case presents many interesting points for consideration.

First, as to diagnosis. When the child was admitted to the hospital, the intense peritonitis which was present so clouded all the other symptoms that no conclusion could be arrived at as to the cause of this inflammation of the peritoneum. If we ask ourselves whether the diagnosis could have been made at an earlier period, we must answer in the negative, as will appear from the following considerations. The child, although complaining of headache for a week previous to the acute onset, had not been confined to bed. The onset was sudden; there were no other indications of typhoid. Even had the latter been thought of by the physician, it often enough happens that the

[1] These cases were reported to the New York Academy of Medicine, surgical section.

ulcerations affect the mucosa of the appendix, and perforation of one of these ulcerations is certainly possible. In this boy the symptoms pointed to an acute peritonitis resulting from a perforation of some part of the intestinal tract; the localized pain in the right iliac fossa indicated the appendix as the most probable site of the perforation, and in the absence of any signs suggesting typhoid fever, the perforation resulting from an ulcer due to this cause could not be considered.

As regards the treatment of the peritonitis. In a paper on the peritoneum and the treatment of diffuse exudative peritonitis,[1] I have called attention to the fact that the peritoneum when physically unaltered, even though it is the seat of intense inflammation, possesses in its rapid resorptive power an attribute by which it can efficiently protect itself against the local action of bacteria, and amply provide for a removal of an exudate that may be present within its cavity. This important consideration, together with the serious and even fatal objections to drainage, have led me, when the peritoneal membrane remains smooth and uncovered by fibrin or granulations, entirely to do away with drainage, and to close up the abdominal wound. When, however, a region had been denuded of its peritoneal coat, or when the peritoneum, though intact, had become modified in its physical character through traumatism or inflammation, then all such parts of the peritoneum must be drained, and thoroughly drained, for they no longer possess the rapid resorptive power of physically unaltered peritoneum, and hence its protective and auto-drainage attributes. So in this case, as the peritoneum was smooth although intensely injected, I determined to close the abdominal cavity, merely protecting the raw appendicular stump with a thin gauze wick. True to my expectations, the peritoneum protected itself admirably from the multitudes of bacteria which were present in its cavity, and likewise provided for the removal of the exudate. But, and this is a very important point, the cellular tissue of the abdominal wall, which does not possess the attribute of rapid resorption that belongs to serous surfaces, was unable to withstand the local action of the bacteria which had wandered into it through the stitch-hole openings in the peritoneum, and infection with pus formation took place in the abdominal wound.[2]

Case II.—Traumatic rupture of the intestine, at the duodeno-jejunal junction, diffuse sero-purulent peritonitis; laparotomy twenty-six hours later; suture of the ruptured intestine; nine days later symptoms of intestinal obstruction; laparotomy; obstruction, due to adhesions, relieved; recovery. Samuel M——, ten years old, admitted to the surgical service of Dr. Gerster, at 8 o'clock on November 18, 1900. His history was as follows: At about seven o'clock the previous evening, while playing in the street, he had been run over by a coal cart, the wheel passing across the abdomen in the hypochondriac regions. He was able to get up immediately after the accident, but had such severe abdominal pain that he was scarcely able to walk home. He did not vomit until after the administration of medicines later in the evening. A cathartic that was given to him was retained, but did not produce any movement. An enema administered to him the following morning was thought by the mother to have been slightly effectual. The child had no chill; possibly had some fever. The boy says he had had his dinner, consisting of chicken, and bread and coffee, about one hour before the accident.

Physical examination on admission showed a well-nourished boy, with a temperature of 101° F., pulse rate of 116, respirations 36; the heart and lungs were normal. The abdomen was distended, and everywhere rigid and tender. There was tympanitic resonance over the entire abdomen, except between the left free border of the ribs and the umbilicus, where the resonance was dull tympanitic. There was a shifting dulness in the flanks. The hepatic and splenic flatness was almost completely obliterated. In the region between the left costal margin and the umbilicus an indefinite mass was to be felt, and here the tenderness was more marked.

The diagnosis of rupture of the intestine with diffuse peritonitis was made, and immediate laparotomy proceeded with. At about 9 o'clock P.M. the writer opened the abdomen in the median line between the costal angle and the umbilicus. The intestines were seen to be moderately distended and injected, and free sero-purulent, non-fetid fluid was present in the peritoneal cavity. The small intestines were gradually withdrawn from the abdomen, examined, and at once covered with hot towels and supported by an assistant, so as to prevent traction upon the mesentery. Some fresh fibrin was seen along the upper coils of the small intestines, and just at the duodeno-jejunal junction was found a rupture. This rent ran almost at right angles to the long axis of the bowel, occupied the right side of the intestine, was three-quarters of an inch long, and its edges gaped apart about one-third of an inch. The rent also extended into the mesentery of the jejunum. There was no hemorrhage from the torn edges of the ruptured intestine, the mucosa pouted into the margins of the opening, and there were escaping some coagulated albumin and yellowish-green fluid. No further lesions of the intestine or other viscera were found.

The opening in the bowel was closed by three rows of sutures, the first a Czerny of the mucosa alone, the other two Lembert. The rent in the mesentery was closed by a single row of interrupted sutures. The eviscerated intestines and peritoneal cavity were cleansed with hot saline solution, the intestines were replaced, a thin protective strip of gauze was passed down to the suture line in the intestine, and the abdominal wound was closed by through-and-through silkworm-gut sutures. The child required free stimulation toward the close of the operation.

Subsequent history. The child reacted well. The pulse rate after the operation was 148; temperature, 101°; respirations, 24. Nothing was allowed per os for forty-eight hours, nourishment and stimulation being given per rectum. The boy vomited once on the second day. The pulse gradually diminished in frequency and its quality improved. The bowels moved by enema on the second day, and daily thereafter until the ninth day. The gauze wick was removed on the second day. On the fifth day a stitch-hole infection was noticed. The boy was convalescing nicely until the eighth day. On this day he complained of considerable abdominal pain, which was thought to be due to the infection of the abdominal wound. On the ninth day the boy vomited once, but his bowels moved by enema. The pain continued, and the boy looked bad. The next day the child's condition was worse. His bowels could not be made to move, the vomiting persisted, the material ejected consisted of bile and

[1] Medical Record, June 30, 1900.

[2] This stitch-hole infection occurred in other cases of diffuse peritonitis treated in a similar manner; in the second case reported in this paper, the stitch-hole infection led to an adhesive peritonitis with secondary intestinal obstruction. In another case it gave rise to a very severe phlegmon of the abdominal wall, which resulted in a reinfection of the peritoneum on the fourteenth day after operation, to which the patient succumbed. I have abandoned, therefore, the through-and-through sutures of the abdominal wall, and close only the peritoneum with a catgut suture, leaving the outer wound open; or simply place a gauze diaphragm, lined on its under surface by a sheet of rubber tissue held in place by a few silk sutures, over the intestines, within the edges of the abdominal wound, and pack the outer wound. A detailed report of the seven cases of diffuse purulent peritonitis, treated without drainage, will shortly appear.

mucus. The pulse rate was rising, the temperatures were 99°–100° F. I felt some hesitancy in again opening the abdomen and decided to wait another twelve hours. On November 29th, the eleventh day after operation, the conditions becoming rather worse and the bowels not moving, I decided on a second laparotomy, expecting to find a band constricting the intestine, or possibly a contraction of the intestine at the site of the rupture, although the latter appeared to be hardly possible.

Second operation, November 29, 1900. Median laparotomy through former incision; adhesive peritonitis found as cause of the obstruction; separation of the adhesions; closure of abdominal wound by gauze diaphragm lined with rubber tissue. Under nitrous-oxide anæsthesia, I first thoroughly curetted the abdominal wound, so as to remove as far as possible the infected tissues. The small intestine was firmly adherent to the edges of the abdominal wound, and the coils of intestine in the vicinity were densely adherent to each other; the adhesions causing several acute kinks in the bowel. These adhesions were all carefully separated with very little hemorrhage, although the serous coat tore away from the intestine in several places. It was replaced by a few sutures of fine catgut. Further exploration revealed a dense band of adhesions along the track of the gauze strip which had been passed down to the site of the rupture at the time of the first operation. These adhesions had also kinked the jejunum a few inches below the fossa of Trites. After all the adhesions had been separated, the intestine was cleansed and replaced into the abdominal cavity and retained in place by a diaphragm of gauze, lined on its under side by a single layer of rubber tissue which was secured to the gauze by a few silk sutures. (The object of the rubber tissue was to prevent new adhesions from forming.) A dry aseptic dressing was applied. It was quite evident that the adhesive peritonitis had started at the infected abdominal wound, and the abdominal wound had in turn become infected from the pus within the abdominal cavity at the time of the first operation.

Subsequent history. The child collapsed toward the end of the operation which had lasted only about twenty minutes; but under hypodermic stimulation he reacted nicely. One hour after the operation he was given a series of salts which were retained. Twelve hours later the bowels were moved by enema. From then on the child's condition improved; the bowels moved daily; nourishment was liberally taken. The gauze diaphragm was removed on the sixth day, and the wound then packed. There was uninterrupted subsequent recovery; closure of the abdominal wound occurred by granulation, and the boy was discharged cured January 16, 1901.

Concerning Operation in Cases of Perforation of a Typhoid Ulcer.—No more important subject has been submitted to the internist since the new era of abdominal surgery than the question of whether or not to submit a patient suffering from an intestinal perforation in the course of a typhoid fever to an operative procedure. Ever since the first successful suture by Mikulicz of an intestinal perforation resulting from a typhoid ulcer, the surgeons have asserted that patients in whom this complication has developed should be at once submitted to them for repair of the perforation, whereas the practitioner has as steadfastly maintained that operation holds out to these unfortunate patients no better hope for recovery than does expectant medical treatment; first, because typhoid patients already debilitated by a long and exhausting disease stand operation very poorly; and secondly, because nature in a certain proportion of cases walls off the perforation by protective barriers of adhesions, and so guards the patients from a diffuse septic peritonitis. It is the duty of the surgeon, then, to meet the internist on both these disputed points, clearly stating what has been the past experience as regards the dangers of operation during the course of a typhoid fever, and what is the danger of delay in a case of ruptured ulcer with extravasation of intestinal contents into the peritoneal cavity.

A. Dangers of operation in typhoid patients. The best idea as to how patients suffering with a typhoid fever bear operative attacks can be obtained by consulting the reports of those who have operated upon patients in this disease. In the last sixty-six cases collected by Keen[1] of typhoidal perforation of the intestine subjected to surgical interference, we find that twenty-three died within the first twenty-four hours following the operation. Of these twenty-three patients, seven were "in extremis" at the time of operation, and surgical interference had probably been undertaken only as a desperate hope of saving a positively forlorn case; one died of a septic inhalation pneumonia from the aspiration of stomach contents in the air tubes during the anæsthesia, one of an unexplained toxæmia, eleven of diffuse septic peritonitis which had been in existence before the operation, and only three are reported as having succumbed to the shock attending the operative attack. In two of these latter three there was present at the time of operation a diffuse peritonitis. If these statistics are compared with those obtained from reports of operation for diffuse peritonitis due to other causes, *e.g.*, appendicitis, in patients not suffering from a long-continued fever, it will be seen that they do not differ materially, as fully one-third of the deaths in these cases occur within the first twenty-four hours, and fully as many as five per cent. die from the shock attending the operation.

The writer's personal experience as to how major operations are borne by typhoidal patients extends over three cases. One of these was operated upon by Dr. Gerster, and the other two were operated upon by himself. Dr. Gerster's patient was a woman in the second week of a rather severe typhoid fever, in whom the ulcerations involved the mucosa of the appendix and threatened perforation. The operation of appendectomy, performed at the German Hospital under general anæsthesia, was remarkably well borne by the patient, the course of the typhoid was uninfluenced by the operation; the patient passed through the disease without any further complications and made an excellent recovery.

The writer's personal cases were: one a male child ten years of age, in the third week of a severe typhoid fever, in whom a perforation was suspected, and an exploratory laparotomy advised by the attending physician. The operation, performed under eucaine local anæsthesia, with the patient in an extremely drowsy and feeble condition, was excellently borne. Exploration revealing no perforation, the abdomen was at once closed. The child was not weakened, the pulse continued to be of the same force and frequency, and the patient convalesced after a long siege of typhoid which was complicated by a relapse. The second case was that reported in this paper. The operation, though rather prolonged, lasting about fifty minutes, was also well stood by the child—the reaction being prompt and good.

Considering that the operation for the successful detection and closure of the perforation or perforations is usually attended by more or less complete evisceration of the intestines, it is really surprising that so few deaths from shock have been reported. It only goes to show that the resistance of these patients to severe and rather prolonged surgical procedures is

[1] Reported to the New York State Medical Association, October 25, 1899.

fully equal to that of other patients who are obliged to undergo similar operations. There can be only one serious objection to an abdominal operation, and that is the necessary suspension of the cold plunge baths. But a patient in whom an intestinal perforation is suspected or does exist, is never subjected to plunges, so that even this objection does not weigh against the carrying out of an abdominal section. The practitioner is to-day confronted with the results of the medical and surgical treatment of intestinal perforation occurring in the course of typhoid fever; and the surgeon must confess that the difference in cures is not very marked; but this is because the surgeon's aid is too often invoked when not only the perforation but also a diffuse septic peritonitis is present. The reason the operation is thus delayed is partly that the physician fears that the already enfeebled condition of the patient will render a succumbing to the operation a very likely result. Early surgical intervention will show between nature's and man's surgical efforts such a marked difference in favor of the latter that the question as to the propriety of operating for intestinal perforation with extravasation, occurring in the course of typhoid fever, will soon be settled, beyond the shadow of a doubt, in favor of it.

B. The dangers of delay in intestinal perforation with extravasation. The expectant method of treatment of typhoidal perforation of the intestine attended with extravasation, depends solely upon the surgical efforts of nature: upon the closure of the ruptured ulcer by adhesions to neighboring parts of the peritoneum or viscera. That such adhesions may form before perforation and remain intact, and so guard the patient from extravasation into the free peritoneal cavity, is certainly a possibility; but the waiting for these adhesions to form subsequent to perforation and thus limit or prevent extravasation is, in this era of abdominal surgery, entirely too uncertain to be relied upon.

It is this waiting upon the possibility of nature's spontaneous cure that is still keeping the mortality following surgical intervention so high; for the surgeon is too often consulted only when nature's efforts at repair have been found fruitless, and he is then called upon to deal not alone with a perforation but also with a septic peritonitis. This septic peritonitis is the danger of delay in intestinal perforation with extravasation. The mortality following operation for diffuse septic peritonitis due to other causes, *e.g.*, appendicitis, is about seventy per cent.; the mortality following surgical interference for perforated typhoidal ulcer attended with extravasation is about seventy-four per cent. If we wait with surgical interference until a diffuse peritonitis develops, we cannot hope, with our present method of treatment of diffuse peritonitis, to bring the mortality below seventy per cent. This frightful mortality must be weighed in the balance against early operation in patients who are mostly as well able to bear surgical attack as otherwise healthy individuals. If the question is viewed in this light it seems to the writer that there can scarcely be any difference of opinion as to whether early surgical intervention will be made use of, or reliance placed upon the uncertain and uncontrollable efforts of nature to close a perforation.

As to Operation in the Preperforative Stage.—The chief danger resulting from the rupture of a typhoidal ulcer of the intestine lies not in the perforation *per se*, but in the diffuse peritonitis that results from intestinal extravasation into the free peritoneal cavity. It is quite evident, therefore, that surgical intervention aiming at a closure of the perforation should be resorted to as soon as possible after the occurrence of such extravasation. This necessarily implies the establishment of an early diagnosis, and it may be stated as a rule that the prognosis will depend entirely upon the time at which a diagnosis is made and surgical intervention instituted. This at once suggests the possibility of operating before the perforation has actually occurred, in what Cushing has styled the "Preperforative Stage." The "preperforative stage," as defined by Cushing[1] (page 29), is "that whole period between the first involvement of the serosa with the customary formation of adhesions at that point until these adhesions, which may for a time constitute the floor of the ulcer after the serosa has given way, have themselves become broken down and general extravasation has taken place. This period, as in perforating appendicitis, may last a longer or shorter time and is associated with pain and tenderness and a possible rise in leucocytosis owing to the localized peritonitis." Here is a most important suggestion and one that demands the earnest consideration of the internist and surgeon.

It is certainly no uncommon experience for patients to develop at some time during the course of the typhoid fever all the clinical manifestations of a localized peritonitis. These peritoneal symptoms may arise from the stretching of the peritoneum by the swelling of the mesenteric glands, or from a chemical peritonitis due to the toxins of the typhoid organisms, or from an involvement of the peritoneum by contiguity in severe ulcerations of the intestines, that nevertheless never go on to perforation with extravasation. These are only a few of the causes other than impending perforation that may call forth symptoms of peritonitis. Do they mean that we are to interfere surgically? By no means and under no consideration. For, in most instances, these peritoneal symptoms subside spontaneously. Even granting that the peritoneal symptoms arise from an involvement of the serosa which covers a deep ulceration of a Peyer's patch, does this mean necessarily that this serosa will always give way and permit of extravasation into the free peritoneal cavity? Certainly not! How, then, can we think of interfering surgically for a perforation that does not exist, and which may never take place? If we knew in which ulcerations the serosa will undoubtedly give way and permit of extravasation, no one will dispute as to the advisability of opening the abdominal cavity, searching for these particular ulcerations, and covering them over with the adjacent intestinal wall. Quoting from the findings by Dr. Cushing at the first operation in his first case, "The last foot of small intestines showed several greatly thinned areas corresponding to Peyer's patches." Only one of these greatly thinned areas subsequently gave way and permitted of extravasation, and Dr. Cushing comments upon this subsequent perforation as follows (page 9): "It must remain undetermined whether this subsequent perforation was caused by the trauma inflicted upon the serosa covering this ulcer, by the gauze drain" which had been passed down to the site of a nearby perforation.

When our diagnostic acumen will have reached a higher stage of development so that we can differentiate the signs of local peritonitis as caused by an impending perforation from the peritonitis produced by other pathological conditions, and when we are able to foretell which serosa over a deep ulceration will give way, then certainly the preperforative stage of operation will be a reality. Until then we must agree with Cushing, when he says "that such symptoms of a localized peritonitis should put the attendant on his guard, so that the patient may be kept more than ordinarily quiet, and tubs omitted, especially if they are disagreeable and resisted."

With this conclusion the writer fully agrees; nay,

[1] "Laparotomy for Intestinal Perforation in Typhoid Fever." Johns Hopkins Hospital Bulletin, No. 92, November, 1898.

more, the surgeon should be consulted at this period, so that he may be ready, at the first sign of extravasation, to close the intestinal perforation. It is the intestinal extravasation that constitutes the grave danger of an intestinal perforation. I have no doubt that the local peritonitis, so often occurring in typhoid fever, is quite frequently due to a minute perforation which is effectually closed by a neighboring coil of intestine or viscus or portion of the abdominal parietes. These cases should receive the closest attention, and at the first sign of extravasation surgical interference should be made use of.

It is in this point of extravasation that the ruptured typhoid ulcer in the small intestine differs from a ruptured ulcer in the appendix. The appendix is a hollow tube communicating with the general intestinal canal by a comparatively small orifice. This orifice may be completely closed by even moderate swelling of the mucosa. When the communication of the appendicular cavity with the general intestinal canal is cut off, a rapid increase in tension of the confined contents within the appendicular canal takes place. This increased tension in itself leads to gangrene of the walls of the appendix, and when this has occurred the appendicular contents are forced out of the appendix with considerable pressure. This danger of gangrene and extravasation leads us to employ surgical aid for removal of the appendix as soon as there is any manifestation of a rise in pressure of the appendicular contents; for I maintain that the foudroyant character of the symptoms of an acute appendicitis is due to this increased tension within the appendix. In the intestinal canal, however, unless there is a paralysis of the muscular tunic of the bowel, a stasis of intestinal contents, and consequent increase of tension within the lumen of the bowel, does not occur. There is, therefore, no danger of gangrene resulting from increased tension, and furthermore, inasmuch as the direction of least resistance is practically at all times in the course of the lumen of the intestine, it is quite possible that neighboring adhesions will effectively close a minute defect in the substance of the bowel, especially if the defect has been slowly produced. I have no definite knowledge, how often such a natural closure of a minute defect occurs. But the presence of symptoms of a localized peritonitis, occurring in the course of typhoid fever, is no uncommon experience, and furthermore such a peritonitis most frequently goes on to spontaneous cure.

The comparison, therefore, between appendicitis and typhoidal ulcerations, as to operation in a preperforative stage, is not a good one, for the mechanical conditions which are present in the appendix, and which lend to an inflammation of this organ such a marked degree of intensity, with danger of gangrene and extravasation, do not at all obtain in the intestinal canal, unless a complete paralysis of the muscularis has taken place.

I would suggest, then, as regards the preperforative stage of typhoidal ulceration, that every typhoid patient who presents the symptoms of a local peritonitis should be most carefully observed by both the physician and surgeon, and at the very first indication of extravasation the surgeon should be prepared to open the abdomen and close the ruptured ulcer. This principle of action will save us from putting out a fire that has not commenced to burn!

Symptomatology and Diagnosis.—The early diagnosis of perforation with extravasation depends upon a complete and perfect understanding and recognition of the symptomatology. It will be noticed that the term perforation is always qualified by the writer with extravasation, first, because it is hardly possible that the symptoms that accompany perforation are due to the perforation *per se;* and secondly, because it is by no means proven that extravasation always follows perforation. I take the liberty, therefore, of suggesting the following consideration of the symptomatology of perforated typhoidal ulcer associated with extravasation.

A. Symptoms of the preperforative stage.

B. Symptoms at the time of perforation—(*a*) if with extravasation; (*b*) if without extravasation.

C. Symptoms of the postperforative stage.

A. The symptoms of the preperforative stage of typhoidal ulceration of the intestine are mainly dependent upon the involvement of the serosa which covers a deep ulcer. It is to be distinctly remembered that many cases never go on to destruction of this serosa, with the consequent perforation and probability of extravasation; but it is of the utmost importance to recognize this preperforative stage, so as to suspend tubbing, and be prepared to interfere surgically if actual perforation and extravasation occur. As indicated above, the symptoms of the preperforative stage are those of a localized peritonitis, and are: (*a*) Local rigidity of the abdominal wall. (*b*) Usually an increased leucocytosis. (*c*) Local pain and tenderness in the abdomen. (*d*) Possibly nausea and vomiting. (*e*) Possibly an increased rise in the pulse rate and temperature.

Of these symptoms the most important are the first two; all the other manifestations are variable, and simply strengthen a conviction afforded by the other two. Thus abdominal pain is often found in typhoid fever, without there being any involvement of the serosa; likewise nausea and vomiting may occur, without being due to peritonitis. But local abdominal rigidity and increased leucocytosis, occurring together in a typhoid patient, are of the utmost significance and should always put the attendant on his guard. For their detection it is necessary that careful and repeated examinations of the abdomen should be made, and that the leucocytes be counted at regular intervals of twenty-four to forty-eight hours. A leucocytosis may result from causes other than a localized peritonitis, but when it is associated with localized muscular rigidity of the abdomen it means a local peritonitis. If the other symptoms are present the diagnosis is strengthened. Too much stress cannot be laid upon the detection of these two signs—for this is the stage in which the surgeon should be asked in consultation; this is the time in which to make all necessary preparations for immediate laparotomy.

B. Symptoms of the perforative stage. These depend in almost all the cases upon the extravasation of intestinal contents into the free peritoneal cavity. With those rare exceptions in which a large blood-vessel of the intestine is eroded by the ulcer, and in which the signs of internal hemorrhage are consequently present, the perforation *per se* does not give rise to any symptoms. The clinical evidences that a perforation has occurred are due entirely to the intestinal extravasation, and are proportionate in intensity to the extent of the extravasation at the time of perforation. This is the reason why in some patients, *e.g.*, the case of the writer's, the symptoms of the perforation are comparatively insignificant, whereas in others they are of an alarming character. If the perforation is a small one, permitting of only a very slow leakage into the peritoneum, the reflex symptoms of shock, arising from the sudden soiling of this sensitive membrane, will be scarcely in evidence. If, on the other hand, the perforation is large, permitting of extensive extravasation, the reflex symptoms of shock will be very marked. The symptoms of this stage are entirely reflex in character, and are those of shock following upon extravasation; they are collapse, fall of temperature, cold clammy skin, rapid feeble pulse.

The writer would again call attention to the possibility of an utter absence of these symptoms, and in patients of this class it is absolutely impossible to make the diagnosis before the first symptoms of a peritonitis develop. In these patients it is especially important to have recognized the symptoms of the preperforative stage; for it is only by a comparison of the symptoms of this period with those that subsequently develop that an early diagnosis of peritonitis can be made.

C. The symptoms of the postperforative stage when extravasation has occurred are those of a progressive peritonitis. They may be summarized as follows: A disappearance of the leucocytosis; an increase in the local abdominal muscular rigidity; a rise of the temperature and pulse rate; nausea, vomiting, and increasing distention.

As mentioned above, there are a certain number of patients in whom a diagnosis cannot be established until the onset of an advancing peritonitis. It is especially in this class of patients, in whom the absence of the shock clouds the diagnosis, that it is important to detect the very earliest indications of a progressive peritonitis. These are the first two of those symptoms enumerated above. If these are recognized by the attendant the writer maintains that a diagnosis of the peritonitis can be made within the first six hours, which is early enough to save the majority of the cases by surgical intervention. Let us take for example a patient in whom the preperforative stage was well marked and recognized. A minute perforation has taken place, not associated with the symptoms of shock which would clearly indicate a perforation with extravasation.

If in such a patient the leucocytosis diminishes, and the local rigidity becomes marked and extensive, the presumption is very strong that an advancing peritonitis is present, and under such conditions, even if the evidence of a perforation is not absolute, an exploratory laparotomy is urgently and imperatively demanded. Cushing has explained the diminished leucocytosis as due to the great outpouring of leucocytes into the general cavity when a progressive septic peritonitis commences. Too much credit cannot be given to Cushing for calling attention to this diminished leucocytosis following upon perforation with extravasation.

When the other signs of peritonitis develop, the diagnosis cannot be any longer in doubt and the prognosis from any method of treatment is proportionally bad.

In concluding these remarks on the symptomatology I would say:

(*a*) That it is of the utmost importance to examine the abdomen frequently for evidences of local rigidity, and to make examinations of the blood every twenty-four to forty-eight hours.

(*b*) That in patients with a distinct preperforative stage the sudden appearance of the symptoms of shock clearly indicates a perforation with extravasation. It is to be remembered, however, that these symptoms of shock may be entirely absent, even though a perforation with gradual extravasation has occurred.

(*c*) That in patients with a distinct preperforative stage, a decreasing leucocytosis, and increasing abdominal rigidity, with or without the previous signs of collapse, indicate the earliest manifestations of a progressive peritonitis, and urgently demand immediate surgical interference.

In the above description of the symptomatology the writer has taken no notice of those patients in whom there is no preperforative stage. In such patients the diagnosis can be made in the second stage, provided it is marked, but if not we unfortunately have to wait until the peritonitis is established. In these patients, moreover, the earliest signs of the peritonitis are wanting, for we have no data of the preperforative stage with which to compare the earliest manifestations of a progressing peritonitis.

Time When to Operate.—It would seem reasonable that the time to operate was immediately after the diagnosis was established. This holds true with certain limitations. If the symptoms of shock are so very marked that the surgeon fears that the added shock of the operation will suffice to cause the death of the patient, it would be foolhardy to operate at once. In these cases the shock is for the time being a far more serious condition than the extravasation, and we must wait until the patient has rallied enough to enable him safely to withstand the added shock of an abdominal section and possible eventration. If the patient never rallies, as I have seen once, how uncalled for would be the efforts of the surgeon to close the perforation! It is impossible to formulate any rule as to how many hours after extravasation it is best to operate. The surgeon must decide in each case. Roughly speaking, the best time to operate is as soon after the extravasation as the patient can safely bear the shock of an abdominal section. This may be at once, or not before several hours, or even not at all.

Anæsthesia.—The writer sees no reason why a general anæsthetic should not be administered if the patient is in good condition. Certainly the surgeon can do his work better and quicker, and time is the most important essential in these operations. Furthermore, the symptoms of operative shock will be less, as a rule, when a general anæsthetic is used. For these patients must usually be eviscerated, and the straining and rigidity of the abdominal muscles under local anæsthesia necessitates the application of far more pressure upon the intestines to replace them within the abdominal cavity. If, however, the patient is in poor general condition, already exhausted by a long-continued febrile process, and has a rapid feeble pulse, a general anæsthetic is absolutely contraindicated, and the operation should be performed under a local anæsthetic and morphine.

For the treatment of the diffuse peritonitis see comments following Case I.

Conclusions.—1. The existence of typhoid fever does not contraindicate an operation; for typhoid patients bear operation almost as well as otherwise healthy individuals.

2. The repair of a ruptured typhoidal ulcer attended with extravasation should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration.

3. Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn.

4. Extravasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

Non-Absorbable Suture in Nephrorrhaphy.—The use of a non-absorbable suture for the fixation of the kidney has been objected to on the ground that it might lead to the formation of a stone in the kidney. This objection is purely theoretical, as no such case has been reported; moreover, it is contrary to the teachings of comparative pathology. The suture soon becomes encapsulated in a scar-tissue sheath, which, so far as the functionating structure of the kidney is concerned, makes the suture extrarenal.—Charles P. Noble, *Journal of the American Medical Association*, December 15, 1900.

CHRONIC GONORRHŒA AND MARRIAGE.[1]

By LUDWIG WEISS, M.D.,

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THERE is still a controversy in reference to the time as to when the gonococcus should be looked upon as definitely extinct from the uro-genital apparatus. The whole question, which was discussed with such vehemence at the Sixth Congress of the German Dermatological Society at Strasburg, in 1898, is still unsettled. Upon one point all parties agree; namely, that the gonococcus must be destroyed, in order to effect a cure. While Behrend and his followers maintain that they can accomplish this by the use of astringents as of old, Neisser and his disciples have shown that the silver-salts (largin, protargol, etc.) are capable of annihilating the gonococcus with a certainty not achieved by any other known agent. But the whole question becomes a mooted one when the infectiousness of chronic gonorrhœa is considered.

It is self-evident that, as long as there are gonococci present, no matter how few in number, the discharge is infectious; but the matter becomes complicated when they reappear, after repeated painstaking examinations have failed to demonstrate their presence. The adnexa of the uro-genital apparatus furnish ample hiding-places for their continued propagation. These are the subepithelial and connective tissues, the lacunæ of Morgagni, Littre's glands and other follicular structures, the prostate, the seminal vesicles, and the efferent ducts grouped about the colliculus seminalis or caput gallinaginis. In few cases of gonorrhœa is the infection limited only to the anterior portion of the urethra or to its superficial structures. Such cases do exist, but unfortunately they are few. The path by which the gonococcus reaches the deeper structures is a wide-open one to its ingression. In its strife with the leucocytes, by invading them, and in its being carried off and toward the surface by the same power which it is bent on destroying, the gonococcus will, under certain conditions, settle itself in the deeper structures. The gonococcus has been regarded heretofore as chiefly an epithelial and intercellular parasite —one which thrives on the protoplasm of the leucocytes. Recent researches have shown, however, that it is not only capable of infesting the connective tissue, but that it may provoke suppuration there and be carried away bodily, so to say, by the blood and lymph channels, to remoter regions, causing veritable metastasis.

In chronic gonorrhœa, therefore, the habitat of the gonococcus will be found in the submucous and connective tissues and in the ducts of the different follicular structures. If we now subject the scanty surface discharge of such cases which show hardly any clinical symptoms to a microscopical examination, we will find mucus, muco-pus, epithelium in its different transition forms, bacteria, and sometimes a few ill-defined gonococci; but generally none at all of the last. We then pronounce the gonorrhœa cured, and the patient as not infectious. The fallacy of such an opinion may manifest itself in a shockingly surprising manner by causing a gonorrhœal infection in the female, or *vice versa*. Schiller, after examining three hundred women, maintains that when gonococci were present clinical symptoms were never wanting. Kollman has found gonococci in thirty per cent. of his cases of chronic prostatitis in which no clinical symptoms were evident. Kapitowsky, after examining one hundred prostitutes, found in eight per cent. of the patients gonococci in their cervical discharges. These women had been declared—clinically—recovered and had been discharged.

[1] From the forthcoming treatise on "Chronic Urethritis of Gonococcic Origin." Edited by Dr. Ludwig Weiss. William Wood & Co., New York. 1901.

Neisser has always claimed that gonococci may be present in the female genitalia, even when subjective symptoms and other microscopical signs are wanting.

These and kindred questions arise from the fact that in some continental countries the law provides a registration of prostitutes, a weekly medical examination, and gratuitous treatment in hospitals. The patients are discharged when a repeated microscopical examination fails to show the presence of gonococci. Although not belonging within the scope of this treatise, I must touch upon this subject, as the possibilities of the protean aspect of the gonococcus may, with some modifications, be applied to the male also. Besides, the life history of the gonococcus in the female is of more than paramount interest to us. The registering of puellæ publicæ, so alien to the American idea of consideration, even toward fallen women, only partly removes the opportunities of infection; while the greatest danger lies, in continental countries as well as in ours, in clandestine prostitution. Nothing short of educating the masses to the perception of the great social danger which lies in an attack of gonorrhœa, or legislation like that of the State of Michigan, will mitigate gonorrhœa's ravages, and save hecatombs of wrecked lives in both sexes, but especially of women.

The question naturally arises, Is gonorrhœa curable and, if so, when may we pronounce a gonorrhœa cured? Excellent observers, like Behrend and his followers, hold that gonorrhœa, especially in the female, is incurable, and some gynæcologists coincide in this pessimistic view. No doubt there is ample ground for such an opinion. Those who have had occasion to view the specimens gained by operative interference on the female pelvic organs, will bear witness to the ravages wrought on the uterus and its adnexa by the ascending gonorrhœal infection. In the male, strictures, chronic prostatitis, seminal vesiculitis with its attendant prostato- and spermatorrhœa, sclerosing epididymitis, bladder and ascending kidney affections, are items in the evil record of the persistency of the gonococcus. And yet, in the face of all these overwhelming proofs, I am free to assert that gonorrhœa is a curable disease. I admit that the gonococcus, once having invaded the deeper structures, is hard to eradicate, and that the tissue changes due to its actions are wellnigh irreparable; but are not these dire results due to the rough empiric methods of treatment handed down to us from time immemorial; when astringents were the alpha and omega of local treatment in acute gonorrhœal urethritis, and nauseating balsamics had terminated a cure which, in a few instances only, could be looked upon as permanent?

In those times, when the causative factor of gonorrhœa was conjectured but not yet discovered, the want of such an etiological knowledge had biassed the greatest minds, and hence the treatment necessarily could not be other than empiric. But this has changed since Neisser's discovery of the gonococcus, and the researches made by Steinschneider, Schäffer, Schlangenhausen, Gohn, Wasserman, and others concerning the morphology and biology of that microbe. These researches culminate in the following facts: The gonococcus is the only causative factor of gonorrhœa. It traverses cylindrical epithelium with predilection, but under favorable circumstances attacks pavement epithelium also, especially by way of fissured interstices, and may settle in the deeper structures of the mucosa and adjacent connective tissue. This microbe and its toxins induce an inflammatory action on the blood-vessels, causing them to become permeable to the white blood corpuscles and to the transudation of pus serum. The gonococcus and its toxins are pyogenic, and both may cause metastasis in almost any organ of the body, by way of the blood and lymph channels.

But these untoward effects of the gonococcus may in

a measure be avoided, when Neisser's teaching and the treatment pointed out by him are better understood and practised. It is his etiological treatment of acute gonorrhœa with the soluble silver salts which, up to the present time, cannot be superseded by anything else. Their penetrating power to destroy the microbe, even in the deeper strata of the mucous membrane, is unequalled. When these facts shall have become better known to the profession, auto-reinfection by gonococci permitted to become latent in the deeper structures will become a rarer event, and the prognosis of gonorrhœal infection in both sexes will be a more hopeful one.

Regarding the marriage of a patient who has had gonorrhœa, the physician will have a highly responsible question to decide. I here emphatically take the stand against Kromayer's contention that the physician shall decline the responsibility of deciding. Patients yet infectious would in that case marry in larger numbers than now, without asking their physician whether they were justified to do so. Let us utilize the only exact method given us by Neisser, and this is to search for gonococci.

We start with a given case of chronic gonorrhœa. The patient wants to know whether he is yet capable of infecting, and makes his matrimonial venture dependent upon our finding. We have repeatedly examined the threads in his urine, and have found no gonococci under the microscope. On the strength of this examination shall we pronounce this man cured? Certainly not. We will bear in mind that there may be gonococci in the subepithelial and connective structures, in the glands of Littre, in the lacunæ of Morgagni, in the prostate, and in the seminal vesicles. What means do we possess to entice these parasites to the surface? We will apply to the urethra a provocative injection of either a two-per-cent. solution of nitrate of silver or an irrigation of a warm solution of bichloride of mercury, 1 in 10,000—preferably the former one. A reactive irritation of the mucous membrane will follow, and a discharge, more or less copious and of short duration, will be established. We will find leucocytes, epithelia in various transition forms, mucus, and gonococci if such were present in the deeper structures. But right here the gravity of the question is apparent. The presence of gonococci is proof positive, and needs no further confirmation. But if repeated and thorough examinations have failed to show the presence of gonococci, are we just as positively enabled to draw our conclusions from this negative result? Certainly not. There are several possibilities: (1) That there are really no more gonococci present. (2) That there may be gonococci present, but we have failed to demonstrate them, either because of faulty technique, or because the provoked discharge did not dislodge them. (3) That the discharge contains pus corpuscles in abundance, but no gonococci.

To determine the first two points and make sure that there are no more gonococci present, or if supposedly present, we have somehow failed to demonstrate them by the microscope alone, we must have recourse to another process of examination; namely, to cultures. The best culture medium for the gonococcus is human chest serum-agar. To inoculate such a tube or plate, and breed the germs in an incubator, will be an easy task for those possessing a knowledge of bacteriology and an outfit. Those not versed in such researches will do well to send the specimen to a laboratory for examination.

The practitioner in this country is getting accustomed to sending the culture tube, inoculated by him with the exudation of his patient's throat, to the bacteriological department of his board of health, in order to obtain a bacteriological diagnosis of diphtheria. I sincerely hope that hypercritical moralists will not obstruct legislation if, by a concerted action of medical societies, the local boards of health should be obliged or permitted to examine gratuitously, or for a small fee, the suspicious secretions or threads. This could be done by collecting the pus or the threads in a small sterilized test tube, and sending it in for examination.

Heiman has shown that, of the contents of such tubes when sown on plates, the gonococcus can be obtained and isolated, when brought to the laboratory hours later. The mode of obtaining the threads in the usual way, by fishing them out of the urine, is a faulty one, and does not permit of a conclusive result. In case of a negative result, even if Gram's decolorization had been used, we will always entertain some misgivings as to whether one or the other of the unexamined threads might not perhaps have contained gonococci. Therefore I deem it indispensable, in order to exclude any fault in the technique, to make use of the centrifuge.

It seems that Heiman was the first to employ the centrifuge in connection with culture media, for the collection of gonorrhœal threads. The threads thrown down by the centrifuge are afterward inoculated on the culture medium. Thus we are sure that all available threads have been planted, and if gonococci are present, they will certainly show up in colonies. These are now subjected to a microscopical examination. It is essentially necessary that the decolorization by Gram's method be used, as this alone furnishes a reliable criterion in determining whether the culture is or is not that of a gonococcus. The examination of cover-glass preparations, first with the methylene-blue staining, and then after Gram's method, gives for all practical purposes very satisfactory results. But in deciding the advisability of marriage we must avail ourselves, not only of a thorough clinical and microscopical, but also, and foremost, of a bacteriological examination with the use of Gram's method.

When using the urine, that is, the filaments or threads suspended therein, for cover-glass examination only, we will direct the urine to be voided in two portions. It is best to centrifuge it, even for this purpose. In a gross way, the "first portion will contain the threads of the anterior urethra, the second the secretion of the posterior urethra, and probably of the prostate if that is pressed upon while the patient is urinating. It has been shown elsewhere how to proceed when we desire to determine the locality whence the threads and the expressed material are coming. For simple cover-glass examination we will place the thread on a slide, spread it out with a sterilized platina loop, dry it, draw it through the flame, stain it with methylene blue, and examine it under oil immersion. As a control test we will employ Gram's method of decolorization.

If the result of this examination is questionable, we will then at once resort to a bacteriological investigation. For safety's sake we advise the planting of cultures even then, when microscopical examinations have repeatedly yielded a negative result. Cultures will then indicate with an absolute certainty the presence or absence of the gonococcus.

As regards the third possibility, when the secretion contains mostly pus cells as its morphological constituent, we have to deal with a blennorrhagic process, either of a mixed type or a secondary infection. In such a case the gonococci have vanished for good. Either the soil has been made inimical to their growth by other cocci not yet determined, or the gonococcus may have undergone disintegration through hyperplastic connective-tissue changes (strictures), caused by its protracted presence there. We regard such a case as in a sense infectious, and pronounce it as such to the candidate for marriage until his bacillary or catarrhal urethritis is cured.

As the matter stands at present, there are two views current as regard chronic gonorrhœa and permission to marry. That of those who advocate the decision of the question on a purely clinical basis, and that of those who hold the opinion that only microscopical and bacteriological examination should be decisive. It is the old controversy between Behrend, who adheres to the old astringent treatment of gonorrhœa, and Neisser, the founder of the microbic origin and etiological treatment of gonorrhœa with the silver salts. Behrend and his followers, Broeze, Schiller, Kromayer, and others, maintain that "the demonstration of the gonococcus has a positive value only in those cases in which other clinical methods make its use superfluous, while in other cases the demonstration is so unreliable as to be valueless." In the face of the indubitably exhaustive microscopical and bacteriological researches of Neisser, Ernest Frank, Janet, Finger, and a host of other investigators, the contention of the former investigators is an untenable one. The antiseptic treatment of gonorrhœa, in connection with examination for gonococci, is without doubt the only rational method at present. It rests on exact scientific facts, and cannot be replaced by a solely clinical aspect of the matter.

Kromayer maintains in a recent publication that the physician has no right to give permission to marry, even after repeated examinations have shown that no gonococci are present. While we are perfectly aware that these may be lurking somewhere, in spite of all our endeavors, yet there must be a line drawn somewhere, or else about ninety per cent. of the male population will be condemned to celibacy. Nothing short of mathematical accuracy to demonstrate the non-infectiousness of the individual will satisfy the opponents. But how few, if any, are the instances in our science and therapy in which absolute assurance is possible or required? After the surgeon removes a cancerous neoplasm, can he be blamed when, after all, general carcinomatosis develops? It is agreed that syphilitics may marry after they have undergone systematic treatment, when four or five years have elapsed since the onset of the infection, and at least one year after the last specific symptoms have existed. We know that they marry with reasonable security, and we do know that healthy offspring is begotten. Why then shall gonorrhœa alone be on the proscription list? Surely the syphilitic taint is not less destructive than the gonorrhœal infection. Of course it would be an ideal condition were we enabled to presage with absolute certainty the time when neither of them would be again capable of infecting.

But only the relative is our lot, the absolute is denied to us! To resume our topic, I take the stand that we will give permission to marry to those having had gonorrhœa when, after repeated and careful microscopical examination of slide specimens, and an exhaustive bacteriological and microscopical investigation of the threads and of the secretions of the prostate and seminal vesicles, done under the strictest rules and with the aid of Gram's method, the presence of gonococci cannot be demonstrated.

77 East Ninety-first Street.

Importance of Immediate Examination of the Urine in the Determination of its Specific Gravity.—Umberto Baccarani urges that urine should be examined as soon as it is collected, inasmuch as the density changes later. The variations frequently do not obey the laws of physics, and we are often obliged to add to or to deduct from the figure obtained by the ureometer one degree for every three above or below + 15° C. Two specimens of urine may possess the same density at the moment of emission and be quite different after cooling.—*Rivista Critica di Clinica Medica*, February 16, 1901.

EXCISION OF ANEURISM, WITH A REPORT OF TWO CASES OF FEMORAL ANEURISM SO TREATED.

By GEORGE RYERSON FOWLER, M.D.,

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Surgeon to the Methodist-Episcopal Hospital; Surgeon-in-Chief to the Brooklyn Hospital; Senior Surgeon to the German Hospital.

There can be no question as to the desirability of complete excision, when practicable, of an aneurism, in order to obtain a complete cure. The advantages of such a procedure are such as to warrant the surgeon in prolonging the operation sufficiently to carry out the radical procedure, since the time occupied is not longer than that required for many other radical procedures generally conceded to be not only justifiable but advisable.

By means of this operation the vessel is ligated at its ends instead of in its continuity, and, by the process of ablation of the sac and the adjoining portion of the vessel, provision is made against the two most active factors concerned in the relapse; namely, the existence of the portion of the diseased or injured vessel and the presence of one or more branches concerned in the recurrent circulation. One of the old-time dangers following ligation for aneurism, namely, inflammatory suppuration of the sac and its consequent rupture with hemorrhage from collateral branches, following displacement of occlusive coagula at the points where these communicate with the sac, is rendered impossible by this operation.

While in the second case herewith reported the necessity for ligation of the corresponding vein was carefully avoided, even injury to, and occlusion of, this in connection with ligation and excision of the artery is not attended with great risk of gangrene, as is shown by the first case.

All things considered, it is probable that excision or ablation of aneurism will be the operation of choice in cases in which the diseased condition of the vessel is fairly circumscribed, and advanced inflammatory or other complications, rendering the operation extraordinarily difficult, are absent. In aneurism of the extremities it will be found applicable in the majority of cases, and aneurism involving communication with the corresponding vein constitutes a positive indication for performance of the operation (Case I.).

Experience in the method is still wanting, and it is for the purpose of adding to the literature of the subject that the following two cases are presented:

Case I.—F. A. S——, aged thirty-three years, was admitted to my service in the Brooklyn Hospital with the following history: Twenty-two months previously he received a stab wound in the middle of Scarpa's space. A police officer, trained in first aid to the injured, promptly arrested the profuse hemorrhage with an improvised Spanish-windlass tourniquet of rope, and the patient was removed to an adjoining hospital. When the tourniquet was removed, it was found that the bleeding did not recur. The injury was, therefore, treated as a superficial wound. Suppuration took place, however, three weeks being occupied in the healing. In the mean while the thigh became swollen, and throbbing became marked in the affected part. Upon the healing of the wound, the patient returned to work, but was compelled to give up his employment at the end of two weeks on account of the condition of the limb. At this time, treatment by direct pressure over the pulsating portion of the tumor was instituted, combined with the internal administration of iodide of potassium. Under this treatment the tumor slowly decreased in size, and the patient managed to get about by wearing an elastic bandage.

Upon admission it was found that a "purring" sensation was communicated upon palpation. By the use

of the phonendoscope a continuous gurgling, rushing sound of fluid, intensified at each ventricular systole, was heard all over the right thigh. The point of greatest intensity of this sound was located just above and to the outer side of the commencement of Hunter's canal.

A diagnosis of traumatic arterio-venous aneurism of the femoral vessels was made, and operation advised.

On the following day the aneurism was exposed and the femoral artery ligated immediately above and below the point of communication.

Rapid healing followed the operation, and upon the patient's discharge, twenty-nine days following the operation, no evidence of aneurismal throb in the limb could be detected by the most careful phonendoscopic examination.

The patient was readmitted to the hospital on February 6, 1898, about fifteen months after the operation, at which time he gave the following history:

For several months following the operation the limb remained normal, and he continued his work as a fountain-pen maker. More recently pain and swelling and the "purring" sensation, of which the patient was sensible, returned. Examination showed practically the same conditions present as existed prior to the first operation.

On February 7th, the operation of excision of the aneurism was performed, as follows: An incision was made over the course of the femoral artery, from the base of Scarpa's triangle to the lower end of Hunter's canal. The sartorius muscle was laid bare and retracted to one side. The aneurismal sac, in both its arterial and venous portions, was found to be fully restored. A muscular branch given off from the inner side of the femoral artery between the ligatures, and which evidently had formed a collateral circulation by means of branches from the profunda, fed the sac. The artery was obliterated above and below the sac.

The arterial branch which fed the sac was identified and ligated first. The femoral vein was then ligated above and below the sac, and excised, together with the latter and the remains of the femoral artery. The latter was secured by two additional ligatures, as a precautionary measure before excision.

The patient made a good recovery, and up to the present time (three years after the last operation) has experienced no return of his trouble.

CASE II.—L. B——, aged fifty-nine years, male, was seen by me in consultation with Dr. Franklin Bennett and admitted to the Brooklyn Hospital on January 8, 1901. He gave the following history: Family and personal history, as bearing upon the etiology of aneurism, negative, save that two years previously he was struck a severe blow in the middle of Scarpa's space, upon the right side, with the projecting handle of a hand truck. Several weeks elapsed before the lameness from the blow had disappeared. From that time to the occurrence of the present illness nothing to attract attention to the injured part was noticed.

About two weeks prior to the time of my visit, a swelling, accompanied by local pain and tenderness at the site of the old injury, manifested itself. This bore a close resemblance in its clinical aspects to an ordinary inflammatory condition. Palpation, however, revealed a pulsation which was altogether too pronounced and diffused laterally to be accounted for upon the theory of transmission of the arterial impulse through an inflammatory swelling.

Femoral aneurism was diagnosed, and the patient was sent to the Brooklyn Hospital, where the operation of excision was carried out as follows:

With the patient under ether, an incision was made over the most prominent portion of the swelling, and the sac of the aneurism exposed. The structures overlying and surrounding the sac were matted together and adherent to the latter. The vessel was traced in an upward and downward direction until healthier portions of the artery were found, when a ligature, consisting of three strands of catgut, was placed encircling the artery, just below the profunda femuris, and tied in a Ballana and Edmund's "stay knot."[1] A second ligature was placed an inch below the first and the vessel divided between. A provisional ligature was now passed beneath the vessel in Hunter's canal as a precautionary measure, the ends being grasped with a clamp, ready for tying in an emergency.

The excision of the aneurism and adjoining portions of the vessel was now proceeded with. Commencing at the upper portion, the artery was carefully lifted up and separated from its surroundings. Owing to changes in the vessel in the neighborhood of the sac, as well as in the latter, this portion of the operation was carried out with the greatest care, lest the vessel be torn and an undue amount of blood lost, since it was evident by the decided pulsation in the artery that the disturbing influences of the aneurism had led to the establishment of a very pronounced collateral circulation, in advance of the operation.

At the site of the most prominent portion of the sac posteriorly, the latter was found to be intimately adherent to the femoral vein. This portion was, therefore, left undisturbed, and the excision of the remainder accomplished. Each branch of the femoral below the profunda, as encountered, was identified and divided between two ligatures. This was continued until Hunter's canal was reached, when the previously applied provisional ligature was tied. The portion of the sac adherent to the femoral vein was then carefully separated, the sac itself being torn in the process; the vein, however, was uninjured.

The adductor longus, adductor magnus, and sartorius muscles, which had been forcibly retracted throughout the operation, in order to gain free access to the operating-field, were now replaced, and the long skin incision was closed by means of an intracuticular suture. Sterile gauze dressings were applied and the limb was enveloped in cotton and bandaged.

The patient suffered very little shock from the operation. The limb remained perfectly normal, and everything went on promisingly until the end of the second day, when pulmonary congestion, followed by a rapid pulmonary œdema, terminated the patient's life.

CONSERVATISM IN THE DIAGNOSIS AND TREATMENT OF PROSTATIC HYPERTROPHY.

BY JAMES R. HAYDEN, M.D.,

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ALTHOUGH exhaustively discussed and frequently written upon, the subject of prostatic hypertrophy and its treatment is still of the greatest interest and importance to all surgeons, not only on account of the frequency and serious nature of the affection, but also because of the selection of the safest and most suitable mode of treatment for each individual case, the proper solution of which latter problem is of such vital importance to the patient, and often most difficult for the surgeon; there being a dangerous tendency at the present time to subject all cases to operative interference before palliative local treatment is tried, as a result of which a more thorough and exact examination can subsequently be made, thus adding vastly to the surgeon's knowledge of the local conditions, and therefore placing him in a better position to determine accurately what operation if any is best suited to his patient.

[1] "Ligation in Continuity," London, 1891, p. 394.

After carefully reading the records and histories of many of the reported cases of operation for prostatic hypertrophy, but especially those by the Bottini method, one is very forcibly impressed by some if not all of the following facts:

The large number of patients now being operated upon, whose symptoms, judging from their recorded histories, hardly warrant such heroic methods, especially in these days of improved technique as to catheterization and urethro-vesical irrigation, to say nothing of internal medication, improved soft-rubber and woven catheters, and the employment of local treatment to the prostate by way of the rectal route.

Also that, as a general rule, these patients seem to be advised to undergo immediate operation before having had the benefit of an intelligent and sufficiently long palliative or preparatory treatment.

Again, that many of the symptoms that these patients present, and for which operation is advised, are due as much to posterior urethritis and prostatitis, as to a true hypertrophied condition, and that the seemingly brilliant results, so prematurely reported following operation, could have been frequently obtained by rest and proper non-operative interference. It is, I think, a well-established fact, and one that is conceded by most authorities, that in the vast majority of cases of prostatic hypertrophy there is also a considerable degree of posterior urethritis, compressor spasm, urethrocystitis, and true prostatitis, with temporary swelling of the gland, which when removed by palliative treatment, as it usually can be, gives the patient great relief as to frequency in urination, size and freedom of stream, residual urine, pain, clarity of urine, and actual decrease in the bulk of the gland, which latter condition can be appreciated both by rectal touch and the easier passage of urine and urethral instruments.

Palliative treatment also has the great advantage of lessening the congested condition of the prostatic vessels, and also those about the bladder base and neck, so that in the event of subsequent operation the danger of severe hemorrhage will be materially lessened.

Although not intending to claim too much, nor being oversanguine in regard to non-operative treatment, and thoroughly appreciating as I do the great value of operative interference in many of these cases, yet I am thoroughly convinced that, in a goodly number, non-operative methods will give much relief if nothing more, and put the prostate, urethra, and bladder in a more suitable condition for any operation that may later be deemed advisable by the surgeon; in other words, that a diagnosis of prostatic hypertrophy having been made, the patient should have the advantage of such palliative treatment as will accomplish the above results before being hurried into an operation which, even in skilful hands, is a more or less dangerous one. Cases of chronic congestion of the prostate, with perhaps some hypertrophy, are, I am convinced, not infrequently subjected to an immediate and sometimes needless operation, whose mortality is still quite high, and which perhaps might be somewhat lowered if the inflammatory element were more thoroughly appreciated and treated, thus leading to a more intelligent selection of cases for operative interference. If the surgeon inquires carefully into the previous life of his prostatic patient, he will find in a goodly number, either a history of posterior urethritis or gonorrhœa, with or without stricture formation, or perhaps a urethrocystitis following forcible or uncleanly instrumentation, or catheterization for retention, or some irregularity or abnormality in his sexual life or relations, any of which conditions if unrecognized, or improperly or insufficiently treated, are in themselves sufficient to cause or keep up more or less irritation and congestion in the deep urethra and prostate gland, which element of irritation and congestion finally ends in chronic inflammation which is likely in time to lead to enlargement of the glandular and other prostatic elements, and therefore must not be forgotten in the diagnosis and the treatment of prostatic hypertrophy.

The palliative or preparatory treatment above alluded to consists in keeping the urine of as normally acid reaction as possible, both by internal medication and a properly selected diet; boric acid or urotropin in full doses is very efficient when the urine is either neutral or alkaline. If, on the other hand, it is overacid and irritating, we should administer alkalies, either alone or combined with hyoscyamus, kava kava, triticum repens, or uva ursi.

Rectal irrigations of hot salt solution at from 110° to 120° F., once or even twice daily, cause a marked improvement in the painful and inflammatory symptoms referable to the prostate, bladder, and compressor muscle, and also in the size and consistence of the gland. The hot sitz bath and hot perineal applications are also sometimes serviceable.

The amount and character of the residual urine is carefully noted, and if indicated it is drawn at regular intervals, with soft and sterile catheters, and the bladder and urethra are medicated by means of irrigations or instillations, according to the clarity of the urine and the amount and character of the residuum.

Prostatic massage is, as a rule, not indicated in these cases, as it increases rather than subdues inflammation; but if employed, it should be performed very gently, at long intervals and with the finger; the use of specially constructed rigid instruments for this purpose is to be emphatically condemned as rough and inaccurate.

Variously medicated rectal suppositories sometimes seem to act favorably, and may therefore be tried. Rest in the recumbent position benefits some, while other patients are more comfortable when up and about.

Hemorrhoids should always receive prompt and efficient treatment, as they frequently complicate and aggravate this class of case. If stricture is present it should be slowly, gently, and moderately dilated, or if that is impossible and it interferes with treatment and hinders convalescence it must be incised in a very conservative manner. If the case is complicated by vesical stone, the latter should be removed, either by litholapaxy or a cutting operation, according to the indications.

As a result of the above treatment, carefully carried out in all of its details, the prostate becomes much smaller and softer, the amount of residual urine is diminished, the urine becomes clearer and assumes a more normal reaction, and the pain, frequency, and straining gradually subside.

Now is the time to settle the all-important question in regard to the advisability of operative interference, or of relying on the catheter and suitable local and internal treatment.

In regard to the operative treatment of prostatic hypertrophy, I think it may be safely stated at the present time that the most satisfactory method is the partial or complete removal of the gland, either by the suprapubic or perineal route, or by a combination of both of these methods. The Bottini operation may perhaps be of some service in certain carefully selected cases, but it does not give as immediate and free vesical drainage as does prostatectomy, which is a strong argument against its general adoption, as prompt and unobstructed drainage of the bladder is a most important factor in the treatment of these cases.

Castration, vasectomy, and ligation of the internal iliac arteries are not to be recommended.

SUBPHRENIC ABSCESS AS A COMPLICATION OF APPENDICITIS.

By J. McF. GASTON, Jr., A.M., M.D.,
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The literature of this subject is necessarily limited. The standard text-books on surgery do not recognize appendicitis as one of the causes of subphrenic abscess. The most frequent causes mentioned are traumatic or ulcer of the stomach or duodenum.

The large experience of Wyeth [1] has brought under his observation only three cases of subphrenic abscess, and one of them was in association with the lesion of the kidney.

Ashhurst [2] has given it as his opinion that a large number of cases of appendicitis may be treated medically by opium and belladonna, and that even recurrent cases do not necessarily call for the knife. In this line I repeat my own position before the Medical Association of Georgia, that each case should be considered "carefully and, I might say, prayerfully."

Leyden is one of the few writers to classify perforation of the vermiform appendix as a frequent complication of subphrenic abscess. He also mentions duodenal ulcer and empyema. His illustration shows the positions of the liver and of tympanites with great precision. The liver is pressed down and the pus presses the diaphragm up.

The subject of subphrenic abscesses caused by perforation of the vermiform appendix, and complicated in a great many ways with diseases of the abdominal cavity, has been ably treated by Osler and Mason, with discussions by Welch, Fitz, and others.[3]

Leyden and Ranvers[4] report cases of subphrenic abscess as occurring both in private and hospital practice. Leyden has been quoted by Baldwin,[5] in his article on "Subphrenic Abscess Following Appendicitis," as stating that the liver is somewhat depressed, and there is often pain in the shoulder blade, with hiccough, and amphoric breathing below but not above the eighth or ninth ribs.

W. E. F——, aged thirty-two years, was seen by me for the first time on June 3, 1900. His family physician, Dr. J. W. Carmichael, had seen him the night before, and asked me to examine him with reference to pain in the region of the appendix. Dr. W. Monroe Smith had seen him when he was first brought home. His condition had led him to give him a hypodermic of morphine gr. ¼, and atropine gr. $\frac{1}{150}$.

The patient at 7 A.M. was found to have a temperature of 100.2° F.; respiration, 26; and pulse, 100. His countenance and general appearance gave evidence of a strong, robust man, prostrated by some serious complaint. The following prescription was given to be filled and used: Ung. belladonnæ, ℥ i.; pulv. camphoræ, ℥ i. Sig. Apply to the abdomen, and cover with oiled silk.

Dr. Carmichael had administered a large dose of calomel, so that this was now followed by a tablespoonful of Epsom salts.

The patient's condition betokened a fulminating appendicitis, and so the family physician remained to watch carefully and record his temperature, pulse, and respiration every half-hour until he could be seen again.

In the mean time all preparations were made for an operation, and the family was advised of the necessity for surgical intervention. At 11 A.M. of the same day, Drs. J. McFadden Gaston, Sr., J. W. Carmichael, and W. Monroe Smith met me to proceed with the preparations for the operation. The patient was given morphine sulphate gr. ¼, and atropine sulphate gr. $\frac{1}{150}$ hypodermically. His pulse had shown a marked acceleration, and the pain and suffering became unbearable. Two tablespoonfuls of castor oil and one teaspoonful of spirits of turpentine were administered, but no action of the bowels took place before the operation. A. C. E. mixture was administered by Dr. Carmichael. The parts in the region of the intended incision were shaved and thoroughly cleansed with soap and water, solution of carbolic acid, and ether.

An incision one and one-half inches in length was made over the tumor noticed in the right iliac region, near the border of the rectus muscle. This was increased to nearly three inches before the operation was completed. The fibres of the transversalis muscle and the rectus were divided with tearing motion of the fingers, and finally the aponeurosis was reached, and an aperture made for the insertion of a director which was used to guide the scissors in cutting. In the same way the peritoneum was divided.

A small amount of dark fluid told of disintegration of tissue in the region of the appendix. A large piece of omentum was excised after being ligated with catgut. The appendix was ligated with silk and cut with scissors. The appendix was gangrenous, and contained one enterolith. A portion of tissue near the appendix being ulcerated was excised. The stump was treated with carbolic acid and allowed to drop back with no elaborate toilet.

The whole of the area of the peritoneum that could be seen was wiped with absorbent cotton, covered with sterilized gauze, previously dipped in hydrogen dioxide. Irrigation with decinormal salt solution and hot water was used. The peritoneum was sutured with interrupted catgut sutures. The fascia, muscles, and aponeurosis were closed separately. Finally the skin was sutured with interrupted silk ligature except at the lower angle, which was left open for gauze drainage. The patient stood the anæsthetic well, and was placed in bed, and given a hypodermic injection of strychnine nitrate gr. $\frac{1}{30}$. He slept until 6 P.M., and when seen at 7:35 P.M. was not very restless. The temperature was 101°; pulse, 95; respiration, 21.

I remained with him during the night, and he was very much nauseated from the anæsthetic. The same ointment mentioned was continued on the chest and left side; the dressing on the right side was not disturbed, except for the purpose of loosening the strong bandage that became too tight as the gases of the intestines distended them. He asked for morphine and water, but neither was given him; neither was permitted. At 9:30 P.M. an enema of sulphate of magnesium ℥ vi. was given. Another hypodermic of strychnine nitrate gr. $\frac{1}{30}$ was given at 11:30 P.M., when his temperature was 99.8°, pulse 105, and respiration broken by retching. A quantity of bile was vomited. The respiration was hurried, and was not recorded at this time, but at 10 P.M. his pulse was 95 and temperature 100.2°.

Next morning at five the temperature was 100, pulse (better tone) not recorded as distinctly counted. At 8:30 A.M., temperature, 99.5°; pulse and respiration still indistinct. At night, at 10 o'clock, the temperature was 100.2°, and at 11:25 101°, but the pulse was 80, and the respiration 35. It had been found advisable to keep up every hour a tablespoonful of the following: Lime water, ℥ iii.; peppermint water, ℥ i.; camphor water, ℥ ii. Diffuse peritonitis seemed to have existed with tympanites and pain. The tongue was red and raw, of a typhoid nature, while the respiration was irregular, spasmodic, and accelerated.

The pulse, however, was the chief danger signal,

[1] "Text-book of Surgery," by John A. Wyeth, p. 684.
[2] "Principles and Practice of Surgery," by John Ashhurst, Jr., p. 972.
[3] Transactions of the Association of American Physicians, 1894.
[4] Berliner klinische Wochenschrift, Nov. 14, 1892.
[5] Virginia Medical Semi-Monthly; Medical News, July 14, 1900; Cleveland Medical Journal, August, 1900; reviewed by Journal of American Medical Association, September 18, 1900.

and in this I coincide with Dr. George F. Shrady[1] lies the chief index of the disease; or in his words, "It is wise to refuse to operate during the attack when the pulse rate lessens, when the pain diminishes, and when the temperature falls." The form of treatment instituted was that usually pursued in cases of a septic tendency. Frequent dressings were used and free drainage was secured. When the temperature and the different symptoms suggested a lack of biliary secretion, small doses of calomel were used. These produced full discharges, and great relief therefrom.

Drainage of a small piece of sterilized gauze, about one inch in width, was obtained from the stump. The use of dioxide of hydrogen was continued for four weeks. The sublimate gauze was substituted for sterilized gauze on the third day, when the wound was found to show signs of healing externally. But owing to the fetid discharge noticed on drainage of gauze, an opening was kept up. The best means thoroughly to disinfect the internal parts, and to pick out dark and necrosed tissue, were used at each dressing twice daily. The iodoform gauze was packed into the wound on the tenth day, after the stump was healing, as shown by the discharge of ligatures and the sloughed mass in which it was. The whole of the wound was filled with masses of gangrenous tissue. Upon remembering the fluctuation detected in the subdiaphragmatic region, it was thought necessary to reopen the wound and to favor drainage down through the original wound; this was the more urgent by the symptoms of pus. About this time Dr. Baldwin's paper appeared in the *Virginia Medical Semi-Monthly*. A complication of subdiaphragmatic abscess was evident. The pyogenic membrane and pus finally escaped at a dressing.

Milk was allowed for nourishment, and when no mercurial contraindicated its use, fresh buttermilk was allowed and greatly relished.

Frequently great pain was experienced in the wound, but no morphine was allowed to be used, soothing local applications being sufficient.

A combination of bromides with other sedatives served a good purpose internally. As tonics, elixir of iron, quinine, and strychnine, tr. cinchona co., and strychnine nitrate tablets were administered as indicated.

Soon after the operation great difficulty was experienced in securing movements of the bowels. For this purpose enemata of sulphate of magnesium were used. Finally a large colon tube was inserted by Dr. Carmichael, and a complete evacuation was secured.

The diet was confined to broths and soups for some time.

A record of his condition, each day, was kept, and may be judged by his temperature, respiration, and pulse in the following table below.

Date.	Hour.	Temp. (deg. F.)	Respiration.	Pulse.	Remarks.
1900.					
June 1...	7:30 A.M.	.....	..	..	Onset. Pain in McBurney's point.
June 2...	9:30 P.M.	102.0	30	..	Hypodermic of morphine and atropine.
June 3...	. .....	100.6	30	90	Pain; tenderness; tympanites, fluctuation under costal arch.
June 5...	9 A.M ...	100	20	90	When asleep, pulse 70.
	6:45 P.M.	102			
	10 P.M....	(Axilla.) 98			
June 6...	10 A.M....	99½			
	1 P.M....	101			
	8 P.M....	102			
June 7...	.....	101.2			
		101	28	90	Beef soup, chicken soup; stronger and more regular pulse.
June 8...	1 P.M....	100.6	24	100	Bowels acted.
	1:30 P.M.	108.8	20	80	Cough pain, as asleep. Calomel one-fifth of a grain every two hours.
June 9...	.....	100.1	20	90	
	.....	100.2	28	88	
June 10...	.. A.M ...	100.5	26	90	Tonic prescribed.
	8 P.M....	101.8	30	90	
June 11...	.....	.....	24	90	Iodoform gauze packed into wound.
		100.4	20	90	
June 12...	.....	.....	..	..	Coal-tar analgesics administered.
June 15...	8 A.M ...	99.5	24	90	
	2 P.M....	100.4	30	90	
	6 P.M....	101	24	90	
	4:30 P.M.	103	..	100	Irregular respiration.
June 16...	1 P.M....	101.6	26	90	
June 17...	... .	101.5	28	80	
		101.9	..	..	Variable pulse.
June 18 ..	.....	100.4	24	100	
June 19 ..	8:30 A.M.	100.2	20	90	Dressed with Z. O.
June 20...	8:30 P.M.	103	28	85	Adhesive plaster, analgesic tablet, at 8:30 P.M., 11 P.M., 4:30 P.M., 11 A.M., 6:30 A.M., and every night.
	9 P.M....	100.4	20	90	
	.....	.....	20	80	
	.....	.....	20	90	
June 21 ..	.....	.....	..	90	
	(Pulse	not count	ed.)		
	.....	.....	..	90	
	.....	100.6	..	90	
	.....	99.6	28	100	
June 22 ..	8:30 P.M.	99	..	90	
June 23 ..	1 P.M....	101	30	85	Slept several hours in morning; looks easier; discharge less offensive.
June 24 ..	9 A.M....	100	..	90	Diagnosis of subdiaphragmatic abscess complicating appendicitis.
	11 A.M ...	102	..	90	Cough releaved and pressed down pus.
	5 P.M...	103.4	..	90	Great relief.
June 25 ..	8:30 A.M.	101.5	(Not taken.)	90	Dressing sublimated gauze, and pulv. camphoræ, ʒ i., olei terebinthinæ, ʒ i., olei olivæ, ʒ i., poured on wound.
	3:15 P.M.	101.2	24	95	Pure, laudable pus on dressing.
June 26 ..	8:40 A.M.	100.2	28	..	
	10:10 P.M.	101	32	100	
		101.5			
June 27 ..	12:15 A.M.	.....	..	88	Pulse in the night of 27th, 8:20, 89; 10:05, 88 (also on night of 27th, pulse at 12:15, 87, and at 1:50, 89).
	1:30 A.M.	.....	..	85	
	.....	101.8	29	90	
June 28..	3:45	(Not taken.)	24	90	Pulse variable; once 87, again 89 and 93.
June 30 ..	8 A.M....	98.4	..	..	First time normal temperature once for two weeks.
	7:30 P.M.	99.4	..	..	
July 1...	9:30 A.M.	98.4	22	90	
	6:30 P.M.	99.4	28	86	
July 2...	9 A.M....	98.6	24	80	
July 3...	8:30 A.M.	98.6	21	80	
July 5...	.....	102	24	..	
July 6...	8:15 A.M.	100.4	32	90	
July 7...	8:45 A.M.	100.2	28	88	
July 8...	8:20 P.M.	.....	..	89	Calomel given every hour, from 8:20 P.M. to 1:20 A.M.
July 9...	8:15 A.M.	(Approximated.) 99	24	80	Pulse once 76.
	9:30 A.M.	102	..	90	
July 10...	8:45 A.M.	98	(Not taken.)	72	Dressed only at night.
	7 P.M....	99	do.		
July 11 ..	8:30 A.M.	98.4	do.	..	Strong serous discharge; dressed once only.
July 13...	.....	98.4	do	77	Very little discharge and that of a serous nature; granulating bridge; sitting up.
July 15...	....	98.8	24	92	
July 16...	.....	98	12	..	Pulse not taken.
July 17...	8 A.M....	98	24	70	Wound much better.
July 24...	.....	.....	..	..	Grape-juice relished.
July 31...	.....	.....	..	..	Recovery complete.

Some remarks may be appropriate in reference to subphrenic abscess following appendicitis, for we find that rarely does this complication occur. Baldwin's cases make the forty-fourth and forty-fifth cases. He has studied the statistics presented in the monographs of Leyden, Maydl, and Sachs, with the addition of some cases reported in this country. Many of the cases were not diagnosticated until after the death of the patients revealed the condition. Pathological examination has shown that these cases may be extraperitoneal or intraperitoneal.

Baldwin's first case was one in which the appendix was found behind the cæcum, causing him to believe that the infection extended upward behind the peritoneum, and that the entire abscess was extraperitoneal. In this case the first operation was done June 6, 1899, and not till July 20, 1899, did the presence of a chronic abscess, pointing on the right side, become evident, and on the following day was evacuated by an incision immediately under the twelfth rib, an enormous amount of pus coming from a large cavity lined with ragged edges and extending up toward the diaphragm above the liver. After the rough drainage the cavity closed in about six weeks.

The second case was in a young lady, sixteen years

[1] The American Year-Book of Medicine and Surgery for 1898, p. 310, quoting Treatment of March 25, 1897.

old. She was operated on the first time July 26, 1899, and then again on August 28, 1899. The last time was for the subphrenic abscess which had appeared below the twelfth rib. The liver was found normal, but with a mass of exudate back of the suspensory ligament with evident adhesions at this point. Baldwin describes the pus cavity found as about the size of a small orange, with a somewhat ragged interior, which was washed out, with a counter-opening for drainage. In this case the abscess cavity was packed with gauze, and closed in two weeks.

In my case the symptoms from the start were evidently due to a subphrenic abscess from fluctuation below the twelfth rib and the rapid respiration. A channel, so to speak, was opened up by the cutting away of a large obstruction of adherent omentum during the operation for appendicitis.

The pyogenic membrane must have been very strong, as no pus was evacuated from this region when it was explored by my fingers. No septic contamination resulted on account of this thorough isolation of the subphrenic abscess from the appendical wound. The extension of the inflammation may have been extraperitoneal as in Baldwin's case. The direction of the discharge was from the diaphragm as shown by coughing and deep respiration bringing on quite a sudden outflow of pus. It could not have been an appendical abscess alone, for no connection with this part of the wound seemed to exist. In Baldwin's cases there was a longer interval between the subsidence of symptoms in the appendical region before pus was found above. Yet the case I report was so much more protracted that no other explanation could be given. Then the recovery was very prompt and permanent. The outcome was peculiarly fortunate, not requiring another operation.

One may seek to find, in his previous history, some cause for this subphrenic abscess; and it was ascertained that he had received a blow in his work on the railroad several months before. The pain and inflammation at this time remained in abeyance until after the time when the appendix was involved. The subdiaphragmatic abscess was certainly the most dangerous feature of his case, and could not have been cured by the entire closure of the wound as advocated by Joseph Price and others dealing with appendical abscesses alone.

SURGICAL TREATMENT OF ABDOMINAL DROPSY FOLLOWING CIRRHOSIS OF THE LIVER.[1]

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In writing the following article and reporting the case appended, I do so that I may call the attention of the profession to this heretofore incurable condition. I report the case, not that it, as yet, proves anything for the operation, but simply use it as an illustration and text in an effort to popularize the surgical procedures narrated. I sincerely trust that the profession will take up this subject and give these unfortunates an opportunity to get well.

From time immemorial, abdominal dropsy following cirrhosis of the liver has been considered an incurable condition. We have all recognized it as invariably fatal, and, until the last few years, but few if any of all the thousands suffering from it have had the inevitable end postponed by anything which we could do.

A pathfinder has been at work for these hopeless ones. In 1889 Von der Muele performed the operation which I shall describe below, but it was unsuccessful. In 1891 Schelky had a like unfavorable issue to his case, death following from septic peritonitis. In 1892 Lens, of Holland, operated. His patient survived the operation, but was not cured of the dropsy. Morison's first case also resulted fatally, but the second patient not only recovered from the operation, but from the dropsy as well. This operation was performed October 22, 1895.

Since this date, ten cases have been reported, the last one by Dr. Charles H. Frazier, of Philadelphia. This patient was tapped on the thirteenth and thirty-sixth days after the operation. At the end of five months the dropsy had not recurred, and thus was added another to the list of successful cases. For the connected history of this operation and tables of all reported cases I am indebted to Dr. Charles H. Frazier, of Philadelphia, and his article in the *American Journal of the Medical Sciences* for December, 1900. More than a year ago I offered this operation to a patient, but it was declined. I have had no other case until the one presented, the details of which will follow.

Nature attempts to do the thing for which the operation was suggested, viz., to make collateral channels by means of which the portal blood can get back to the heart by other than its normal route. We have all noticed the enlarged veins coursing over the abdomen and the caput Medusæ about the navel. According to Frazier, there are other vessels which have also engaged in this effort to save these patients—the "coronaries anastomose, through the œsophageal plexus, with the azygos veins; the hypogastric with the hemorrhoidal; the veins of the hepatic ligament with those in Glisson's capsule; the veins of the round ligament with the epigastric." All this, however, has not sufficed to carry this portal blood around the obstruction, and hence the surgical procedures, which have been crowned with success.

Operation: This consists of abdominal section, preferably between the umbilicus and ensiform cartilage, evacuation of the accumulation of fluid, and scraping of the parietal peritoneum with a curette or rubbing off of its epithelium by means of a gauze sponge. The superior surface of the liver and the peritoneum covering the diaphragm are also to be rubbed. The omentum for three or four inches around the incision is then to be stitched to the parietal wall. It is also included in the sutures which close the abdominal incision. Thus a broad surface is presented for adhesions, and it is this additional collateral circulation which has saved these patients. Of course these people are not cured at once of their dropsy, but nature must have time to enlarge this additional collateral circulation until it can do the work expected. To this end these patients may be compelled to have the water drawn off several times.

Indications for the operation: I believe every patient suffering from ascites, as a result of cirrhosis of the liver, should be subjected to this operation. Of course a new thing is likely to be abused, and bad diagnoses will be made and patients subjected to section who should not be; still, the operation has a great future before it, and is destined to prolong many lives. As a rule, these patients are past the prime of life and are rapidly going down hill when they are first seen; hence they are not very promising cases for the surgeon's knife and the anæshetic. Because of these facts local anæsthesia is advised by Frazier. Experiments have demonstrated that the passage of the portal blood direct from the portal veins into the vena cava is fatal to dogs because of the auto-intoxication which follows, by reason of the fact that the liver has had no opportunity to purify this blood. Some of the patients saved by the operation have complained of certain nervous symptoms due to auto-intoxication.

[1] Read before Central Texas Medical Association, Fort Worth, Tex., June 9, 1901.

TABLE NO. I. (FROM FRAZIER).

No.	Operator.	Sex.	Age.	Conditions Found at Operation.	Result.			Remarks.
					Immediate.	Ultimate.	Ascites.	
1.	Drummond and Morison.	Female.	48	Liver enlarged; surface smooth.	Recovery.....	Death 19 months...	Recurrence.	Required frequent tappings.
2.	Drummond and Morison.	Female.	35	.....	Recovery	Recovery[1]	No recurrence.	Perfectly well after lapse of two years.
3.	Morison.....	Male.	42	Liver cirrhotic; spleen enlarged.	Recovery.....	Recovery	No recurrence.	Suffered from nervous phenomena, result of intestinal intoxication.
4.	Morison.....	Male.	54	Cirrhotic liver; splenic tumor.	Death 11th day.	.....	.....	Patient died, supposedly from contracted kidneys.
5.	Ewart.....	.....	....	Liver not cirrhotic..... ...	Recovery.....	Death several months.	Recurrence....	Operation had no effect on ascites.
6.	Schelky.....	.....	....	.....	Death 14th day.	.....	.....	Patient died of delirium tremens.
7.	Lens.	Male.	61	Atrophic liver	Recovery.....	Death 6th month...	Recurrence....	Failure of operation attributed to atrophic condition of liver.
8.	Talma.....	Male.	9	Liver enlarged; surface granular; parenchymatous nephritis.	Recovery.....	Recovery.....	No recurrence.	The patient was perfectly well twenty-six months after operation.
9.	Neumann.....	Male.	45	Splenic tumor.....	Recovery	Recovery.....	No recurrence.	Patient had no ascites six months after operation.
10.	Weir.....	Male.	39	Liver capsule thickened; spleen bound by adhesions.	Death 5th day.	.....	.....	Patient died of purulent peritonitis.
11.	Rolleston and Turner.	Male.	45	Surface of liver granular; splenic tumor.	Recovery.....	Recovery.....	No recurrence.	Patient when seen four months afterward was perfectly well.
12.	Rolleston and Turner.	Male.	52	Liver cirrhotic.....	Recovery.....	Unimproved.....	Recurrence....	Patient four months after the operation was bedridden; ascites and œdema of the legs.
13.	Bossowski.....	Female.	9	Liver cirrhotic.....	Recovery ...	Recovery.....	Recurrence....	Ascites developed less rapidly after operation.
14.	Frazier.....	Male.	45	Liver cirrhotic; omentum short and thickened.	Recovery.....	Recovery.....	Tapped twice..	Three months after operation there is no evidence of reappearance of ascites.
15.	Jelks	Male.	59	Cirrhosis and atrophy.....	Recovery.			

[1] Died from effects of an operation, two years later, for ventral hernia.

Results: From the table quoted above we see that three died within two weeks of the operation—one from contracted kidneys, one from septic peritonitis, and one from delirium tremens, who, while delirious, tore off the dressings and infected the wound. In two of the cases reported, the liver was not cirrhotic.

TABLE NO. II. (FROM FRAZIER).

Died within two weeks.....	3
Died in nineteenth month without improvement.....	1
Died in sixth month without improvement.....	1
Died in sixth (?) month without improvement.....	1
Living, but unimproved.....	1
Living and slightly improved.....	1
Living and free from ascites at periods of 3, 4, 6, 24, 24, and 26 months respectively.....	6

Excluding those cases of failure for which the operation should not be held accountable, the following remain:

TABLE NO. III. (FROM FRAZIER).

Died within two weeks.....	0
Living, but unimproved.....	1
Living and improved.....	1
Living and free from ascites at perlods of 3, 4, 6, 24, 24, and 26 months respectively.....	6

A comparison between these two tables would be expressed in figures as follows:

Mortality,	Table No. I.,	21	per cent.;	Table No. II.,	0	per cent.
Unimproved	"	"	28	"	"	"	12.5	"
Improved	"	"	8	"	"	"	12.5	"
Recovery	"	"	43	"	"	"	75	"

J. L. B——, aged fifty-nine years, last summer, while visiting the summer resorts of the north, noticed that his abdomen began to enlarge, and by the time he returned home in September it was very greatly distended. When I saw him, I at once proposed cœliotomy, with the object of forming adhesions between the omentum and the parietal peritoneum. To this operation he declined to consent, and I resorted to purgation and diuretics, with only temporary relief. At the request of the family, Dr. W. S. Walker, of our city, was called in consultation, and he independently advised cœliotomy also. Again the patient and family declined it, and the former was tapped, twenty-nine pints of water being drawn off. Purgation and diuretics were continued as before, with only temporary amelioration of his symptoms. Finally, after many consultations and a candid explanation of the inevitable end which stared him in the face, he consented to the operation. On December 20th he was removed to the Ozark Sanatorium and careful preparation made for the operation. The day before the operation he was again tapped, and three gallons of water were drawn off.

Operation: I made an incision four inches long, in the median line, between the umbilicus and the ensiform cartilage, and evacuated several pints more of fluid. Then the peritoneum was vigorously rubbed with a gauze sponge for four inches around the incision. The same surface was curetted with the sharp curette; the surface of the liver was also rubbed, after which the omentum was stitched to this denuded parietal peritoneum for three inches on either side. The incision was closed without drainage, by stitching the omentum into the wound with fine catgut sutures; the fascia was then brought together first, by four silkworm gut sutures, and the interspaces were closed with heavy catgut; lastly the skin was brought together by subcutaneous sutures of fine catgut. I was assisted in the operation by Dr. W. S. Walker, Dr. T. E. Holland, Dr. Randolph Brunson, and Paul Turner Vaughan, of Hot Springs, and Dr. Frank W. Jelks, of St. Louis.

The day after the operation his temperature was 97.5° F., and remained so for three days or more. On the fourth day it rose to 98.6°, and remained so. On the eighth day the dressings were removed, and union throughout was perfect, no redness and no tenderness remaining.

For the first twelve hours I permitted nothing in his stomach. At the end of that time he was allowed one teaspoonful of water every hour for twelve hours, when a teaspoonful of a peptonized preparation was given every two hours. On the following day the preparation was increased in amount. On the third day he was given a raw egg in a little sherry wine every four hours. On the fifth day the soft part of a few raw oysters and bouillon were added to his diet. On the seventh day milk was permitted and all the water he wished.

Sleeplessness in Heart Disease and its Treatment.—C. C. Gibbes states that sleeplessness in advanced heart disease is in a large majority of cases

due to the heart itself; but when the diseased heart is compensated, or only commencing to fail, sleeplessness is most frequently caused by irregularity of some of the other organs of the body, the heart being secondarily affected. Consequently the administration of hypnotics without specially treating the exciting cause is only injuring the patient, by masking nature's outcry for help. Inability to sleep is always a most significant symptom. The causes may be divided into nervous and vascular. The capacity for sleep varies, depending on many conditions. The treatment specially required to prevent the recurrence of sleeplessness in heart disease itself may be summed up as follows: (1) Correct as much as possible any constitutional tendency to sleeplessness. (2) Minimize as much as possible the amount of work required of the heart. (3) Improve the tone of the heart-muscle. (4) Treat complications as they arise. The food should be of a light, nourishing character. Salines or some other aperient and mercury greatly relieve the work of the heart. Means should be taken to prevent any chilling of the body surface. The patient's mode of life should be carefully regulated. The writer then briefly describes the most essential hypnotics.—*The Clinical Journal*, January 16, 1901.

Hernia of the Bladder, with Especial Reference to its Pathogenesis.—R. Alessandri says that this affection arises from several causes. Distention and flaccidity of the bladder walls, with diminished resistance of the abdominal walls, are the most important factors in the production of extraperitoneal cystocele. Accumulations of fat may also favor its formation. Congenital diverticula, asymmetry of the bladder, as well as alterations in form secondary to various pathological conditions of the lower urinary apparatus are also to be taken into account. For the formation of intraperitoneal hernia there must be an unusual and almost exceptional mobility of the bladder, accompanied by marked distention and flaccidity of the abdominal walls.—*Il Policlinico*, January, 1901.

Relation of Eye Strain and Pneumogastric Reflexes to Digestive Disorders.—A. L. Benedict says that if we allow the use of the term "eye strain," not in the usual sense of an effort to correct a visual error, but just as we would speak of cardiac strain, or strain of any other normal part by overexertion, he is prepared to admit that it is a very frequent cause of acute gastric symptoms, such as nausea and vomiting. It is not safe to say that sick headache is always due to eye strain, but it does often result from a depression of pneumogastric function by ocular reflexes. The frequency of sick headache in summer is quite as much due to straining the eyes in brilliant sunshine for a long period as to the danger of fermentation in food on account of the heat. Scorchers' sick headache is a good example of the results of eye strain, caused by the effort to fix the eyes on the road while subject to constant vibration of the bicycle; the streaming past the field of vision of objects in the road, the brilliance of illumination on a sunny day, etc., constitute an overexertion of the extrinsic muscles, the ciliary and the iris, as well as a prolonged and marked stimulation of the rods and cones. Car-sickness is, in some persons, a closely analogous condition and due to the same detailed causes.—*Medicine*, January, 1901.

Pathology of the So-Called Functional Neuroses.—Theodore Klingmann finds from a series of experiments that the action of toxic blood of patients suffering from functional nervous disorders is quite as marked as that of those suffering from acute infectious diseases. It is thereby shown that the disease is not really a product of the structural alterations which may be present, but of a hurtful substance or poison capable of producing these structural changes. When we observe such cases early, we may well say that they are functional neuroses, unless we recognize this condition—a toxæmia due to deficient metabolic power and retarded elimination—the injurious effects of which have been demonstrated in the above experiments. Not only are the higher centres ill nourished, but they are irretrievably damaged, their working-power is annulled, and the whole train of evils follows even to insanity. A considerable number of the individuals suffering from these maladies are from the outstart handicapped; they have inherited a feeble organization, their resistive power is diminished, the functions are perverted most readily, and the entire organism reacts with readiness to these injurious attacks. It is therefore not surprising that an accumulation of a deleterious agent in the nutrient fluid of the body should overstimulate, depress, or destroy the functions of the nervous system when morbid heredity previously exists.—*American Journal of Insanity*, January, 1901.

Studies in Regard to the Decidua in Abortions.—M. Barberio, from the result of experimental studies, concludes that in some cases the abortive products may consist entirely of the decidual sac. The absence of the embryo must be supposed to be due to its death in the early stages of gestation, its degeneration and absorption. The decidua is formed by the transformation of all the elements of the uterine mucosa, with the exception of the lining epithelium. The hæmatopoietic and vaso-formative properties of the decidual cells have not yet been established.—*Giornale della Associazione Napoletana di Medici e Naturalisti*, November-December, 1900.

Origin of Hallucinations.—W. Alfred McCorn says that hallucinations are not new creations; they are composed either of present or of latent memory pictures or ideas, and are accordingly designated concomitant or spontaneous, respectively. They are not due to an external stimulus, but to one within the sense organ itself—one acting on its sensory tract or the sensation cells of the brain cortex. Hallucinations may affect any or several of the senses simultaneously, and influence thought and action according to their contents and the importance ascribed to them by the patient. They may be due to toxic conditions—whether caused by drugs or infectious diseases, disorders of nutrition, the effects of extreme heat or cold—and often accompany the functional neuroses. They are particularly common in paranoia and dementia in their various forms, but occur more rarely in the effective psychoses.—*American Journal of Insanity*, January, 1901.

Treatment of Epilepsy by Richet's Method.—Guido Garbini describes the results of this method, which consists in diminishing the amount of salt ingested by patients while they are taking bromides. The effects of what he calls "hypochloridation," combined with small doses (one gram) of bromide, was to reduce the attacks seventy-three per cent. Without bromides, the reduction amounted to sixty-five per cent. The duration of the attacks was diminished about two-thirds. No unpleasant results follow the treatment, which, however, is better tolerated by men than by women. The effects of the treatment are the same, whether the bromides of sodium, potassium, or ammonium are used. The patients experimented upon were given milk, potatoes, eggs, coffee, beef, sugar, and butter, the amount of salt in which was about 2.19 gm., and the addition of salt was absolutely forbidden. The treatment is of easy application.—*Rivista Mensile di Neuropathologia e Psichiatria*, February 1, 1901.

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TUBERCULOSIS AMONG THE POOR.

THE terrible ravages of pulmonary tuberculosis among the poor is only too vividly shown in the statistics recently published by the prefect of police of Paris, while it appears that among the rich the mortality is comparatively light. To be sure, that the rich furnish fewer deaths from consumption in a city's statistics can in part be explained by the fact that they have the means to seek better climates and thus die away from home, that they have earlier medical attention and hence an early diagnosis, and that better food and more leisure allow them a chance for recovery; and, on the other hand, that the disease, being of a chronic nature and thus gradually impairing the earning capacity of the individual suffering from it, forces him step by step into poorer and yet poorer quarters until, from a simple lack of funds, he ends his days in the worst and cheapest districts. Notwithstanding all these considerations, the statistics point only too clearly the lesson that good surroundings mean comparative immunity. According to the prefect's report, the average number of deaths per ten thousand inhabitants is, in the poorest quarters, sixty-five; in the quarters occupied by the working class, somewhat less; in the well-to-do quarters, thirty-five, and in the richest districts only twenty. To make the lesson still more obvious, the report shows that only fourteen deaths per ten thousand per annum occurred in the Champs Elysees quarter, while in the Buttes-Chaumont district it reached sixty-nine, nearly five times as large a number.

In Hamburg the statistical evidence, as given by Gebhart, points the same moral; for according to him the death rate among those having less than $500 per annum income is forty per ten thousand, while among those whose income is above that figure the rate is but fifteen per ten thousand..

Can we not learn from these proofs, better than from any theory, that the efforts of our various boards of health should in future be directed toward bettering the hygienic conditions existing in the poorer quarters, rather than in the segregation of the individuals already affected? The enforced limitation of building-space on specified land areas, the control of the height of buildings used as lodging-places, the assured entrance of light and air—the best of all disinfectants—into each and every room, all these would constitute practical, applicable, and effective means of checking this white plague. Would it, in the end, be too expensive if we could save thousands of producing workers who, as Mr. Carnegie has so generously acknowledged, are the real sources of wealth?

The protection of the hygienic surroundings of the poor would without doubt not only check the spread of tuberculosis, but many other diseases would also become less frequent. Such a measure would protect the rich as well as the poor, for the distribution of the infectious material would in turn be lessened throughout the whole city, and a common expense would be for the common good.

SOME OF THE MOTOR MANIFESTATIONS OF FACIAL PARALYSIS.

APART from variations in symptomatology due to differences in the situation of the causative lesion, paralysis of the muscles supplied by the facial nerve is not rarely attended with anomalous manifestations. Thus, there is sometimes impairment of sensibility upon the face or the tongue, or taste may be partially lost, or the movements of the palate may be interfered with. The results of an elaborate study of the disturbances of taste, and the secretion of sweat, saliva, and tears in connection with facial palsy, have recently been reported by Köster (*Deutsches Archiv für klin. Medicin.*, B. xxviii., H. 3 u. 4, p. 343); while Bernhardt (*Berliner klin. Wochenschrift*, 1900, Nos. 46 and 47) directs attention to some of the anomalous motor disturbances. The latter had previously (*Berliner klin. Woch.*, 1899, No. 31), in discussing the question of so-called congenital facial palsy, expressed the opinion that such a condition undoubtedly occurs—or, perhaps, rather a defect in the development of the facial muscles. This may be unilateral or bilateral, and it may involve completely or partially the ocular muscles and less commonly those supplied by other cerebral nerves, as the muscles of the lips and the chin.

It has been noted by a number of observers that at times stimulation of muscles upon one side of the face is followed by contraction not alone of these muscles, but also of the corresponding muscles upon the opposite side. An explanation of this fact is to be found in some cases in the anatomical condition, some of the muscular fibres passing from one to the other side of the face. In a girl presenting symptoms believed to be due to inflammation of the pons occurring in childhood, and attended with unilateral facial paralysis, Oppenheim (*Berliner klin. Woch.*, 1899, No. 19) had found that electrical stimulation of the facial nerve on the unaffected side induced contractions of some of the facial muscles on the opposite side close to the middle line, and this with current strengths insufficient to induce contractions on the unaffected side or directly upon the affected side; and he attributes the phenomenon to innervation of the muscles on the affected side by possibly newly formed nerve fibres from the unaffected side. Observations apparently in confirmation of this view were subsequently reported by Mohr (*Berliner klin. Woch.*, 1900, No. 30, p. 851).

Weir Mitchell (Transactions of the American Neurological Association, 1877, vol. ii.) had many years previously observed that electrical stimulation of the muscles of the chin or the lips near the middle line caused contraction of the muscles on the opposite side, both in health and in disease. This was at first thought to be due to reflex action, but it was later attributed to currents induced between and beyond the two poles, and this explanation appeared to be supported by the results of certain experimental observations. Hoffmann (*Deutsche Zeitschrift für Nervenheilkunde*, B. ix., p. 266) has reported a case possibly of encephalitis, with unilateral facial palsy, in which electrical stimulation of the unaffected side induced more marked and more extensive contraction upon the paralyzed side; and he concluded that the manifestation was reflex.

Benedikt ("Electrotherapie," 1868, p. 65; "Nervenpathologie und Electrotherapie," 1874, p. 98) had expressed the opinion that crossed reflexes due to electrical stimulation of one side of the body, paralyzed or unparalyzed, occurred only in connection with lesions of the pons Varolii. This view was opposed by Brenner ("Electrotherapie," B. ii., pp. 175, 241, 1869), who reported cases in which, together with increased irritability to both galvanism and faradism of the muscles involved in peripheral facial palsy, reflex contraction of muscles upon both the paralyzed and the unparalyzed side took place, the muscles on the paralyzed side contracting in response to currents that induced no movement in the muscles of the unparalyzed side. The contraction became the less marked the more closely to the ear the electrode was applied. This peculiarity was attributed to diffusion of the current, acting upon the more irritable muscles of the paralyzed side. When the current strength was increased to such a degree that contractions occurred on the unparalyzed side, those on the paralyzed side were submerged. An observation in which, in a case of peripheral facial paralysis, contraction of the muscles upon the unparalyzed side took place on stimulation of the muscles on the paralzyed side, is recorded also by Rosenthal ("Handbuch der Diagnostik und Therapie der Nervenkrankheiten," 1870, p. 22; "Electrotherapie," 1873, p. 295). Petrina (*Prager medicinische Wochenschrift*, 1880, Nos. 39 and 40) has reported a case probably of disease of the pons, and Senator (*Archiv f. Psychiatrie*, B. xiv., p. 643) one shown by autopsy to be such, in which this reflex facial contraction was noted. Other observers have described an analogous phenomenon in other parts of the body in association with other conditions.

From a consideration of all of the evidence, Bernhardt reaches the conclusion that in isolated cases of either central or peripheral facial paralysis, on electrical stimulation of both the paralyzed and the unparalyzed side, so-called reflex movements occur upon the unstimulated half of the face. Although it is probable that this, is more common in the presence of pontine than of other cerebral lesions, it occurs also in connection with peripheral facial paralysis. A discrimination between the central and the peripheral seat of the lesion is not to be based upon the presence or absence of this symptom. Its presence is not related to the preservation of sensibility on the affected side of the face. The mode of origin is not clear in a large number of cases. In some, particularly when degenerative reaction is present, it is clearly not reflex, but is probably due to diffusion of the current. In a smaller number, without degenerative reaction, it is also due to diffusion. Further, in some cases dating from early life, and probably congenital, contraction especially of the muscles near the median line of the chin and the lower lip occurs on stimulation of the healthy side, in consequence of the passage of healthy muscle fibres from the unaffected to the paralyzed side. Finally, there are cases dating from birth or early life in which stimulation of the muscles on the healthy side causes contraction only on the opposite side, even when the irritability of the muscles on this side is diminished, and for which an explanation is yet wanting.

NEW JERSEY BOARD OF EXAMINERS, AND MEDICAL LICENSES FROM OTHER STATES.

In the annual report of this board, recently issued, is the following statement:

During the past year this board has taken an advanced step in the direction of interstate reciprocity of medical licenses. This problem has been discussed in the meetings of the National Confederation of State Examining and Licensing Boards for several years past, with but little progress toward its solution. State sovereignty forbids the establishment of a national examining and licensing board whose certificate would confer the right to practise in all the States. The question, therefore, naturally reverts to State medical boards and to their securing such legislation as will make the minimum academic and medical requirements, and the kind and grade of State examination, equal, or substantially the same, in the different States. When this unity of action and aim is attained, reciprocity of medical license between the States can be justly adopted. The preliminary requirements of this board, as previously stated, the grade and scope of the examination, and the average percentage required, secure a State license, fully meet, it is believed, the demands of the State in the protection of its citizens from incompetent and fraudulent practitioners of medicine, and the interests of the profession in uplifting and maintaining its highest standards. With these objects secured, this board desires to extend every professional courtesy to licentiates of other State examining-boards whose requirements and examinations are substantially the same as those of this board. To meet this end, this board, at the annual meeting in July, decided to endorse the certificate of examination and license of any State examining and licensing board in the United States, in lieu of an examination, under the following conditions:

1. That the academic education of the candidate meets the requirements of this board.

2. That the candidate's period of medical study meets the requirements of this board.

3. That the candidate must have passed a State medical examination of substantially the same grade and kind as that required by this board, and must have been duly licensed.

4. That the candidate must have obtained a general average of not less than seventy-five per cent. in the subjects examined.

The action of the New Jersey State board of medical examiners is progressive and enlightened. Interstate reciprocity of medical licenses must come sooner or later throughout the United States. The times, however, are not altogether ripe for this event, so that other means must be devised to better the situation, until the whole country has agreed upon a satisfactory *modus operandi*. The plan arrived at by the Jersey board appears to be a workable and unselfish interim method of clearing up the difficulty. The most gratifying phase of the question is that such a movement is likely to create a feeling of emulation and incite other States to similar efforts to improve the standing of the medical profession in all parts of the United States. Pending the introduction of universal interstate reciprocity, a general interchange of licenses will be a great advance in that direction.

News of the Week.

The Middleton Goldsmith Lecture of the New York Pathological Society will be delivered at the New York Academy of Medicine, No. 17 West 43d Street, on Tuesday evening, March 26th, at 8:30 o'clock, by Prof. Charles Sedgwick Minot, M.D., professor of histology and human embryology, Harvard Medical School. The subject is: "The Embryological Basis of Pathology."

American Academy of Medicine.—At a well-attended dinner given at Philadelphia on March 16th by fellows of the American Academy of Medicine of that city and its vicinity, addresses were made by Drs. S. D. Risley, Charles McIntire, G. Hudson Makuen, W. W. Keen, and others on the objects of the Academy, and it was agreed to form a local branch, to meet in the intervals between annual meetings and in other ways foster the spirit and promote the aims of the academy.

Attendance at Swiss Universities.—The number of medical students is decidedly on the increase, without any obvious reason in the way of demand. The number of medical students for the winter term, 1900-1901, amounts to 1,375, thus distributed among the different universities: Basle, 145; Bern, 388; Geneva, 357; Lausanne, 183, and Zurich, 302. The number of women, especially of foreign women studying medicine in Switzerland, has greatly increased. Of these the Russian female students are the most numerous, comprising 47 per cent. of the whole. Only 21 are of Swiss nationality.—*Lancet.*

Spread of Smallpox in Scotland.—The outbreak of smallpox in Scotland continues to spread and to occasion grave concern to the health authorities. Cases are reported from a large number of districts, mostly in the western and central counties, but the wide range which the outbreak has attained can be appreciated from the fact that the disease has appeared in places so widely separated as Dundee, Fifeshire, Morayshire, and Dumfriesshire. Everywhere the sanitary officials are exercising the utmost vigilance to check the further spread of the epidemic. A very large proportion of the cases in other districts can be traced to Glasgow, where, notwithstanding certain fluctuations in the returns from day to day, the increase in the number of cases has been steady.

Physicians in Canadian Parliament.—Eighteen doctors have been elected members of the new Dominion parliament. Among the few conservatives who escaped the landslide, we are gratified to see the name of Dr. Roddick. It would have been a distinct loss to the medical profession of Canada had he been defeated, especially when the efforts to establish a licensing board for the Dominion are within a reasonable distance of success. Dr. Roddick has given much time and has shown energy and ability in overcoming the difficulties in the way of this scheme, and has rendered a public service in the interests of not only the medical profession but the community at large, deserving the highest praise.

The Period of Incubation of Yellow Fever.—Dr. H. R. Carter, surgeon of the Marine-Hospital service, writes:

"Please do me the favor to publish this emendation to an article of mine—'The Period of Incubation of Yellow Fever'—which appeared in the MEDICAL RECORD of the 9th instant:

"In the table of cases under Class III., *i.e.*, cases which, having had only a single exposure to infection, give a definite period of incubation, are four cases of one family, Mr. L——'s, at Taylor, Miss.; giving intervals of eight and eight and one-fourth days between the recognized exposure and the development of the disease. In giving the details of these cases the writer stated that they would be considered doubtful, and hence not considered under the principles which had obtained in selecting the others, and he gave reasons why he judged best to admit them to record. Since then an examination of the locality shows that Mr. L——'s house was only one hundred yards from a station house, then abandoned because two cases of yellow fever had developed there a short time before. This is too close to be excluded as a source of infection for Mr. L——'s family; and, taking it into consideration, the claim that the exposure of these people on August 3d was the only exposure to which they were subjected—and hence the infecting exposure—although from attendant circumstances probable, becomes doubtful, and these cases should not have been included as certainly in Class III.

"This class then gives twelve cases with incubation of from three to five and three-fourths days—one only reaching (two exceeding) five days."

The Medical Course of the University of Pennsylvania.—Provost Harrison, of the University of Pennsylvania, calls our attention to a misunderstand-

ing of his recent report concerning the length of the medical course. He writes: "As a matter of fact, the action which the trustees of the University have taken, upon recommendation of the faculty of medicine, has been to require a full four-years' course—abolishing admission to the second year of the medical course, of college graduates in arts and science who had fulfilled certain requisites; and the rule to which my report referred, and which will take effect with the beginning of the session, September 1, 1901, is as follows:

"'Any graduate in arts or science of a college (recognized by this University), who has completed the studies of the first year of the medical course, viz., chemistry, elementary anatomy (with special reference to histology, osteology, syndesmology, and myology), physiology (excepting heat mechanism and nervous system), or bacteriology, or any one of them, as detailed under the heading "Outline of the Course" on p. 47 of the "Medical Department Catalogue"; and who has passed satisfactorily the examinations given by the professors of the respective branches in this medical school—may be excused from that portion of the study given in the first year of the course, provided that he utilize the time scheduled for that study in advanced work in chemistry, anatomy, physiology, or bacteriology, according to his preference and capabilities, or in anticipating work of the second year, in so far as the official roster will permit.'

"It will be observed that, while the requirement of four full years is still imperative, as is demanded by the present status of medical education, provision has thus been made for avoiding duplication of work."

The Low Death Rate of Havana.—According to the recent report of Dr. W. C. Gorgas, chief sanitary officer of Havana, the deaths in the month of February have been fewer than in any February of which there is any record, the minimum being that of 1893, when there were 446 deaths, and the maximum that of 1898, when there were 1,602. This is not only less than for any February since 1890, but actually less than for any month of the preceding twelve years, the lowest in any month being 444 deaths, in November, 1900. The average for the ten years succeeding 1890 was 746 deaths. The rate per thousand—19.32—makes even a better showing. The last February of the Spanish rule, 1898, gave a death rate of 82.32 per thousand; February of 1901—the third February under American rule—a death rate of 19.32. This is a very creditable death rate, and places Havana in the class of healthy cities of the world. Many of the cities of the United States and Europe have a higher mortality rate than this. According to the latest figures from the Marine-Hospital reports, Baltimore, with a population of 334,489, for the week ending January 26th, had 225 deaths—a death rate of 26.93; Cincinnati—population 326,000—for the week ending January 25th, had 142 deaths—death rate 22.65; Boston—population 560,892—for the week ending January 26th, had 260 deaths—death rate 24.10; Jacksonville—population 17,201—for the week ending January 19th, had 16 deaths—death rate 48.37; Newark, N. J.—population 246,070—for the week ending January 19th, had 107 deaths—death rate 22.61; New Orleans—population 287,000—for the week ending January 19th, had 156 deaths—death rate 28.26; New York—population 3,437,202—for the week ending January 26th, had 1,432 deaths—death rate 22.42; Washington—population 278,719—for the week ending January 19th, had 141 deaths—death rate 26.60; Belfast, Ireland, for the week ending January 5th, had 165 deaths, with a death rate of 23.90; and Mobile—population 38,469—for the week ending January 16th, had 22 deaths—death rate 29.73. It will be seen that most of the cities have a much higher death rate than Havana. Jacksonville, Mobile, and New Orleans, all have a higher death rate than Havana, and there can be no doubt that we would find such to be the case with other Gulf cities if we could get statistics on the subject. At present they look upon Havana with suspicion, but in the near future, Havana will have to guard against them. Taking cities in the yellow-fever area, such as New Orleans, Mobile, Pensacola, Tampa, Key West, and Havana; those in bad sanitary condition, as shown by their high death rate, would be more likely to become infected than a city such as Havana, which is in first-class condition, as shown by its low death rate. During February of 1900, there were 17 new cases of yellow fever; in February of 1901, 8 new cases. As the number of non-immunes was very much larger in February of this than in that of last year, the showing is thought to be very encouraging. Besides disinfecting the houses with formalin and other disinfectants, the rooms occupied by a yellow-fever patient are screened, as soon as his case is reported, and all the mosquitos in the building are killed with the fumes of pyrethrum powder, at the same time that all places where mosquitos can breed about the building are covered with kerosene oil. The mosquitos are also killed in all the adjoining buildings in the same way. With these measures and the steps being taken to kill the mosquitos in the suburbs, Dr. Gorgas hopes to decrease the yellow fever during the coming summer.

The New York Medical Society for Clinical Research.—A society bearing this name has just been organized, with the object of encouraging young physicians in thorough clinical work and original research. To further these purposes, a library and laboratory have been established wherein the members may do their special work. The officers for the ensuing term are: *President*, Dr. Gutman; *Vice-President*, Dr. Mandel; *Secretary*, Dr. Lubman; *Treasurer*, Dr. Spirac. Any person who is a duly licensed regular practitioner is eligible to membership.

Pathological Society of Philadelphia.—At a stated meeting held March 14th, Dr. Joseph McFarland presented a communication on "Snake Venom," detailing a series of experiments directed to the production, according to the methods of Calmette, of an anti-venom that should be protective against the poisons of American snakes. Dr. David L. Edsall read a paper entitled "Carbohydrates of the Urine in Diabetes In-

sipidus." Dr. W. M. L. Coplin described "A Convenient Method of Staining a Number of Sections on One Slide," and also "A Modification of the Staining Methods of Claudius and Van Gieson." Dr. Müller presented a specimen of "Multiple Aneurism of the Aorta," from a man thirty-seven years old, in whom death resulted from catarrhal pneumonia. A saccular dilatation was present at the junction of the ascending and transverse portions of the arch of the aorta, and another at the junction of the transverse and the descending portions of the arch.

Louisiana State Medical Society.—The next meeting will take place in New Orleans, April 18, 19, and 20, 1901, and the sessions will be held, as usual, at the Medical Department of Tulane, on Canal Street.

The American Laryngological, Rhinological and Otological Society. — The seventh annual meeting of the American Laryngological, Rhinological and Otological Society will be held at the New York Academy of Medicine in the city of New York, May 30, 31, and June 1, 1901.

Large Gift to a Medical College.—John Du Bois, of Du Bois, Pa., has given $1,000,000 to Dunham Medical College. The officials of the college say that the gift comes as a thank-offering for benefits received by his wife in treatment by members of the college.

Defeat of Undesirable Legislation.—A bill to amend the law by which the bodies of those dying in public institutions can be claimed for burial only by relatives has just been defeated in the Pennsylvania Legislature. The object of the amendment was to extend the privilege of claim to "friends," and its passage would have deprived the anatomical board of many subjects that it now receives and needs for dissecting and teaching purposes.

Philadelphia Pediatric Society.—At a stated meeting held March 12th, Dr. J. A. Scott read a communication on "Intestinal Sand." After referring to the paucity of the literature on the subject, including that of cases in which the material consisted of elements derived from the food, he exhibited two specimens obtained from adults and one from a child most carefully nourished. Dr. George McClellan delivered an address on "The Anatomy of Childhood," illustrated by original photographs, preparations, and lantern slides.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held March 11th, Dr. D. J. Milton Miller exhibited "A Case of Spleno-myelogenous Leukæmia, with a greatly Enlarged Spleen." Dr. William G. Spiller presented "A Case of a Typical Disseminated Sclerosis" occurring in a man who exhibited static ataxia and in-co-ordination of gait, with exaggerated knee jerks, some thickening of speech, and a history of nystagmus and diplopia, without sensory changes, Babinski reflex, or a history of syphilis. The possibility of cerebellar ataxia was considered. Dr. David Riesman presented a communication entitled "Primary Tuberculosis of the Pericardium," reporting a case in which this lesion was diagnosticated during life and found after death. The appearances were not characteristic, but their tuberculous character was disclosed both on histological examination and by animal inoculation.

Count Tolstoi Dangerously Ill. — The world-renowned Count Tolstoi, the great Russian novelist, is reported to be suffering from Bright's disease.

Dr. Heinrich Stern has been elected Professor of Internal Medicine in the New York School of Clinical Medicine.

Isolation Hospital Destroyed by Mob.—The building which was erected at Orange, N. J., by the health authorities as a pest house for the accommodation of smallpox patients was destroyed by a mob on Monday morning.

Medical College Destroyed by Fire.—Fire on Sunday destroyed the college of medicine and the literary department buildings of the University of Iowa. The loss is estimated at $250,000.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ended March 16, 1901. Surgeon O. Diehl ordered to the *Indiana* March 15th. Assistant Surgeon R. K. McClannahan detached from the *Indiana* and ordered home to wait orders for sea duty. Assistant Surgeon O. M. Eakins, resignation accepted, to take effect April 15, 1910. Pharmacist E. T. Morse detached from the Boston navy yard and ordered to the *Michigan*. Pharmacist I. N. Hurd detached from the *Wabash* and ordered to the Boston navy yard.

Obituary Notes.—Dr. William Dexter Anderson, a prominent physician of New Haven, died on Friday, March 8th, as the result of an operation. He was sixty years of age, and was graduated from the Yale Medical School in 1865. In his younger days he was a musical composer of promise, but never had any of his works published.

Dr. Alonzo T. Smith, the oldest alumnus of the Geneva Medical College, died in Syracuse on Friday, March 8th.

Dr. John B. Busteed died on Monday, March 11th, at the Consumptives' Home in Brooklyn, aged thirty-one years. He went to Corea as a medical missionary of the Methodist Church in 1893 and returned to Brooklyn in 1897.

Dr. Dudgeon, who died recently in Pekin, was perhaps the best known of all the Europeans in China, with the exception of Sir Robert Hart. Dr. Dudgeon went out early in the sixties to take charge of the British Legation Hospital, and the walls of the hospital were adorned with tablets testifying to his surgical skill. For twenty years the doctor was daily at his post, receiving all sorts and conditions of Chinamen, and at times his patients numbered one hundred a day. He had the confidence of the best Chinese statesmen and knew all about the inner working of the strange celestial machine.—*Evening Post.*

Progress of Medical Science.

New York Medical Journal, March 16, 1901.

The Specific Treatment of Acute Dysentery.—W. J. Cruikshank believes that we have in sulphate of magnesium, when properly administered in acute dysentery, a remedy which approaches as nearly to a specific as quinine does in the treatment of true malarial infection or mercury and iodide of potassium do in syphilis. In all cases of acute dysentery, from the beginning of the attack until there is a subsidence of all the symptoms, the remedy should be administered in drachm doses every three hours, dissolved in one or two ounces of distilled water, to which may be added ten drops of the dilute sulphuric, or aromatic sulphuric, acid. Experience has proved conclusively the unprecedented results which may be obtained from the use of this drug in the manner described. The beneficial effects are shown in a very few hours after the commencement of its use, and in from twenty-four to forty-eight hours the patient's condition shows marked general improvement; the pain becomes less, the tormina and tenesmus rapidly subside, and there are diminution of the pulse rate and lowering of temperature. If tympanites is present, it is rapidly reduced; the stools become less painful and less frequent, the blood and mucus disappearing. At the end of forty-eight hours, in the vast majority of cases, the stools take on a biliary character. The treatment must now be continued steadily until the stools become nearly normal. When this result is obtained, the medicine may be gradually withdrawn. The average time required for the establishment of convalescence is from three to six days from the commencement of the attack.

Angeioma Cysticum of the Nose.—By H. L. Wagner. Two cases are reported, one in a boy aged nine years, and the other in a woman aged twenty-eight years. Sections of the cyst wall showed a columnar ciliated epithelium covering nearly the whole of the external part of the growth, with the exception of a certain portion which consisted of squamous epithelium, produced either by pressure or by continuation of the mother stratum. No glands were found. There were a large number of veins, some of them enlarged, running parallel with the sac, and also some large venous sinuses. The fluid contents of the cyst were alkaline in reaction, with a specific gravity somewhat lower than that of blood-serum, and of a brown color. The chemical analysis revealed the common elements of blood.

Congenital Dislocation of the Shoulder with Report of Two Cases of Dislocation Posteriorly.—By D. W. Marston. A continued article.

Substitute Feeding of Infants upon Milk Modified According to Prescription in Laboratories.—By W. P. Northrup.

The Pathology of Intra-Uterine Death.—By Neil McPhatter. A continued article.

The Representation of Biliary Calculi by the Roentgen Rays.—By Carl Beck.

A Simple Apparatus for Modifying Cow's Milk.—By C. Herrman.

Medical News, March 16, 1901.

Observations upon the Amœbæ Coli and their Staining-Reactions.—Charles F. Craig states that the amœba is a round, oval, or irregular protoplasmic body, varying in size; motile or immotile, the motility being amœboid in character and, when present, being generally moderate; pale or faint green in color; refractive, with sharply cut border, and containing a circular or oval, lighter-colored space, known as a vacuole. In some a darker colored nucleus can be distinguished, and in the immotile organisms a darker-colored, central or eccentric portion, containing the vacuoles and comprising the greater part of the parasite, and known as the endoplasm, can be seen, surrounded by a narrow or much smaller layer, lighter in color and clear, known as the ectoplasm. The method of reproduction of the parasite is generally believed to be by sporulation. In all of the staining solutions that the writer has used, he has found only three that are worthy of use: Loeffler's methylene blue solution, carbolic fuchsin solution, and thionin solution. Of these, the first is the quickest and best stain for general use, while the carbolic fuchsin is by far the best when it is desired to stain the nucleus or nucleolus, as well as certain peculiar bodies within the protoplasm of the amœba. Toluidin blue is also a good stain. The smears are stained in the methylene blue solution for from three to eight or ten minutes; about five minutes gives the best results; the smears are then washed in distilled water and mounted in Canada balsam. Degeneration of the amœbæ takes place in two ways, *i.e.*, by vacuolization and by fragmentation.

A Report of Three Cases of Thoracic Aneurism Treated by Subcutaneous Injections of Gelatin.—Lewis A. Conner, after reporting these cases, recapitulates: Of the three patients, two received three injections and one, seven. In two cases the injections had to be discontinued because of the severe local pain. In the third the pain was only slight. In one case, in which seven injections were given, a very slight improvement could be detected. In one case a slight increase in symptoms was noted, while the third patient died of rupture of the aneurism while under treatment, and the autopsy showed no evidence of recent thrombus formation, although the condition, that of a large sac with a small communication with the aorta, was an especially favorable one for clotting. Aside from the pain and local irritation no untoward symptoms were observed in any of the cases, as a result of the injections. The writer adds that he is not ready to conclude from these cases that the method has no therapeutic value, since in none of these cases was it possible to carry out the treatment fully. His experience has convinced him that, whatever the curative value of the treatment, its usefulness is seriously impaired by the severe pain which frequently follows the injections.

A Preliminary Note on the Relation of the Form of the Tubercle Bacillus to the Clinical Aspects of Pulmonary Tuberculosis.—By Henry Sewall.

The Treatment of the Heart in Typhoid Fever and Other Infectious Diseases.—By Albert Abrams.

Recent Experiences with Erythromelalgia.—By Henry L. Elsner.

Rhinoscleroma.—By H. Jarecky.

Philadelphia Medical Journal, March 16, 1901.

A Contribution to the Technique of the Widal Test.—A. Robin elucidates the following problems which present themselves: (1) The dilution. (2) The best way of obtaining a motile culture free from "natural" clumps. (3) The differentiation between a true and a pseudo-reaction. (4) The time limit. There should be high dilution (1:20 to 1:40), since bacteriologists have observed that the difference between normal blood and that of typhoid patients is one of degree and not of kind. The writer then describes an appliance for drawing up one drop of blood, which is both accurate and simple. This method is essentially a modification of Cabot's medicine-dropper method. In order to obtain a motile organism, one needs only to get from a bacteriologist a pure culture of typhoid bacilli, well tried as to their motility. The writer uses a combination of both the bouillon and agar cultures. An agar culture is made and placed in the incubator, or kept at room-temperature for twelve to eighteen hours, when either two or three loopfuls are transferred into bouillon until a marked turbidity results, or a small quantity of bouillon is added to the agar culture, and enough of the growth scraped off to produce a uniform cloudiness. By this method the natural clumps, so frequently observed in bouillon cultures, are entirely avoided. To insure still further against error, a slide with two concavities is employed; on each of two cover glasses is dropped a loopful of the cultures; on one, the blood diluted 1:20 to 1:40, while the other serves as a control. The Widal test can generally be more satisfactorily performed with an oil immersion. As to the time limit which determines a positive reaction, the author proposes the following: Dilution, 1:10; time limit, five to fifteen minutes; 1:20, fifteen to thirty minutes; 1:40 to 1:100, thirty to sixty minutes; 1:100 to 1:200, one to two hours; that is, if within the specified time a considerable number of bacilli are found actively motile, or, if dead, fail to arrange themselves in clumps, the reaction is to be pronounced negative, irrespective of the clumps which have already formed.

Removal of the Right Upper Cervical Sympathetic Ganglion for the Relief of Glaucoma Simplex.—D. H. Coover reports the case of a man aged sixty-five years, upon whom this operation was performed. The immediate results of the operation were very encouraging, and were as follows: Tension was lowered to almost normal. There were contraction of the pupil and slight reaction. There was increase of the visual field and of visual acuteness, and the temporal field or nasal side of the retina improved, while the nasal field or temporal side of the retina did not improve. These conditions remained until an attack of supposed "cold in the eyes," which proved to be nothing more than the return of the former disease, glaucoma. The writer believes that the operation is of no service in glaucoma simplex when vision has been reduced to zero, as the final outcome of this case demonstrates, but may be of service in arresting the disease in the earlier stages and in retaining vision before atrophic changes have taken place in the nerve, retina, and choroid. After myotics and iridectomies have failed to relieve the disease, it is then that we are justified in advising sympathectomy in hope of relief from permanent blindness. Even then there is no assurance that the glaucomatous attacks will not return months afterward. The operation when performed by an expert is not dangerous.

Strangulated and Gangrenous Hernia; Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus; Enterostomy, Primary or Secondary Resection; Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia.—By Thomas H. Manley.

A Synoptical Report of One Thousand One Hundred and Forty-one Cases of Indigent Visitors Treated at Hot Springs, Arkansas.—By Howard Paxton Collings.

Rupture of the Rectum and Hernia of the Intestines in an Insane Man.—By A. R. Moulton.

Percentage and Laboratory Feeding.—By J. P. Crozer Griffith.

The Boston Medical and Surgical Journal, March 14, 1901.

A Case of Cæsarean Section.—Herbert J. Keenan reports a case operated on in very poor surroundings. An oil lamp on the wall supplied light; the instruments used were those of the ordinary pocket case. There was very little bleeding, only one snap being used. The child and placenta were delivered in less than five minutes; the abdominal wound was closed, and the patient in bed in less than fifty minutes. The post-operative period was unimportant till the sixth day, when, after a fit of coughing, the wound was opened its entire length, with the escape of intestines. Under chloroform the bowel was replaced, the edges of the wound were brought together, and again closed. Mother and child did well subsequently.

Intestinal Anastomosis.—Charles G. Cumston gives a survey of the work done in this line by the older surgeons. Ambroise Bertrandi, in 1769, writes of introducing into the gut a piece of calf's trachea, which had been dried, softened in hot alcohol, and covered with Peruvian balsam, and pulling the divided ends of the intestine over it, suturing them, and abandoning the whole to nature. On the twentieth day a ring of the trachea was found in the fæces, and on the fortieth the patient was entirely cured. Fabricius d'Aquapedente states that some surgeons employ cylinders of elder wood, or the trachea of certain animals, but he condemns their use in intestinal anastomosis.

Sudden (Apoplectiform) Bulbar Paralysis; Hemiplegia; Astereognosis.—W. E. Paul describes a case, the peculiarity of which lies in the mode of onset, the most common type of bulbar paralysis being of insidious origin and gradual progression. In this case there was apoplectiform onset and bilateral lesion, with improvement in the bulbar symptoms for the first two months of the palsy. There is, of course, danger of further degenerative changes, which may begin at any time.

The Story of the Boston Society for Medical Improvement.—By J. G. Mumford.

The Lancet, March 9, 1901.

Pure Urea in the Treatment of Tuberculosis.—By Henry Harper. The author noted the fact that from the family histories of many of his patients it was evident that families showing a marked tendency to gout, gravel, and calculus rarely suffered from tuberculosis. In contradistinction to this fact, families who chose to live largely on farinaceous foods—who were, in short, bad meat eaters—presented frequent tuberculous infection. He also noted the frequent occurrence of tuberculosis and glycosuria in the same patient, and is inclined to attribute it to the fact that the chemical composition of the urine has a direct relation to the growth of the tubercle bacillus in the body, and that a certain immunity is conferred by urea and uric acid. His impression is that, if we can saturate the body with urea or uric acid, these, in combination with bodily fluids other than the urine, will act as an antitoxin to the bacillus. Acting on this theory he has given urea in doses of gr. xx. four times daily, and his results are sufficiently encouraging to lead him to persist in its use. He does not neglect hygienic and tonic adjuvants. Nine cases are given with some detail. All showed the presence of the bacilli. The effect is, of course, best seen in cases with an absence of mixed infection.

A Case of Pemphigus Neonatorum in an Infant Three Days Old.—By C. J. Glasson. The birth of the child was normal, and it seemed perfectly healthy. On the third day bullæ appeared, round in shape, filled with a cloudy fluid, and surrounded by a bright-red ring of inflammation. On the fourth day the body was pretty generally involved, and in addition to the local lesions there were present the usual features of a general febrile disturbance. Each bulla was opened with an antiseptic needle, the contents were removed by gentle pressure with absorbent cotton, the child was placed in a bath of warm rain-water and dried by gentle application of soft linen. Boric-acid ointment was applied to each affected area. In three days the child had nearly recovered, and the ointment was changed to one of zinc oxide, made with benzoinated lard. On the ninth day the whole skin began to peel off like a glove, leaving the cutis vera red and weeping and the papillæ prominent. A dusting-powder was then used, made of zinc oxide, finely powdered starch, with a small portion of camphor. Perfect recovery ensued.

A Few Cases of Ethyl Chloride Narcosis.—By W. J. McCardie. The author commends the use of this agent instead of nitrous oxide, as a preliminary to etherization. From five to six cubic centimetres of the chloride are necessary. Anæsthesia is induced in about two minutes and as rapidly passes off, leaving no, or at most only slight, after-effects. The drug has no irritating action, and can be administered in heart, lung, or kidney cases, in which ether or chloroform are either contraindicated or are dangerous. Its main disadvantage is that, except perhaps in children, muscular relaxation is generally not quite complete, and rigidity may be marked in muscular, and especially in alcoholic, subjects.

A Further Note on the Production of Local Anæsthesia in the Ear, Nose and Throat.—By A. A. Gray. Two solutions are prepared, one of a fifteen to twenty per cent. solution of eucaine in anilin oil, and one of a twenty-per-cent. solution of cocaine in rectified spirit. Ten minims of each are mixed together, the mixture being at first opalescent but later becoming clear. The maximum amount of the mixture to be used at one sitting is twenty minims. This amount the author has found to be quite sufficient for painless excision of tonsils, removal of spurs on the septum, cauterizing, and other similar operations. Seven minutes should elapse between the application and the commencement of work. The application is to be made by the usual cotton carrier.

The Statistics of Gastric Ulcer with Special Reference to Gastric Hemorrhage, its Frequency and its Fatality.—Clinical lecture by Byrom Bramwell. The author gives certain statistics of the conditions mentioned, and takes exception to the statistical conclusions of Mayo Robson on the same topic, recently published in *The Lancet*.

Two Cases Illustrating the Use of the X-Rays in Surgery.—By G. T. Holland. Case I. was that of a boy who received a gunshot wound of the eye, and Case II. that of a boy who accidentally swallowed a tooth-plate. The exact location of the foreign bodies was easily demonstrated.

Public Health and Housing; the Influence of the Dwelling upon Health in Relation to the Changing Style of Habitation.—By J. F. J. Sykes. Second Milroy lecture.

A Case of Irreducible Dorsal Dislocation of the Proximal Phalanx of the Index Finger.—By C. F. M. Althorp.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.—By J. M. Mitchell Bruce.

Diabetes Mellitus in a Child, with Coma.—By J. G. MacNaughton.

Note on a Case of Meningo-Myelocele.—By J. Burnet.

British Medical Journal, March 9, 1901.

Remarks on a Case of Electric Shock.—Henry Smurthwaite reports this case of a man aged twenty-nine years, who received a shock from a machine called a "rectifier." In his right trousers pocket there was a large bunch of keys, and with his right thigh he was leaning against the brass socket which was attached to the switch by brass nails which were too long, making contact with the high-pressure terminal inside. He was about to adjust the brushes on the motor with his right hand, when he felt the shock. In this position he was completing a circuit: from alternator to rectifier commutator, water-contact switch, brass socket, keys, right thigh, through the body to his right hand, and thence to the windings in the small motor. The keys were undoubtedly the indirect cause of the accident. The large amount of high pressure of electricity passing through the body, and which did not cause death, was 2,150 volts. Besides its high voltage, the current was alternating. Some authorities believe that this renders the chance of a fatal termination more certain. When brought to the hospital, the man was in a very collapsed condition. He was given a capsule of amyl nitrite by inhalation, and a few minutes later a hypodermic of strychnine. At the same time the lower limbs were massaged and hot-water bottles placed to the trunk. In seven and one-half hours he had completely recovered from the shock. After recovery, he never had an ache or a pain, or the slightest mental trouble.

An Address on the Neglect of the Actual Cautery in Surgery and its Value in the Treatment of Pruritus Ani.—By Sir William M. Banks.

The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.—By J. Mitchell Bruce.

The Histology of the Urinary Tract in its Relationship to Morbid Urinary Deposits.—By G. Leslie Eastes.

The Milroy Lectures on the Influence of the Dwelling upon Health.—By John F. J. Sykes.

After-treatment of Adenoid Growths in the Nasopharynx.—By W. R. H. Stewart.

Death while Under the Influence of Ether.—By A. Reckless.

Antistreptococcus Serum in Erysipelas.—By D. Macmillan.

Foreign Bodies in the Rectum.—By W. M. A. Anderson.

Tenonitis.—By A. S. Percival.

French Journals.

Vulvo-Vaginal Thrombus.—V. Bué reports the case of a girl aged seventeen years, whose first labor lasted forty-three hours. Aside from the length of time there was nothing to call attention to the case. Immediately after the expulsion of the fœtus the patient complained of a very sharp pain in the internal surface of the left labium majus. On examination there was discovered a small spot, slightly bluish and painful to the touch. About two hours after delivery the labium was swollen to the size of a hen's egg. There were frequent cramps in the lower extremities. Compression was applied, which only increased the pain, while it did not arrest the rapid increase of the blood tumor. When the swelling had reached the size of a fist, the antero-lateral part of the left side of the vagina was seen to be swollen. The mucous covering of the tumor had become almost black. The whole mass was very hard. The swelling, after reaching this stage, seemed to remain stationary, when suddenly there came a gush of blood. With this occurrence the patient experienced great relief. The flow of blood continued until the patient showed the untoward effects of hemorrhage. The writer, being called at this time, decided on immediate intervention. The thrombus was opened by a vertical incision of about 7 or 8 cm., starting from the point of spontaneous opening. The wound was emptied of its contents, disinfected, and packed with iodoform gauze; the vagina was also packed with gauze and bandaged. On the fourth day the elevated temperature fell to normal, and on the tenth day the patient was well. The diagnosis of vulvo-vaginal thrombus is easy, but its occurrence is rare. On the average, hæmatoma of the vulva and vagina is met with once in about two thousand three hundred and seventy-five labors.—*Le Nord Médical*, February 15, 1901.

Cardiac Troubles of Gastric Origin.—According to Bonnaymé, this affection is far less rare than is generally thought. The symptomatology of these troubles is varied. The patient is conscious of the beating both of the heart and of the abdominal aorta, both of which are observed especially during digestion. Again there may be palpitation of the heart or a sensation of cessation of the heart-beat. Huchard describes pain resembling that of angina pectoris. Irregularities and intermittences have been noted, as well as slowing of the pulse. According to some authors, tachycardia is the trouble most frequently observed. It may be either paroxysmal or permanent. All authorities do not admit the acute dilatation of the heart which others have studied. Asystole is exceptional. Most writers admit syncope. The diagnosis has for its principal object the establishment of the relation between the cardiac troubles observed and the gastric lesion underlying them. The pathogeny of these troubles has provoked much discussion. The facts appear rather to confirm the mechanical theory. The nervous action ought not, nevertheless, to be neglected. The prognosis is most often very favorable. As to the treatment of these cases, if after most careful examination the physician is convinced that the origin of the trouble is in the stomach, then the remedies proper to the particular condition discovered should be applied and the stomach should be the organ treated, not the heart.—*Gazette des Hôpitaux*, February 11, 1901.

Practical Prophylaxis against Tuberculosis.—Samuel Bernheim, in speaking of tuberculosis among soldiers, gives the principal points which St. Kovatcheff presents in concluding his thesis: (1) The use of hygienic measures suitable to prevent the propagation of the bacillus: (*a*) to collect and destroy the sputum, (*b*) to suppress dust by sweeping with damp brooms, (*c*) nocturnal ventilation. (2) The rejection at the time of enlistment of all the young men who are in the least affected by this disease, or who are even suspected of being so. (3) The temporary suspension of all the soldiers who during their service have had a pleurisy. (4) The provision of places of suitable temperature for use in the changing of garments, for eating, for recreation, and for exercise. (5) The diminution of work or the subdivision of recruits into two groups according to thoracic capacity and general development. (6) The variation of the alimentary *régime* and suppression of the sale of alcohol. (7) The construction of military sanatoria suitable for the treatment of poor tuberculous soldiers. (8) The progressive establishment of barracks outside of the large towns, where a combination of circumstances favors ill-health of the troops.—*La Tribune Médicale*, February 20, 1901.

Cholecystitis in the Guise of Appendicitis.—Adenot concludes that cholecystitis may be confused with appendicitis rather frequently, but the inverse error of diagnosis ought to be very rare. Whenever one would have to suspect the diagnosis of appendicitis if the symptoms are not clear, it would be necessary to think of the possibility of cholecystitis. The displacements of the gall bladder are a serious cause of error in diagnosis in cholecystitis. The history is very important in the diagnosis of cholecystitis. The gall-bladder tumor, and the situation of the most severe pain, are the important signs, but they ought to be corroborated by the other symptoms habitual to cholecystitis. Acute peritonitis, secondary to cholecystitis, is not rare. One must always think of the possibility of this origin in generalized peritonitis from perforation. Angiocholecystitis and the perforations resulting therefrom can be confounded in typhoid fever with appendicitis and peritonitis from intestinal perforation. The diagnosis of cholecystitis as the origin of peritonitis presents a case most important for intervention.—*Lyon Médical*, February 24, 1901.

Berliner klinische Wochenschrift, Feb. 25, 1901.

A Hitherto Unknown Variety of Uterine Stenosis.—L. Landau narrates the history of the case of a woman aged forty years, who had never menstruated, but who ever since her twelfth year had complained of monthly attacks of pelvic pain and discomfort. She had had some operation for relief of the trouble, but without avail. Examination showed the existence of double hæmatometra and hæmatosalpinx; also the presence of a group of tumors which seemed to fill the entire pelvic basin, so a laparotomy was performed and the uterus with the adnexa removed. There were found to be a hæmatometra of the uterine body, double hæmatosalpinx, right-sided productive öophoritis, hemorrhagic cystoma of the left ovary, adhesive pachypelvic peritonitis, and hemorrhagic cystoma of the pelvic connective tissue. But the most interesting condition was that of occlusion of the uterine canal by a round mass the size and shape of a small apple, solid in structure and occupying the position of the cervix, thence extending diffusely over the uterine body. It proved to be an adenomyoma of the mesonephron, or primordial kidney. This type of tumor has been described by von Recklinghausen, a short exposition of whose views is given by the author. The author considers it remarkable that a patient could have suffered from such a condition for so long a time without the occurrence of disastrous consequences.

Aortic Aneurism Presenting the Clinical Picture of a Solid Mediastinal Tumor.—C. A. Ewald's patient was a woman aged forty-three years, who presented the various signs and symptoms of a mediastinal tumor pressing on the various structures at the root of the neck. She finally died during an attack of dyspnœa, and the autopsy revealed an aneurism the size of the fist, occupying the ascending and part of the transverse arch of the aorta, and filled with parietal thrombi. The heart, apart from a concentric hypertrophy, showed nothing abnormal. The superior vena cava was compressed throughout its whole extent, its lumen being scarcely larger than a pen-holder, while the lower venous trunks were free. The trachea was eroded and nearly perforated.

The Employment of the Phonograph in the Pathology and Therapy of the Voice.—By T. S. Flatau.

The Disposal of the Municipal Water-Wastes.—By Professor Gaertner. Concluding article.

Münchener medicin. Wochenschrift, Feb. 19 and 26, 1901.

A Curious Foreign Body in the Urethra.—O. Schulze was consulted by a patient presenting the inflamed meatus and copious purulent discharge of an acute gonorrhœa. A short distance behind the meatus, however, a hard foreign body could be felt which was removed with some difficulty by means of a polypus forceps. On inquiry it was found that the patient was suffering from a prostatic discharge which he had considered as seminal and had endeavored to check by an improvised stopcock to his urethra. Believing that if the flow were prevented from escaping externally all would be well, he had taken a piece of small rubber tubing four inches long, and inserted into one end a short piece of lead pencil which had been bored through. Into the hole in the lead pencil a plug was fitted and the whole affair pushed into the urethra, leaving only a little of the lead pencil protruding, so that after each urination the hole could be tightly plugged. The apparatus had been in successful operation for a number of weeks, when in putting the plug into place the apparatus had been pushed back out of reach and could not be brought out again. Considerable cicatricial contraction with stricture formation resulted from the ulceration the foreign body had produced before removal.

The Treatment of Fibrinous Pneumonia.—H. Pässler says that modern therapy does not command any new remedies of marked value, but that an exact and scientific treatment demands a careful analysis of the sources of danger and the early institution of appropriate remedial measures. The causes of death in this disease may be grouped as follows: (1) In many cases the fatal result is due to actual suffocation, owing either to unusual extension of the diseased areas or to inflammatory œdema, by which the available respiratory surface is reduced below the amount necessary to support life. (2) In rare instances the pressure in the right heart is raised to an insurmountable degree by the increased resistance of the pulmonary circulation. (3) Complications, of which chronic alcoholism with the risk of delirium tremens is very serious, while others depend on an already existing cardiac insufficiency due to myocarditis or poorly compensated valvular disease, arteriosclerosis, obesity, chronic nephritis, emphysema, kyphoscoliosis, and old age. (4) All of these, however, are less serious than the risk which always attends a severe pneumonic infection, that a state of pneumococcus sepsis will be set up, sufficiently intense to overwhelm the vasomotor centre.

Another Case of Intestinal Obstruction Treated with Atropine.—A. Dietrich adds another to the list of cases of intestinal obstruction in which operative intervention has been obviated by the use of atropine in large doses. His patient, a man aged twenty-five years, was suddenly taken with severe pain in the left iliac region, which did not yield to ordinary measures, and was accompanied by absolute constipation with absence of flatus. The condition steadily grew worse, until finally the typical picture of the disease, with fecal vomiting and collapse, was presented. Three atropine injections of gr. $\frac{1}{60}$, $\frac{1}{70}$, and $\frac{1}{80}$ respectively were given, in rapid succession, with the result that abundant flatus, soon after followed by a solid movement, was passed in a few hours. In view of the fact that all other treatment—opium, high irrigations, poultices, etc.—had proved ineffectual, and that the condition was rapidly becoming more serious when the atropine was given, the author does not hesitate to ascribe to this drug the whole credit for the cure. Slight toxic symptoms were noted, but did not cause much distress and soon disappeared.

Vagitus Uterinus.—Frankenstein adds a case of this rare occurrence to the literature. The patient had already had seven successive still-births, followed by one in which a live fœtus was extracted by version. Therefore, when the accoucheur was called again and found the labor progressing very slowly and the fœtal heart sounds growing weaker, he at once started to perform a podalic version. The hand was easily introduced into the uterus and the foot grasped when, just as traction was made, two distinct cries, heard and attested to by four different persons, were uttered by the fœtus. The author believes that a small amount of air entered the uterus together with his hand, and that this, combined with the reflex stimulation produced by the seizure of the foot, sufficed to excite a respiratory movement. The child was extracted without difficulty and survived.

The Malaria Parasites.—G. Maurer recognizes only three forms of the plasmodium, and gives the following rules for their differentiation: If only ring forms are found, the diagnosis of pernicious fever may be made, and if in addition crescents are present and a second examination a few hours later still shows nothing but these and rings, there is no room for any doubt. Quartan fever is indicated by large parasites, with or without rings, which leave the cell body intact. Granulation of the cell body, together with smaller size of the parasite, is evidence of tertiana. If no parasites are found in two specimens of blood taken at intervals of a few hours, malaria may be excluded. Fresh preparations may be used for diagnosis, but are less satisfactory than stained specimens, and require greater skill on the part of the observer.

The Modified Open Treatment after Operations on the Eyeball.—E. Heimann condemns the customary tight dressing applied after operative procedures on the eyeball as exercising an undesirable amount of pressure, impeding the natural cleansing movements of the eyelid, being easily displaced and insecure, promoting the stagnation of secretion and growth of bacteria, and causing the patient great discomfort and annoyance. The treatment he recommends consists in the application of some form of dressing so contrived as to relieve the eye itself from all pressure and to permit unrestricted motion of the lids. This may easily be constructed of wire, rubber, celluloid, etc., and will protect the wound against infection and mechanical injury, without being open to the objections urged above.

A Case of Gonorrhœal Endocarditis Furnishing Pure Culture of the Organism.—M. Wassermann reports a case which appears to settle the moot point as to whether the malignant endocarditis sometimes following gonorrhœal infection is directly due to the virus causing the original disease or represents a secondary pyæmic process. In this case the aortic valves were covered with fresh verrucous vegetations, from which organisms were obtained in pure culture, which by their tinctorial, cultural, and morphological characteristics were undoubtedly gonococci.

Report of the Royal Surgical Polyclinic at Munich from 1899 to 1900.—By F. Klausner.

A Case of Pigment Nævus with Peculiar Dropsical Manifestations.—By Bäumler.

The Demands on the Hospital Service in Transmarine Warfare.—By Port.

Treatment of a Case of Empyema by a Permanent Cannula.—By E. Müller.

Contributions to the Surgery of the Stomach.—By Häberlin.

Heredity and Tuberculosis.—By J. Goldschmidt.

The Fate of Syphilitic Children.—By R. Pott.

A Truss with Elastic Pad.—By A. Schanz.

A Clinical Ferrometer.—By A. Jolles.

Deutsche medicinische Wochenschrift, Feb. 21, 1901.

A Contribution to the Knowledge of Acute Sublimate Poisoning.—Paul Krause reports a case in which gr. xxx. of corrosive sublimate were taken with suicidal intent. After a protracted convalescence the patient recovered, apparently without permanent damage to any of his organs; indeed, a chronic pulmonary tuberculosis from which he had been suffering seems to have been brought to a temporary standstill. In addition to the usual symptoms attending acute bichloride poisoning, there developed stomatitis with secondary purulent parotitis, gastritis with hæmoptysis, enteritis and colitis with bloody stools, and severe nephritis. A peculiar manifestation was a rash gradually involving the whole body and resembling that sometimes observed in cholera cases.

The Treatment of Torticollis.—Joachimsthal believes that while the long-accepted theory of Stromeyer as to the causation of this deformity holds true in the majority of cases, still there are some in which other associated congenital deformities and the family history point to heredity as the most active etiological factor. Stromeyer's theory as modified by Mikulicz assumes that during labor a rupture of the sterno-mastoid occurs, and that a consequent invasion by bacteria produces a fibrous myositis which is followed by contraction and deformity. The treatment recommended consists in open division of the contracted soft parts.

The Presence of the Bacilli of the Erysipelas of Pigs in the Stools of a Jaundiced Child.—By R. Lubowski.

The Treatment of Gangrenous Hernias.—By W. Petersen. A continued article.

The Relations of the Cerebellum to Multiple Sclerosis.—By Adler.

Annals of Surgery, March, 1901.

On Non-Obstructive, Post-Operative Anuria.—By F. T. Brown. The histories of two cases are given in detail. In the first case a boy aged nineteen years was operated upon for pyonephrotic kidney. He died four days later, having had a failing heart and renal suppression. The author thinks that the latter may have been due to either (1) chloroform anæsthesia, (2) compression of the kidney and vessels of its pedicle against the spine when the superimposed body rested for a long time on sand-bags, leading to a subsequent hyperæmia, (3) some essential vasomotor reflex started by ganglionic pressure or through the renal plexus, from the removal of the fellow kidney, or by a congestion incidental to an increased physiological demand. Subsequent to the operation, he suspects that a weak heart favored a condition of comparative stasis (passive congestion). If this last is the correct explanation of the congestion, and if the lowered heart pressure at the same time could so quickly bring about suppression, then this anuria had but the remotest, if any, influence in causing death. The author reviews the different steps of his operation, and is inclined to think that under similar circumstances he would induce anæsthesia with nitrous oxide gas and continue it with ether, would be careful to expose the operative field with the least possible pressure upon the healthy kidney, and would use hot lavage for vomiting. He thinks that the first manifestations of anuria would be looked upon, when the pulse was small and rather rapid, as due to a vasomotor paresis—in other words, cardiac weakness with consequently lowered renal pressure, the result of shock—and the complex condition would be energetically combated with the most approved methods of stimulation.

Eversion of the Tunica Vaginalis as a Remedy for Hydrocele.—By Dudley Tait. The author commends Longuet's operation, which consists essentially in the inversion of the cellulo-vaginal layers, without decortication or hæmos-

tasis and is thus described: Under local anæsthesia a transverse fold is taken up over the testis and cut with the scissors down to the serosa, which is immediately taken up and cut in a like manner. Neither the superficial nor the deep cut should exceed 3.5 cm. The testicle is then drawn out, upward and forward, as much as possible, the scrotum being at the same time pulled in the opposite direction by the assistant. The tunica vaginalis and overlying fibrocellular tissues follow and are turned inside out. One or two sutures are taken to secure the vaginalis in its new position; these stitches are placed in such a manner as to avoid injury or strangulation of the cord. Chromic catgut (two weeks) is perhaps preferable to the ordinary gut, which is absorbed too early. The testis is not replaced in its original position, but a new bed is made for it in the middle of the inner lip of the incision, by gently dissecting the cellular tissue with the finger. The resulting new cavity is inside of, and parallel to, the old cavity. The testicle is slightly twisted on its axis, not being in normal anteversion but in retroversion rotated inward a quarter of a circle and lying directly against the raphe. The position of the testicle may be defined as retro-lateroversion. The wound in then closed with two or three stitches. The operation is completed within a minute or two; no hemorrhage is noted, and the immediate effects are barely noticeable, thereby differing radically from all the other methods. There are no local reaction or infiltration of the soft parts and no tenderness, and within a few hours after the operation palpation of the testis does not elicit more than the normal sensitiveness.

Hernia of the Fallopian Tube without Hernia of the Ovary.—By P. F. Morf. The explanation of the condition found on opening the abdomen would appear, according to the author, to be the following: The patient had a congenital hernia of the left oviduct, complicated by an epiplocele, the fat of which underwent serous change. Shortly before the hernia became irreducible, the patient acquired an acute vaginitis, the infection extending upward along the genital tract into the hernial sac. The invading microorganisms finding a favorable culture medium in the mucoid substance of the omentum, multiplied, exudation and pus formation occurred, and as a result the hernial tumor increased in size and became irreducible. There are several reasons why hernias of the tube without the ovary are rare: (1) When the tube is found in a hernial sac, it is usually there because it has followed a hernia of the ovary. (2) The tube is so deeply placed in the pelvis that exceptional circumstances are necessary to force it into the hernial openings. Its relation to femoral and inguinal openings is such that, under ordinary conditions, increased intra-abdominal pressure—such an important factor in hernias of other organs—tends to force it more deeply into the pelvis rather than toward these openings. (3) When hernia of the tube has developed, the ovary, from its intimate relation to the tube, is also soon drawn into the sac. This seems probable from the fact that in a number of the appended cases the ovary was found close to, or just at, the hernial opening through which the tube had already passed.

Contribution to the Surgery of Malignant Disease of the Prostate Gland and of the Tonsils.—By N. Jacobson. A case is reported of primary carcinoma of the prostate, occurring in a man aged sixty-one years. His recovery from the operation was fairly good, but the patient died five months later from hemorrhage into the bladder. A study is made of the literature of the disease including a résumé of reported cases. The author also reports a case of primary sarcoma of the tonsil and one of epithelioma of the same organ. The sarcoma occurred in a man aged thirty-one years, and was removed by operation from without, but its extreme size rendered necessary the section of the lower jaw. The epithelioma occurred in a man aged sixty-one years, and was removed with the galvano-cautery snare, under cocaine. The patient is now living and healthy (operation in 1889). An analysis is made of ninety-five cases of malignant disease of the tonsils, references being made to the original channels of publication.

Report of a Case of Recovery after Abdominal Section for Multiple Gun-Shot Wounds of the Abdomen.—By F. Martin. The injuries received consisted of perforations of the liver, gall bladder, hepatic flexure of the colon, two perforations of the small intestines, and one of the rectum (deep in the pelvis), with active and excessive hemorrhage. The author considers the case one of special interest, (1) because of the wide area involved in the damage done, (2) because of the lapse of time between the injury and operation (almost a full day and, in addition, a long railroad journey, with hemorrhage going on within the abdomen), and yet recovery ensued, and (3) the wide extent of the opening of the abdomen made necessary by the widely distributed areas of damage.

Periosteal Osteo-Sarcoma of Upper Extremity of Femur; Ligation of Common Iliac Artery with Amputation at Hip-Joint and Removal of a Portion of Pelvis; etc.; Recovery with Freedom from Recurrence at End of Nearly Sixteen Months.—By L. Freeman.

Resection of the Pendulous Fat Abdominal Wall in Cases of Extreme Obesity.—By L. Peters.

Diagnosis of Stone in the Kidney by the X-Ray and its Treatment.—By A. D. Bevan.

The Edinburgh Medical Journal, March, 1901.

Psychoses Following Pelvi-Abdominal Operations.—J. Halliday Croom records a number of cases of mental disturbances occurring after operations which were uncomplicated *per se* and simple, when the operation was entirely successful, and all in women who, as far as could be traced, had no hereditary tendency whatever in that direction. The author thinks it remarkable that it has not been shown that insanity is more common after operations on the genital organs than after operations on any other organs. When one recognizes the frequency with which mental troubles are apparently associated with the normal occurrence of changes such as puberty, menstruation, pregnancy, and the menopause, it may be considered almost remarkable that women escape from these disorders as easily as they do.

On the Prognosis of Acute Disease.—R. Hingston Fox considers benign and malignant acute diseases, inheritance, past history, present condition of the patient, general physique and habits, nervous system and temperament, and the condition of the circulatory, respiratory and digestive organs, skin and kidneys. The first art we acquire, he says, is to treat disease. To treat the patient is a talent which comes later. But the personality of the sufferer, his idiosyncrasy, his equation, enter largely into prognosis. It is by degrees that we learn the value of rest—not "doing nothing," but "not hindering" anything—and learn to trust the human body. As Dr. Sutton said, "Doctors who look too much on morbid anatomy, the dead side of disease, are apt to give too gloomy prognosis. They cannot trust the human body."

Some Recent Researches on Alcohol; their Bearing on Treatment.—J. Mackie White gives a *résumé* of recent scientific work on the action of alcohol as a stimulant, as to its effect on the tissues of the body, in diseases of the nervous system, alimentary diseases, kidney affections, septic cases, pneumonia, and alcoholic subjects. His conclusion is that we should clear our minds of prejudices regarding the stimulating and sustaining virtues of alcohol and substitute for them more accurate ideas. When we prescribe alcohol, he says, let us endeavor, in the light of the most recent scientific knowledge, to exercise at least as much thoughtful care in regard to our patient's welfare, as when we order any other powerful drug, as arsenic, morphine, or strychnine.

On the Formation of Crystals, Dendrites, and Spiral Structures, in Relation to Growth and Movement, Especially Rhythmic Movements.—By J. Bell Pettigrew. A continued article.

Pernicious Anæmia; with an Analysis of Eighty-Seven Published Cases, and an Inquiry into the After-History of Twenty-two Reported Cures.—By Horace C. Colman. A continued article.

Journal of Tropical Medicine, Feb. 15 and March 1, 1901.

Pani Ghao.—Osborne Browne having read an article in the December number of this journal on "Pani Ghao, or Sore Foot of Assam," states that it appears to him to be the same disease as that known as "ground itch" in British Honduras, but presenting a worse form. The disease occurs in people who walk in mud, and is therefore commonest in wet seasons. It begins as an intense itching about the toes and between them, and sometimes on the sole or dorsum of the foot. This itching is most intense at night in bed. Then the toes and foot get swollen and red, and vesicles, preceded by papules, form, and much clear serum exudes from them. The condition lasts about a week. The treatment employed by the natives is to apply hot green plantain skins, or hot cloths; in fact, anything hot soothes the itching. Hot lotions are very grateful.

The Royal Army Medical Corps—the Regimental System.—An anonymous writer discusses the reasons for the unpopularity of the Royal Army Medical Corps among the young graduates of the Medical School. He considers that it dates back to the day when the regimental surgeon was abolished and the present station-hospital system established. The doctor ought to live in the regimental lines to treat and keep in health a body of men like a regiment. Every battalion of infantry and every regiment of cavalry should have at least two medical officers, and every battery one. Every regiment should have its small detention

hospital; every station hospital should have a large and completely equipped laboratory, and doctors should be allowed to employ soldier clerks.

Ophthalmic Notes from the Tropics.—H. Campbell Highet gives a list of the eye diseases most frequently seen in Singapore and Bangkok. Syphilitic diseases of the eye show some peculiar features; syphilitic iritis appears to be a much more severe disease in the tropics than in temperate climates. The results of specific treatment of tertiary lesions of the eye are as a rule very satisfactory. The proportion of malarial affections of the eye is 2.2 per cent., and cases seen consist of œdema of the ocular and palpebral conjunctiva, corneitis, interstitial keratitis, cortical cataract, retinal hemorrhage, and night blindness. In cases of leprosy the eye lesions are not marked in the anæsthetic form, but are severe in the tubercular form.

Water-Itch, or Sore Feet of Coolies.—A. B. Dalgetty fully describes this disease. He has found in the vesicles the ova of an acarus, whose life history and anatomy he gives in detail. The disease affects chiefly those coolies who are in a weak state of health; anæmia is very common in tea gardens, especially among the women, and it is these latter who suffer most severely. As to treatment the application of a strong solution of lime and sulphur is a good means of cutting short the malady. The value of wearing shoes as a preventive measure has been completely proved. Coal tar is good as a preventive and as a curative agent.

Craw-Craw.—R. A. Bennett reports a number of cases. The name craw-craw is given by the ordinary uneducated native of Old Calabar to practically all skin diseases; the more intelligent native divides it into three classes, leprosy or bad craw-craw, tinea circinata or Kroo boys' craw-craw, and craw-craw proper. The author suggests that craw-craw as a specific name should be abandoned, and that the disease should be included in the class to which he believes it belongs, viz., pustular eczema.

Pinta.—P. G. Edgar reports the case of a woman in Perak, which is of interest as demonstrating the existence of the disease in the Old World. It had been supposed to exist only in the New World, especially in Central America and Mexico. In addition, interest attaches to the fact that a very large extent of cutaneous surface was involved, and that the disease extended into the palms.

Case of Acute Catarrhal Dysentery, with Complications of Synovitis of Knee.—N. G. Ross reports a case which he considers to be an example of a class of cases to which Brault and others have recently called attention; namely, those in which arthritis is a complication or sequela of dysentery.

The Montreal Medical Journal, January, 1901.

Typhoid Fever.—H. A. Lafleur describes a case in which the signs pointed to a probable perforation of the bowel. An operation was performed, but when the peritoneum was opened no fluid or gas escaped, and the surface of the bowel seemed normal. Thickenings in the course of the lower part of the ileum, due to the typhoid ulcers, were distinctly felt, but no perforation could be found, or even any sign of local peritonitis. In the angle formed by the junction of ileum and cæcum there were two very red lymph glands, swollen, it seemed, almost to the point of rupture, and standing out prominently from their peritoneal investment. Two quarts of warm, decinormal saline solution were introduced into the peritoneal cavity, and the abdominal wound was closed. The patient made a good recovery.

Typhoid Fever Operated on for Perforative Peritonitis, with Negative Finding.—N. F. Hamilton reports a case in which operation was indicated, as a perforation was believed to have taken place. An examination of the blood showed 14,000 leucocytes. Some clear, reddish-colored fluid was found free in the abdomen. No inflammatory lymph was seen. The vessels in the visceral peritoneum were turgid, and several mesenteric glands were enlarged and deeply congested. There was no evidence of perforation. The patient made an uneventful recovery.

The Scottish Medical and Surgical Journal, March, 1901.

Gastric Hemorrhage and its Surgical Treatment.—A. W. Mayo Robson holds that all cases of acute uncomplicated gastric ulcer should be submitted to long-continued and thorough medical treatment; should the ulceration persist, or relapses occur, gastro-enterostomy should be performed to secure physiological rest and relieve the hyperacidity of the gastric juice. Perforation demands immediate surgical treatment. Disabling adhesions around the stomach and pylorus, pyloric contraction and hour-glass contraction due to chronic ulcers, leading to pain, dilatation, loss of flesh, and general impairment of health, now often treated as chronic indigestion, should be treated surgically. In recurring hæmatemesis from gastric ulcer, surgical treatment is decidedly called for. In acute hæmatemesis the co-operation of physician and surgeon is advisable, so that if relief is not obtained by medical and general treatment, surgical means may be adopted if the bleeding is believed to occur from a large vessel.

A Case of Acute Cellulitis Treated by Antistreptococcic Serum.—Francis Kelly had a patient suffering from cellulitis of the right hand. Incision and evacuation of the fluid gave temporary relief, but the swelling returned, rapidly extending up the arm, while the temperature rose to 104°. Under chloroform the hand and arm were freely incised and drained. Streptococci were found in the seropurulent discharge. Ten cubic centimetres of antistreptococcic serum were hypodermically injected, and on the following day two additional injections were given. The temperature fell, the swelling was reduced, and the patient made a good recovery. The author attributes the good results to the serum.

Ether as an Anæsthetic.—Thomas D. Luke pleads for the use of ether instead of chloroform as an anæsthetic in general surgery. He combats the objections urged against ether, and quotes in support of its use the conclusions reached by *The Lancet* and Hyderabad Commission's Report.

The Edinburgh Hospital in South Africa and its Work.—By Francis D. Boyd.

Ear, Nose, and Throat Journals.

Tumor of the Thymus Cured by Thyroid Extract.—C. Miot records the case of a child of five years presenting just at the sternal fourchette a tumor the size of a large cherry, apparently extending below into the mediastinal space, where it was fixed by a pedicle. It had a hard feel, and the skin over it was freely movable. It did not move during deglutition, and was considered to be an enlarged thymus, formed of two lobes with a sort of connecting isthmus. The child was anæmic, and suffered from frequent febrile movements and disturbed sleep. The mother stated that the growth had appeared in the course of a single night, after the child had been in the country and had played and shouted considerably. Miot conjectured that, considering the vascular condition of the thymus at this age, there might have been a congestion of the gland and a hemorrhage into its substance. The application of the electric current and the administration of an iodide were without effect, and it was decided to try thyroid extract. Under a dosage of 10 cgm., continued with intermissions for over a period of four months, and gradually increasing to three times the quantity named, the tumor entirely disappeared and the general condition of the patient was greatly benefited.—*Rev. hebd. de Laryngologie*, January 26, 1901.

Indications for Intralaryngeal Operations in Cancer of the Larynx.—Gougenheim and Lombard quote as the conventional justification for the intralaryngeal method the existence of cases in which certain forms of intrinsic cancer remain for a long time limited to one cord or one ventricular band, and do not tend to progress. This condition obtains in patients of advanced age, just that class in which we feel reluctant to operate by the usual methods. The slow growth has an undoubted relation to the exact nature of the neoplasm, for certain epitheliomata and sarcomata with a predominance of the fibrous element tend to grow very slowly. Moreover, there are pedunculated epitheliomata in which immediate removal may be required to anticipate certain accidents. The authors do not believe, however, that the foregoing justifications are logical in the great majority of cases, nor that the natural channels can ever serve as a universally available avenue for removal of malignant deposits in the larynx. Intralaryngeal removal should be regarded rather as an operation for diagnostic purposes than for cure.—*Annales des Maladies de l'Oreille*, etc., January, 1901.

Giorn. Internazion. delle Scienze Mediche, Jan. 31, 1901.

The Supposed Defensive Power of the Phagocytes of the Lymphatic Glands against the Syphilitic Virus.—Tommaso de Amicis holds that modern experimental research has in nowise destroyed the semiological value attributed by clinical observation to the lymphatic ganglional system in relation to syphilis. Hence, when the physician has a case of syphilis to treat, he should not congratulate himself that the glands are notably and extensively swollen, trusting to their phagocytic power, but should resort to every therapeutic measure known to science to avert the possible and serious consequences which may result from the gravity of the infective process.

The Localization of Koch's Bacillus in the Isthmus of the Fauces and in the Tonsils.—Domenico Tanturri concludes that the primary latent tonsillar tuberculosis of Dieulafoy is not materially demonstrable. Secondary tuberculous infection of the tonsils from adjacent parts, although not common, can be demonstrated. This affection is characterized by the presence of numerous tubercles, or, more rarely, by a simple infiltration.

Clinical Department.

HERNIA OF THE ADDUCTOR LONGUS MUSCLE, WITH OPERATION.

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THE following cases will be interesting as illustrating a rather rare condition. An Irishman presented himself at the Presbyterian Hospital dispensary on February 26, 1900, complaining of the presence of a swelling on the inner and upper aspect of the front of his

FIG. 1.

right thigh. He gave the following history: In November, 1899, while playing a game of "Irish bowling" he suddenly felt a sharp pain in the upper part of the right thigh in the same position as the subsequent swelling. This was not sufficiently severe, however, to prevent his continuing to play the game. That evening the upper and inner region of the right thigh became sore and tender. The next day a bluish discoloration about the size of a silver dollar appeared under the skin, below and internal to the right saphenous opening. The soreness and discoloration remained for about a week and then disappeared. He was not during this time incapacitated from walking. Two weeks after the original pain, he noticed for the first time a small swelling at the site of the previous discoloration, which was slightly tender, but this soon passed. This swelling gradually increased in extent, till at the end of a month it was about the size of a lemon, and it has remained of this size since then. The man comes for treatment, complaining of the annoyance the tumor caused by rubbing against his clothes and against the opposite thigh.

On examination a swelling was found on the front of the upper and inner aspect of the right thigh, about three inches below Poupart's ligament; it was about three inches long and in transverse extent two inches wide, oval in shape. The skin over the tumor was normal in appearance and was freely movable. The tumor was not tender, but was soft, semi-fluctuating; its surface was smooth, and it was attached to the deeper parts. The limits of the tumor were sharply defined from the adjacent structures. It was not lobulated and was of the same consistency throughout. There was no expansile impulse on coughing, and it was flat to percussion. There was no pulsation visible nor aneurismal bruit to be heard. The swelling became much more prominent and harder when the effort was made to inward rotate and adduct the thigh when this was in the abducted and rotated outward position, the knee being flexed. Several considerations at once suggested themselves to explain the tumor, namely, a lipoma, an adenitis, a large varicose vein, obturator or femoral hernia, psoas abscess, an aneurism, or a muscle hernia. The latter was accepted as the true condition. On this supposition the symptoms were explained as follows: The original pain was due to the splitting of the muscular sheath and the fascia lata over the muscle, which caused a certain amount of ecchymosis. The muscle eventually pushed itself through the fascial split and caused the present swelling. It was found impossible by any means to reduce the size of the swelling, and operation was advised and consented to. Ether was administered, and after the usual antiseptic precautions an incision was made almost vertically over the tumor. After division of the deep layer of the superficial fascia, a muscular mass was immediately come upon. The adjacent tissues were separated entirely away from both sides of the tumor which was thought to be the adductor longus muscle. An endeavor was made to isolate the edges of the split fascia lata, with the purpose of bringing these edges together and suturing them over the muscle, thus closing the rent through which the muscle protruded. This proved not to be feasible, however, as the fascia was found to be too thin, and too contracted to allow of its being drawn over the mass with any certainty of the stitches not cutting through the fascia. It was then deemed best to excise the muscle, which was separated from the adjacent tissues. Ligatures of catgut were then thrown about the musculo-tendinous

FIG. 2.

origin and insertion of the muscle to prevent the ends of these from bleeding, and the muscle between these ligatures was excised. The thin fascial edges were then sutured together with catgut, and the skin wound was closed. A plaster-of-Paris spica was applied over the dressing to immobilize the hip joint. The subsequent

history was uneventful. The wound healed kindly, and after ten days the plaster splint was removed, and the man resumed his work. He now tells me that his right limb is as strong as ever. Examination shows no evidence of any swelling at the site of the scar. The man plays the game of bowling as well as ever. On inquiry he told me that two of his friends have similar swellings produced by the same game. One of these men I examined. His was an identically similar swelling in the same situation and on the right thigh. He had had the swelling for three years, but suffered no discomfort whatsoever from it. The history of its appearance was just like that of the first patient: while playing the game of bowls, sudden pain in the thigh, followed by the gradual appearance of a tumor in the course of time. In this case no operative procedure was advised, as no discomfort was caused by the tumor.

The etiology of these herniæ is interesting. The game of "bowls," which produced them, consists in running at a high rate of speed, when a sudden skip is made by powerfully adducting the right leg toward the left, and at the same time by an underhand swing of the right arm an iron ball twenty-eight ounces in weight is thrown as far as possible. The adductors of the thigh are thrown suddenly and violently into strong contraction. A probable sudden overaction of the adductor longus in these cases split the sheath of the muscles and the fascia lata, and the herniæ followed. It is possible that had an elastic girdle with a pad been applied immediately after the onset of the pain, the subsequent herniæ might have been prevented, or the same result would have been produced by suturing the split in the fascia immediately after the accident. When the hernia of the muscle has once occurred, excision of the muscular belly is the only curative procedure. In cases of wounds of the thigh, the divided edges of the fascia should be sutured together to prevent a subsequent muscle hernia. Muscle herniæ affect most frequently the rectus muscles of the abdomen and the muscles of the thigh, particularly the adductors. The latter occur especially among cavalry and artillery soldiers. A case of hernia of the semi-membranosus has been reported, also one of the biceps femoris. Giess was the first who sought to cure muscle herniæ by operation.

The illustrations are taken from two cases, the tumors of which were exactly similar and in the same position. One shows well the tumor in one of the cases before operation. The other picture shows the good result in a different case after operation. The wound healed per primam, and there is no swelling perceptible.

ICHTHYOL IN THE TREATMENT OF DEEP-SEATED INFLAMMATIONS.

By WALTER T. SLEVIN, M.D.,

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After having used ichthyol in a number of different formulæ, the resultant action of which has not been as desired, I have at last obtained a formula which, if used properly, will relieve deep-seated as well as superficial inflammations. The formula is as follows:

℞ Ichthyoli..... gr. xlv.
Plumbi iodidi..... gr. xlv.
Ammonii chloridi..... gr. x.
Vaselini.....q.s. ad ℥ i.
M. ft. ungt. S. As directed.

It should be applied by rubbing upon the inflamed parts. The results of the application in three different cases are here described.

Case I.—James F——, aged twenty-one years, had a marked swelling on both sides of the face, involving the nose and extending to the eyes, with high fever, great prostration, and partial delirium.

Diagnosis: Erysipelas.

Treatment: The patient had the preparation rubbed into the site of the inflammation every hour; subsidence of the condition in twenty-four hours.

Case II.—Mary McN——, aged thirty years, had a large swelling on the left side of the face, involving the glands of the face and neck; she could not open the mouth; had high fever, dyspnœa, dysphagia, and presented the appearance of impending death. The swelling was very hard and tense; therefore to incise it would have been futile.

Diagnosis: Peritonsillar abscess (quinsy sore throat).

Treatment: Application of the preparation every hour, with cure in twelve hours.

Case III.—John C——, aged six months, had râles over both sides of the chest, bronchial breathing, bronchophony, and slight dyspnœa.

Diagnosis: Broncho-pneumonia.

Treatment: The preparation was rubbed into the chest, with disappearance of all symptoms on the following day.

From the cases described, it can be readily seen that in acute inflammatory conditions the results have been most excellent.

It seems to me that this formula should be most effective when used in chronic conditions, inflammations, glandular enlargements, and ulcerations, whether of specific nature or otherwise, as it is a great aid to absorption.

I hope that this formula will be made use of by the profession and its effects reported.

N. B. The substitution of glycerin, oleum theobromæ, or unguentum aquæ rosæ for vaseline is more suitable to some cases.

386 Union Street.

A CASE OF FATAL STENOSIS OF THE LARYNX FOLLOWING INTUBATION FOR PAPILLOMA.

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Joseph V——, aged two years, was seen by me for the first time on June 26, 1900, suffering from typical but moderate laryngeal dyspnœa, without any other local or general symptoms. The following history was obtained.

The patient had been suffering from similar dyspnœa for more than a year. The only active treatment resorted to had been intubation. This had been tried during the previous winter for a space of several weeks, with no apparent result except to increase the child's distress. I could not learn whether the true condition had been diagnosticated at that time.

As a general physical examination of the other viscera proved absolutely negative, I made a provisional diagnosis of papilloma of the larynx. A laryngoscopic examination was rendered impossible by extreme distortion and folding of the epiglottis, although the child was not especially refractory.

As the condition of the patient did not just then seem urgent, the parents were requested to bring the child again in three days. True to human nature, they brought him in a week. By that time the dyspnœa had assumed quite a serious aspect, and immediate application for hospital treatment was advised, with a view to the possible eventual need of a hasty tracheotomy. The parents decided to wait three days more, but the child died rather suddenly in forty-eight hours, apparently from strangulation.

Twelve hours after death an autopsy was made, which was only partial, owing to the religious scruples of the parents. The larynx and trachea were, however, secured entire, and presented the following condition.

The lumen of the larynx was exceedingly constricted, barely admitting a probe; the epiglottis was folded

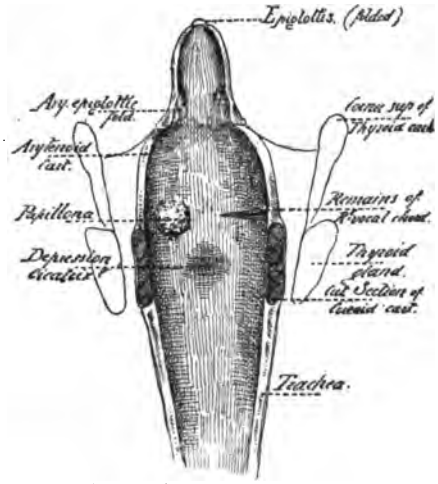

Fig. 1.—Section in Median Line.

tightly and drawn backward. The mucous membrane in general was apparently thinned and anæmic, especially over the anterior surface, without any local redness. The right vocal cord was represented by a small uneven nodule, the left cord was largely replaced by a warty friable mass of about the size of a very small pea. There were cicatricial depressions below the arytenoids. The ventricles and false bands were quite obliterated. In spite of the almost total disappearance of the cords themselves, the glottis was practically closed by the general constriction of the surrounding parts and the very moderate-sized tumor. The trachea was entirely free from pathological changes; the thyroid body was of normal size. (See Fig. 1.)

The apparent extensive destruction of the vocal cords, the evidently cicatricial narrowing of the upper larynx, and the extremely friable nature of the small mass made one naturally consider for a moment the possibility of an exceedingly atypical case of laryngeal tuberculosis. It is, however, very unusual to have the posterior commissure free in tuberculosis of the larynx, and besides, this disease is excessively rare in young children. Spreads of the friable matter showed only epithelial cells; tubercle tissue, granulation tissue, and bacilli being entirely absent.

Sections through the whole left vocal-cord region showed the cord very markedly shortened and somewhat thickened, its connective tissue largely infiltrated with round cells, the elastic tissue diminished, the fibrous tissue increased. The epithelium on the upper surface showed no tendency to invade the deeper tissues, but was itself hypertrophied. The papillary layer was flattened out. From the upper surface projected large papillæ up to 1½ mm. in length, very friable and often broken off. The papillary layer and epithelium seemed about equally affected, as is characteristic of this class of tumors. (See Fig. 2.)

The case, more closely studied, presents some curious and perhaps unique features. The shortening of the cords is evidently not so much if at all due to direct local traumatism, as to the general contraction (cicatrization) of the larynx; this view being corroborated by the disappearance of the false bands and ventricles, and the great deformity of the epiglottis. We naturally assume that the intubation must have been responsible for these changes; papilloma in general and this one in particular being so conspicuously a benign growth as not in any way to account for the atrophy and distortion of the laryngeal tissues. The question arises, how the operation can be blamed for this unfortunate condition, and is best answered by a brief *résumé* of the history of intubation in chronic stenosis and more especially in papilloma, and the pros and cons of this therapeutic procedure.

First, let us review the history of intubation in chronic stenosis of the larynx. Loiseau[1] was the first to suggest intubation of the larynx, Bouchut[2] the first to employ it, both originally with reference to relieving acute pseudo-membranous stenosis, for which purpose the dictum of Trousseau and the Imperial Academy[3] consigned it to early but not permanent oblivion.

For the treatment of chronic stricture, the tube was taken up again by Schrötter,[4] who employed graduated hard-rubber catheters. These instruments had two serious faults: their shape was in no way adapted to the rima glottidis, and they could not be left *in situ* on account of their liability to slip.

Almost thirty years after Bouchut, O'Dwyer's great invention appeared on the scene, and one of the early applications of his tubes was in a case of cicatricial stenosis.[4] In a paper read before the Ninth International Medical Congress[5] he presented four additional cases. Stoerk[6] was the first in Europe to apply O'Dwyer's instrument to this class of cases, but does not at that time seem to have fully realized that great superiority to Schrötter's tubes, which lies just in avoiding the two great defects of the latter. Since then, O'Dwyer's method has rapidly become the regular procedure in cicatricial stricture of the larynx.

Proceeding to the subject of obstruction by tumors, in particular papilloma, it undoubtedly seems at first glance a short step to extend the range of intubation from cicatricial stricture to this field. The first report I can find, recommending intubation for papilloma of the larynx, consists of two cases narrated rather enthusiastically by Baldwin,[8] in which the treatment effected apparent cure. Schmiegelow[9] gives the case of a child aged three years, in which the stenosis was relieved, but laryngotomy had finally to be performed. He considers intubation dangerous in papilloma. Albert Rosenberg[10] also warmly recommends intubation, but only in those cases which are not readily

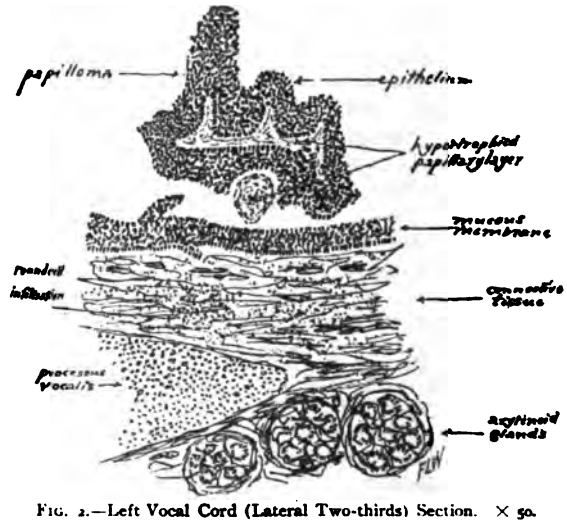

Fig. 2.—Left Vocal Cord (Lateral Two-thirds) Section. × 50.

operable from above, in which the growths are multiple, or in which the dyspnœa is urgent. He has since somewhat modified this standpoint, but not in favor of the procedure.

There is, however, another side to the picture. I have mentioned Schmiegelow's hesitancy to employ this treatment, but Lennox Browne[11] and Baumgarten[12] go farther: suggesting the possibility of breaking off

tumor fragments—recalling the extreme friability of the present specimen—with the dangers of serious hemorrhage and of foreign-body inhalation. I might add that it is generally agreed that intubation in these cases is, after all, a makeshift. Even if the forcible introduction and the subsequent pressure of the tube do break off bits of the tumor, and these are happily coughed up, I doubt if a permanent cure can thus be effected. Subsequent radical removal will be required, which, as my laryngological friends know, is not the easiest or most permanent thing in the world. Why not perform tracheotomy at once, and then operate on the tumor or tumors at leisure?

A more serious and probably more frequently incurred danger of the operation is that of injuring the laryngeal tissues. The usual total duration of the tube *in situ* in pseudo-membranous stenosis is forty-eight to ninety-six hours, though Seward [13] had a record of 1,128, and Baer[14] of 1,248 hours. From the earliest days of the operation gentleness of manipulation, frequent changing, and the shortest possible employment have been counselled.

Galatti [15] narrates two cases of his own, both of diphtheria, in which the tube was left in two hundred and thirteen and four hundred and thirty-six hours respectively, with consequent extensive decubitus. Previous to this, a case by Carr[16] and one by Schwalbe[17] are the two earliest I could find. Since then the subject has been gone into thoroughly by Baudran[18] and Fischer.[19] The authorities agree that the usual sites of laryngeal ulcers after intubation are on the anterior wall of the cricoid and below the base of the arytenoid, places against which the tube rests when in position; they also agree as to the dangerous strictures of the organ caused by cicatrization of these ulcers. I shall pass very briefly over the direct injury of the vocal cords by operators who are rough in their manipulations, or employ tubes of too great diameter; this class of cases merely going to show that intubation is not the trivial and easy procedure that one might imagine it to be at first sight.

In the face of this evidence we must decide the case against intubation, and, moreover, assume that the correct diagnosis was not made last winter, though an able clinician was in charge. Still, one might imagine that the task must have been less difficult than I found it, as the epiglottis could at that time hardly have been so great an obstruction to the view. We may pass over this point, as very few practitioners can perform laryngoscopy on a child of eighteen months, no matter how tractable. What is quite inexplicable, in the light of past experience, is that the intubation was so long persisted in, and so much valuable time for other more thorough procedures wasted.

After the above criticism, let us finally summarize what three of the best authorities, Baumgarten,[11] A. Rosenberg,[20] and Hunter Mackenzie,[21] substantially agree in considering the proper treatment of papilloma of the larynx. Three operations are recommended, to be chosen in the following order: First, the removal from above by curettage or cautery; secondly, tracheotomy with subsequent removal from above or below; thirdly, thyrotomy and anterior removal, with or without preliminary tracheotomy.

The first method is suitable for adults or older children, when the symptoms are not urgent. I cannot see how it is to be carried out in a child of two years, even if unusually tractable, which is never saying a great deal. The second operation is generally the appropriate one, when the first is not feasible; the third is universally recognized to be dangerous—a last resort. Intubation is scarcely mentioned, and then unfavorably; as before stated, it can never be more than palliative, and, as we have seen, is replete with danger.

It seems to me no supererogation to draw the following lessons from the case as presented:

1. Intubation is not to be employed indiscriminately whenever there is a laryngeal stenosis; tracheotomy is not yet obsolete.

2. In chronic laryngeal stenosis in children we must bear in mind the frequency of papilloma.

3. Prolonged intubation is always perilous, with special risks in cases of obstruction by tumors.

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SOME FACTS BEARING UPON THE MALARIAL PROBLEM.

By RICHARD WAGGENER, M.D.,

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PHARMACIST, UNITED STATES NAVY.

So much has been written of late relative to the cause of malaria—there being such a wide-spread interest among scientific and professional men concerning the same—and, as it is a subject bearing upon the life, health, and prosperity of a vast number of people, I feel called upon to offer for publication my observations in this line during the past twelve years.

After graduating in medicine and upon locating in the town of Warrington, Fla., I immediately began, conjointly with the military surgeons on duty in the vicinity at the time, Dr. John W. Ross of the navy, and Dr. W. C. Gorgas of the army, a crusade against the drinking of pump (driven-well) water by the inhabitants. People were told, whenever the opportunity occurred, of the danger of drinking water obtained from their driven wells, and encouraged to get water for drinking-purposes from the large brick cisterns in the navy yard, and from the hospital spring, which spring furnishes the only water free from vegetable organic matter I have ever seen obtained from the ground in that locality.

There was some improvement in the healthfulness of the villages during the year 1892, yet malarial diseases continued to prevail. The task of convincing the residents that the water which they had been drinking for years was dangerous and unfit for that purpose was not an easy one by any means; but the work was persevered in, with the result that, in 1893, there was a still greater improvement in the healthfulness of the villages. From that time onward the place grew more and more healthful each year, and from the year 1895 to the time of my departure thence, September 28, 1900, I do not remember to have heard of, or to have been

called to, a single case of malarial fever, although nearly all of the medical work of the villages fell to my hands.

The most striking examples of the beneficial effect of the change of water, as well as the instances most clearly illustrating the correctness of the writer's views regarding the causation of malaria, occurred in large families—families which had not gone through a summer or autumn for years without having more or less malarial fever among the members, often two or three of them being sick at one time.

As to mosquitos, I am free to confess that I do not know whether the anopheles species exist in that locality or not, or whether they existed during the time when the locality was so notoriously malarious, and have since become exterminated through some unknown agency; but I do know that there are, and always have been, mosquitos there galore, apparently all kinds, big and little, brown and gray, and that they exist the whole year round. There is only one house in the village provided with screen doors and windows, and a large majority of the inhabitants sleep without mosquito nets.

As to the experiments now going on in Italy, I do not think that a few months' trial will demonstrate anything, should the evidence remain negative, because experience has shown that in the malarious sections of our South newcomers usually remain exempt the first year of their residence and develop malaria during the second or third year.

In conclusion, I will say that my observations have thoroughly demonstrated to my mind that malarial fevers are mainly, if not entirely, due to drinking-water contaminated with vegetable organic matter.

TETANUS.

By JOHN W. S. McCULLOUGH, M.D.,
ALLISTON, ONT.

The patient, a man fifty-six years of age, had his right foot crushed in a machine late in the evening of October 22, 1900. The two smaller toes were badly crushed, all of the soft tissues were torn from the heel, remaining attached, however, on the inner surface. The inside of the leg for a distance of three or four inches was chewed by the cogs of a pinion. There was severe hemorrhage. I saw him a couple of hours after the accident and, assisted by the local druggist who administered chloroform, I removed the crushed toes and the metatarsal bone of the little toe, scrubbed the foot and wounded parts with soap and water and with bichloride solution 1 : 1,000, adjusted the torn flap, and applied a moist dressing of acetate of aluminum. The patient rallied well and continued to improve until nine days afterward, when he began to have difficulty in swallowing. The next day there was considerable stiffness of the jaws, when he was given two doses of antitetanic serum at an interval of six hours. In addition I gave him gr. xv. each of potassium bromide and chloral every three hours as long as he was able to swallow. He was fed by means of a tube with a great deal of difficulty, the jaws being so rigid. At about twenty-four hours from the first appearance of the symptoms of tetanus, he began to have slight spasms. They continued more or less until his death, forty-eight hours later. They were not very severe, being manifested by a risus sardonicus and stiffening of the chest and arms at intervals of from five to ten minutes. The legs were not affected. He died of asphyxia twelve days after his accident. There did not seem to be any special improvement following the administration of the serum, though it may have had an effect in lessening the severity of the spasms. The difficulty in swallowing was the most marked symptom. This, I believe, is an unusual early symptom, but marks a severe infection.

Therapeutic Hints.

Tartrate of Piperidin is the most successful uric-acid solvent, having greater power than lycetol, piperazin, or urotropin.—E. Hawkins, *Therapist.*

Typhoid Fever.—In children and young persons after convalescence an exaggerated growth of the long bones frequently occurs.—Dreschfeld.

Epistaxis.—If compression is not effective inject a five- or ten-per-cent. solution of gelatin in artificial serum, or apply by means of a tampon.

Chorea.—Fowler's solution, ♏ xv. t.i.d., effected a cure in three children and one adult after an average stay of eighteen days in hospital.—Carter.

Acute Bronchitis with difficult expectoration: caffeine 0.30 cgm. at bed-time, and during the day citrate or acetate of potassium every four hours in dose of 1.20 gm. to 1.80 gm.—Edgeworth.

Contraindications for Paracentesis of Membrana Tympani.—1. Presence of fluid in the middle ear without pain or fever. 2. Pain for twenty-four hours with congestion, but without fever or demonstrable presence of fluid.—Pierce.

Antitoxin Dosage in Diphtheria.—Two thousand units should be given to mild cases; from 3,000 to 4,000 if the uvula and tonsils are affected; from 4,000 to 5,000 if the nares are involved. In all septic conditions 5,000 to 6,000 units of antitoxin should be given at once.—Koester.

Diagnosis of Appendicitis.—In most cases the diagnosis may be made upon the following symptoms being present: 1. Sudden onset in one previously well, with or without vomiting. 2. "Board-like" condition of right abdominal wall. 3. Pain at the McBurney point.—Charles R. Parker.

Goat Milk has the advantage over cow's milk of being free from tubercle bacilli and can be taken quite fresh. Contrary to general opinion, the taste is not disagreeable if the animals are properly selected and properly kept, being considered of a more delicate flavor than cow's milk. The quantity of fats, casein, and salt varies greatly in the different varieties of goat. For infants and dyspeptics the weaker milk may be chosen, while the stronger answers better for debilitated subjects.—*Journ. de Méd. de Paris*, March 25, 1900.

Treatment of Locomotor Ataxia.—The treatment of tabes may be summarized as follows: 1. The determination whether anti-syphilitic treatment shall be undertaken. 2. The utilization of electricity, hydrotherapy, massage, and counter-irritation. 3. The education of the ataxic members, the rehabilitation of purposeful movements. 4. The administration of the iodide of potassium in tonic doses, nitrate of silver, and restoratives. 5. The relief of individual symptoms, such as pain, crises, dereliction of function of the bladder, ocular palsies, amaurosis, and trophic disturbances. 6. The adoption of a plan of treatment and carrying it through. This may be construed as psychical treatment if one so desires. However that may be, no one who has had experience in treating locomotor ataxia will be likely to deny its importance. —Collins.

Reviews and Notices.

ON THE USE OF MASSAGE AND EARLY PASSIVE MOVEMENTS IN RECENT FRACTURES and Other Common Surgical Injuries, and the Treatment of Internal Derangements of the Knee Joint. Three Clinical Lectures delivered at St. George's Hospital. By WILLIAM H. BENNETT, F.R.C.S., Senior Surgeon to St. George's Hospital, etc. Reprinted after revision from *The Lancet*, with Twelve Illustrations. New York, London, and Bombay: Longmans, Green & Co. 1900.

WE agree entirely with the author of this treatise as to the great value of careful and systematic massage in recent fractures and sprains. The use of massage in these conditions does not perhaps receive the attention which it deserves, and its value is therefore not sufficiently recognized. The first lecture of this series is designed to give directions how and in what class of cases massage is of most value, and the subject is well presented. There are several explanatory illustrations. The description of the treatment of sprains is very good, and the advice given is excellent. Many Americans have been using massage in these conditions for a long time, so that there is nothing very novel in the treatment, but a good presentation of the subject, such as this, is always useful. Displacement of the semilunar cartilages of the knee is the important internal derangement which receives attention.

THE PRESENT POSITION OF THE TREATMENT OF SIMPLE FRACTURES OF THE LIMBS: An Address Delivered in Opening a Discussion at the Meeting of the British Medical Association held at Ipswich, August, 1900. By WILLIAM H. BENNETT, F.R.C.S., Senior Surgeon to St. George's Hospital, etc. To which is appended a Summary of the Opinions and Practice of about Three Hundred Surgeons. Reprinted after revision from the *British Medical Journal*, October 7, 1900. London, New York, and Bombay: Longmans, Green & Co. 1900.

THE title page of this little volume explains what it is. The author's opinions upon the subject of fractures are advanced and sound and, in the form of this address, make interesting reading. The appended summary of the opinions of three hundred surgeons in various parts of the United Kingdom adds an element of interest, and gives us a good idea of what methods are looked upon with most favor by British surgeons.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY. Vol. XXV., 1900, 454 pp. Illustrated. Philadelphia: 1900.

THE scientific transactions of the American Gynæcological Society for the year 1900 were of high value and interest. Almost the entire range of female genital diseases has been covered, and, in addition, there were two valuable contributions on the surgery of the ureters, by Petersen and Bovée. The work of the society was concluded by the personal reminiscences of the progress of gynæcology by Dr. T. A. Emmet. The volume is well printed and nicely illustrated.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY: An Elementary Laboratory Book for Students and Practitioners. By H. T. CURTIS, B.S. and M.D. Lond., F.R.C.S., Late Surgical Registrar, University College Hospital; Formerly Assistant to the Professor of Pathology, University College, London. Pp. 291. London, New York, and Bombay: Longmans, Green & Co. 1900.

THIS volume differs in but slight degree from the many other works on the same subject. The author has, however, included some very interesting details concerning the etiology of cancer, ringworm, favus, etc., which are of intense interest to the microscopist and clinician. The book is well written, well illustrated, extremely clear, and practical.

ON SOME CIRRHOSES OF THE LIVER: being the Lumleian Lectures for the Year 1900. Delivered before the Royal College of Physicians, London. By WALTER BUTLER CHEADLE, M.A., M.D. Cantab., Fellow of the College; Senior Physician and Lecturer on Clinical Medicine, St. Mary's Hospital; Consulting Physician to the Hospital for Sick Children, Great Ormond Street. With Illustrations. Pp. 109. London: Smith Elder & Co. 1900.

ANY contribution which can help us in the knowledge of diseases of the liver should be welcomed by the profession at large, and in this little volume before us we have a valuable work by one specially able to instruct us on these subjects. The work, although short, contains much valuable information, corrects many prevalent misunderstandings, and gives good, helpful advice. Special praise is due the eleven full-page colored plates which illustrate the pathological conditions discussed in the text.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE and its Associated Clinical Methods, with Chapters on the Insurance of Substandard Lives and Accident Insurance. By CHARLES LYMAN GREENE, M.D., St. Paul, Clinical Professor of Medicine and Physical Diagnosis in the University of Minnesota. Pp. 426. With Ninety-nine Illustrations. Philadelphia: P. Blakiston's Son & Co. 1900.

THIS work has been written with a view to teach students and practitioners the full significance of all the questions asked on the usual insurance blank, as well as the proper method of gaining knowledge of the applicant's health. The technique of physical examinations of the chest is especially well formulated by the author, and some well chosen practical diagrams make the instruction unusually effective. The chapter on urine analysis is very complete and the best and quickest methods are fully explained. The book is interesting, and brings out much matter which ordinarily is not to be found in medical text-books. Its perusal will well repay even those not interested in insurance examinations; for those who are agents or examiners the work is invaluable. Heredity, the influence of occupations, the risks on substandard lives, and accident insurance are all well-treated subjects.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., assisted by CHARLES ADAMS HOLDER, M.D. Vols. II., III., and IV. 1900. Philadelphia and New York: Lea Brothers & Co. 1900.

THE June issue contains articles on surgery of the abdomen, including hernia, gynæcology, diseases of the blood, diathetic and metabolic diseases, diseases of the glandular and lymphatic system, ophthalmology. The September number contains articles on diseases of the thorax and its viscera, including the heart, lungs, and blood-vessels, diseases of the skin, diseases of the nervous system, and obstetrics, while the last volume of the year covers diseases of the digestive tract and peritoneum, genito-urinary diseases and syphilis, fractures, orthopedics, diseases of the kidneys, physiology, practical therapeutics, etc. The list of editors for the various departments constitutes an almost formidable array of talent. Among the names are included those of William Ewart, Richard Norris, William Spiller, Henry Stelwagon, John Clark, William Coley, Edward Jackson, Alfred Stengel, Henry Baker, William Belfield, Joseph Bloodgood, John Bradford, Alfred Brubaker, Max Einhorn, and E. Q. Thornton. Each one has done conscientious work, and although some chapters show an easier manner of writing and a more facile flow of words than others, still in science one must not look for a constantly pleasing literary style. The most entertaining chapters, however, are those in which the editor shows, first of all, a deep personal knowledge of the subject in hand, and, secondly, does not refrain from throwing his personality into the work, and to dwell upon what he has himself seen and done to emphasize or refute the statements his position calls upon him to record. The work as a whole reflects merited credit upon the publishers and various writers; but, as we have previously pointed out, there is a certain drawback in having to wait a full year for the completed work. To be of the greatest value as a means of reference to current and recent literature, a year-book should cover all departments simultaneously. Still, when the last volume has been delivered, one has in this set of books a very complete *résumé* of the actual advances in medical and surgical science for the period which each volume represents.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By EMILY M. A. STOREY, Superintendent of the Training-School for Nurses, St. Anthony's Hospital, Rock Island, Ill.; Author of "Practical Points in Nursing," "Practical Materia Medica for Nurses," etc. Pp. 190. Illustrated. Philadelphia: W. B. Saunders & Co. 1900.

LIKE most of this author's works, the present volume is practical, telling neither too much nor too little, and is written in an exceptionally clear manner. The history of bacteriology, a general description of the varieties of bacteria and their relation to disease, the theory of antitoxins, antisepsis, disinfectants, and deodorants are the well-handled subjects in the first part. In the second half, a careful description and explanation regarding the care of the operating-room, the methods of sterilization, care of instruments, the lists of instruments possibly needed in the different operations, the proper methods of keeping charts or taking histories, and the method employed in making antiseptic

gauzes, etc., afford valuable reading to a nurse. Inflammation, catheterization, douches, enemata, preparation of a patient for operation, the sequels and complications met, and the signs of death and preparation for autopsies are all well described by one evidently thoroughly at home in the sick-room.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS, Fifteenth Session, held at Washington, D. C., May 1-3, 1900. Vol. XV.

THIS volume represents a series of papers, with detailed discussions embodying many practical suggestions on current topics, and will well pay a careful perusal.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LONDON WATER QUESTION—THE COMPANIES' COUP—YELLOW-FEVER COMMISSION—PARLIAMENT, SMALLPOX, AND VACCINATION—GLASGOW EPIDEMIC—BRITISH MEDICAL CONSTITUTION—PLAGUE—BIRMINGHAM CHEAP CONSULTING SHOP.

LONDON, March 1, 1901.

POLLING for the county council is to take place to-morrow, so we are in the midst of electioneering excitement. It is true we are bearing ourselves very quietly, but the apathy of the London rate payer seems at last to be roused and this on a great sanitary question—the water supply. The companies which have so long enjoyed the lucrative monopoly of providing us with water, encouraged perhaps by the failure of the county council to obtain the control of this necessity of life, joined together in a demand which can be described only as an attempt at wholesale robbery. They proposed to compel every householder to put up a cistern and new fittings. The alleged object was to prevent waste—the hidden but real motive was to enhance the value of their monopoly in the prospect that they will soon be bought out. The cost of the changes has been estimated by competent engineers at nearly a year's rental of the house property of the metropolis—a matter of millions sterling, and these millions the companies wish to compel the householders to pay—although their representatives have had to admit that the change is entirely for their shareholders' benefit. They have so long battened on their monopolies and defied all efforts to improve this condition of things that they seem to have lost all sense of right and wrong. Perhaps they have gone too far, and the election to-morrow may be determined by a revolt of the rate payer with a mandate to the county council to end the robbery of the monopolists.

An official inquiry has been going on all the week as to the effect of the new regulations proposed by the companies. At this inquiry the witnesses for the companies have been obliged to make admissions which must condemn the proposal as one for deliberate extortion and which might wreck the government if sanctioned. Accordingly, yesterday counsel for the companies withdrew their scheme and then had the face to ask that their opponents should be saddled with the costs of the inquiry, and in the House of Commons last night, questioned as to this, Mr. Long said the expense incurred by local authorities in contesting the regulations could not be repaid. Thus the burdened rate payers are to be mulcted for resisting robbery. But perhaps more will be heard on this point; for the proposals are withdrawn only *pro tem.* A revised set of regulations is ready in the offices of the companies. It differs little from the others and may be sprung on the public at any moment. In fact, the present climb-down is only in the hope of influencing to-morrow's election. If the party which advocates the purchase by the county council is by this move left in a minority, a renewal of the proposals is certain to follow at an early date.

Then we may be once more asked to revert to the unwholesome cistern storage and undo the sanitary work of half a century. Doctors and hygienists have during that time been urging on the public the dangers of an intermittent supply and proving that cisterns were often death traps. For London to go back would be to fall from her high position in the van of sanitary progress.

An interim report of the yellow-fever commission, sent by the Liverpool School of Tropical Medicine, has a pathetic interest on account of the death of Dr. Walter Myers. Both the commissioners were attacked and Dr. Myers died. His colleague, Dr. Herbert Durham, therefore, submits for the present only a shortened interim report, showing the points on which the two had reached conclusions. Among these the first in importance is that they found in each of fourteen cadavers examined a fine small bacillus similar in diameter to that of influenza. It was present in the kidney, in the spleen, in the mesenteric, portal, and axillary glands, etc., taken from the bodies directly after death. It was often found in the contents of the lower intestine in extraordinary preponderance over other organisms. Other bacteria seemed absent from the organs in which this was present.

The bacillus has probably been seen by Sternberg, Freire, and Valle, but its importance has not been recognized, on account of the difficulty with which it is stained and grown on artificial media. It is also small and few in number.

Much search was made for protozoa, and the conclusion reached that yellow fever is not due to this class of parasite. It is admitted that much further work remains to be done before the final establishment of this fine bacillus as the cause of yellow fever, but the evidence in favor of it is stronger than that for any other germ. It is suggested that the acquisition of a new intestinal bacterium would explain the immunity of the acclimatized.

In parliament the war-hospitals commission was sure to be challenged. In reply to a question, Mr. Broderick promised to deal in an exemplary manner with any case in which it should be proved that a witness had been prejudiced by giving evidence. This will show you the animus that is exhibited in some quarters.

A similar animus has been shown by questions concerning smallpox and vaccination. Some of the allegations thus made were said by Mr. Wyndham to be absolutely without foundation. Notice has been given of a bill to promote easier exemption from vaccination. The government has refused to entertain any such question. Leicester and Gloucester have evidently continued their neglect of the one precaution available against smallpox.

Glasgow has a smart epidemic of smallpox, but this has been checked by revaccination, and it is hoped the diseases may have disappeared before May, when the exhibition is to be opened.

The constitution committee of the British Medical Association has issued its report. It is very lengthy and forms a heavy supplement to the *Journal*. This is unfortunate, as it is more likely than not to serve as a diminutive blue-book interment. Great changes are proposed, which are to be considered at the annual meeting, but which are already giving rise to discussion in the *Journal*.

Plague seems to be stalking from port to port and threatening all the lines of communication. It has been officially reported from Cape Town, Sydney, Aden, Hong-Kong, and Singapore. The isolated cases in our own ports have illustrated the readiness of our officers of health. But the occurrence of cases in Cape Town is a much more serious thing and is giving rise to grave anxiety. Fresh cases were announced yesterday.

The Birmingham Consultative Institute is not yet dead. Its committee lately met, when Mr. Arthur Chamberlain, its promoter, took the chair and uttered a foolish threat, that if the medical council deprived their consultant of his means of living the feeling of the committee would be to appeal to a high court of justice. Of course it is safe for Mr. Chamberlain to defy the council as he has defied the feeling of the profession. Dr. Irvine, however, may perhaps decline to do so. If not—well, who knows? Perhaps the council may once more exhibit its pusillanimity—possibly not.

OUR PARIS LETTER.

TO THE EDITOR OF THE MEDICAL RECORD.

TREATMENT OF CHRONIC DYSPEPSIA BY PHOSPHORIC ACID—THE PARIS WATER SUPPLY—TREATMENT OF INTESTINAL PERFORATIONS IN TYPHOID FEVER—CAUSES OF DEATH IN TYPHOID FEVER—FIGHT AGAINST ALCOHOLISM.

PARIS, March 10, 1901.

SIR: The Society of Therapeutics has been discussing recently the treatment of neurasthenia, and Professor Bardet, who is one of the best known pharmacologists in France, spoke of what he considered one of the most frequent causes of this illness, *i.e.*, chronic dyspepsia. In a great number of cases this condition is brought on by an abuse of nitrogenous food, and hyperacidity is thereby induced. In such cases hypoacidity in the fluids of the body is favored, and the best means of controlling this condition is to diminish the quantity of albuminous foods.

Some physicians, like Albert Robin, recommend the use of phosphoric acid, which is administered in doses of from one to three grams daily. No serious accident has been caused so far by the use of this drug; in some cases, however, a certain laxative action is produced, which may be useful when there is constipation, but should be avoided when there is any sign of irritation of the intestine. Professor Mathieu, who is a well-known specialist for stomach

affections, recommends using albuminous water made with the white of eggs, as a means of hiding the acid flavor of the drug. The solution should, of course, be rather weak. In some cases pepsin may be added.

It should be remembered that some patients cannot stand such large doses, and that it is well sometimes not to prolong the administration of the drug.

An important question for the hygienist is that of the drinking-water of a city, and a recent article in the *Presse Médicale* on this subject, in so far as it concerns the city of Paris, is of some interest, as it shows how the water supply has been established, and what methods have been employed to make it as pure as possible. In former times the supply was furnished in a very primitive manner. There were, it is true, some eighty public fountains where water was to be found, and then there was the water coming from the springs to the south of Paris, and brought into the city by means of the old aqueduct, built by Julian the Apostate and renovated by Henry IV. There were some other springs, too, to the north of Paris, coming from the heights of Belleville and Meuilmontant, and used by the monasteries of St. Lawrence and St. Martin-in-fields, and, later on, under the reign of Philip Augustus, furnishing water to the celebrated Fontaine des Innocents. At that period Seine water was extensively employed—6,800 cubic metres of it out of a total supply of 8,000. In 1802 Bonaparte decided upon the construction of the Ourcq Canal, which was to bring to Paris the greater part of the drinking-water. For a number of years nothing was added to the supply, but in 1854 an artesian well was dug in Grenelle. The population of Paris was then 1,100,000, and there were only 80,000 cubic yards, which made 70 litres for each inhabitant per diem. A familiar figure in the streets of Paris at that time was the water-carrier, who charged 90 centimes, or 18 cents, for a cubic yard of water. Typhoid fever and cholera were then very rife. In 1854 Baron Haussmann was entrusted by Napoleon III. with the position of prefect of Paris, and as such called to his aid a civil engineer, Belgrand. Paris, in 1855, had a water supply of 80,000 cubic metres, and at the moment of Belgrand's death it had been increased to 370,000 cubic metres. The main idea in Belgrand's plan was to have two distinct set of pipes and reservoirs by which the water should be distributed, one set for the water used for the streets, the cleaning of stables, courts, etc., and another set for household use. Unfortunately, this idea has been only partially carried out, and there still remain communications between these two systems by means of some ten sets of apparatus, which are, however, to be done away with shortly. During the winter the water in Paris is good, but during the latter part of August and the month of September it is sometimes found necessary to employ river water, which, however, is filtered. The results furnished so far by this proceeding have been far from satisfactory. The real important transformation that is requisite is to find means of having special reservoirs for river water at a sufficient height to permit of its being used in every part of the city.

Amongst the different springs used for furnishing drinking-water in Paris, the most important is the Vanne, which furnishes water to the town of Seres. Typhoid fever having broken out in this town as well as in Paris, it was easy to understand that the water at fault was that of the Vanne.

At a recent meeting of the Surgical Society of Paris the question of intestinal perforations was broached, and Professor Lejars spoke at length on the subject. The diagnosis of this complication would seem to be rather difficult, and yet it is of the utmost importance that the diagnosis should be made as soon as possible. According to this report, and, as Dr. Loison said, the three cardinal symptoms are: (1) a sharp abdominal pain, more or less violent and localized; (2) a sudden rise or fall of the temperature; and (3) a change in the character of the pulse, which becomes more frequent and smaller, though remaining regular.

Dr. Loison has collected ninety cases of operations, with seventy-four deaths and sixteen cures, a proportion of 21.3 per cent. This is not so bad a result if one considers the fact that death almost always results from an expectant treatment. If the perforation takes place in the first stages of the disease, the prognosis is more grave, according to Dr. Routier, surgeon at the Necker Hospital. As to a speedy operation, there is no question as to the advisability of its being carried out as soon as possible, as out of the sixteen recoveries reported ten were from operations in the twenty-four hours following perforation.

A military surgeon, Dr. Reutlinger, has just published an interesting article on death in typhoid fever. The author had recourse to three hundred and fifteen autopsies. During the first week the mortality was almost nil, but increased rapidly during the second and third weeks. In forty-seven per cent. of the cases, death was supposed to be due to a hypertoxic condition, as there were no distinct lesions. In thirty-five per cent., death was due to intestinal hemorrhage or perforation. In five per cent. of the cases, diphtheria, erysipelas, or dysentery was the cause. Sudden death generally takes place toward the nineteenth day. This event is rarely preceded by changes in the pulse, but convulsions or syncope may be observed. But a fact to be insisted on is that one never found any trace of cardiac thrombosis or pulmonary embolus, either of which is generally supposed to be the cause of death in some cases.

The fight that has been going on against alcoholism in France is beginning to enter a new phase. The principal obstacle to be found to any change in the present laws is that so many of the electors earn their living from wine and alcohol producing, and this prevents any radical measure being taken. Last year the minister of war forbade the sale of intoxicating drinks in the barracks, and the minister of public instruction has advised teaching in schools the dangers of alcoholism. In one regiment the colonel has organized a temperance competition, which is to last several months, between the different companies of his regiment. Some railroad companies are going to suppress the sale of liquors to their employees inside the stations. Public speeches are also being made at Nantes, at Amiens, at Chateauroux. But there is one point on which no definite conclusion has been reached: it is as to the real action of alcohol when given to workmen who are underfed. Some experiments recently carried out would tend to show that it is better to abstain completely from any such means of stimulation.

"TUBERCULOSIS IN PRISONS AND REFORMATORIES."

To the Editor of the Medical Record.

Sir: In the Medical Record of March 3, 1901, appeared a very interesting article with the above caption by Dr. S. A. Knopf; and since it treats of a subject with which I have had to deal both in a professional and official capacity, I should like to reinforce the author's arguments by the presentation of a few facts. To begin—and to give the reader an idea of the manner in which the Huntsville prison is conducted—I shall quote from my biennial report of November 31, 1900, viz.:

"I find no necessity of offering recommendations—or even suggestions—looking to the betterment of the sanitary and hygienic conditions of the prison, since the indefatigable work and careful attention of other officers have already accomplished all that could be desired. I have all along noted with satisfaction and pleasure the scrupulous cleanliness of the cell buildings, bedding, grounds, and other buildings of the prison. This commendable attention to the details of cleanliness is one of the primary factors in the preservation and maintenance of health, and is conducive to the reduction of disease among the inmates to its minimum of destructiveness. The water and ice furnished meet every requirement. The food has been amply sufficient in variety and abundant in supply, and has been served in the best manner possible. . . . In December of last year the consumptives of the penitentiary system were congregated at the Wynne Farm, where every necessary provision has been made for their care and treatment. I am convinced that the isolation of these unfortunates was a wise and humane act, alike to the sick and well: for it is a well-established fact that consumption is an infectious disease. The bacilli in the sputa and other emanations of the body of one thus afflicted may readily find lodgment in the tissues of a healthy person and set the seal of suffering and early death upon him. If one so affected should happen to be in the enjoyment of good health—his power of digestion and assimilation of food being in a normal and vigorous condition—there is a possibility that the resisting-power of the system may be able to throw off the poison and thereby thwart its ravages. In this disease the lungs are the favorite seat of attack, because its germs, being blown about in the dust, more easily reach the air-passages. But even then the bacilli may become encysted and held in abeyance for an indefinite time, provided the subject is of strong constitution, and is not tainted with any of the causes that predispose to consumption. In such cases it is possible to eventually effect a cure: provided, further, that the hygienic conditions encompassing the subject are of the most favorable character. And, while the lungs are the favorite seat of attack, they commonly furnish the media for the infection of others. For, once the tubercles in the lungs break down, the immediate result is a softening of the lung tissue, which, in the form of a semi-purulent matter, is cast off in the frequent acts of coughing. This matter, becoming dry, fills the air that is breathed in the form of an amorphous or impalpable powder. The proper recognition of this fact would of itself

warrant the removal of such sufferers from among the great number of healthy prisoners. And again, the experience of all medical men of the present day, who have made the subject of consumption one of special investigation and study, has taught them that the open air and outdoor exercise regimen is the chief factor in holding in check this dread disease, and forms the only foundation upon which to rest the hope of ultimate recovery. . . . In consideration of these facts, I am convinced that the events of the future will abundantly prove the wisdom of the act of separation. Indeed, I think that a careful study of the mortality tables, as compared with those of my honorable predecessors, will show that good results have already been realized. In the biennial report of this hospital ending October 3, 1898, it was shown that twenty-one had died of consumption. During the two years ending with this report only eight have so succumbed—before the separation. Add to this number ten deaths at the Wynne Farm, and we have a total of eighteen as against twenty-one, notwithstanding an increased prison population."

In the quotation from the report certain facts are revealed, as well as my views on the subject of the importance of isolating consumptive prisoners. At the date of the report there were in the Texas penitentiary: Whites, 1,630; negroes, 2,323; Mexicans, 518; Indians, 3. Since among the whites are representatives from almost all civilized countries, it will be seen that the Texas prison is quite cosmopolitan in character. But a word on this point. Many of these men come from the ranks of the tramp army. Like migratory fowls, these unfortunate people drift south to spend the winter. Some of them are consumptives, and come south to escape the severity of northern winters. Possibly some of them come with scanty means, seeking the recovery of health. But be that as it may, many of them bring up in prison. They are generally men who have been exposed to all manner of dissipations and want, and are, therefore, fertile soil for the vigorous growth of the tubercle germ. The negroes of the South are for the most part careless and indolent. Most of them live in miserable huts and are at all times underfed; and it would surprise the northern physician to come here and see the very large percentage of negroes that is tainted with venereal diseases of varying stages and character. Such beings are, of course, the favorite subjects of the bacilli of consumption. The Mexicans come from the western prairies where as rancheros they have seldom known the comforts of a home; but, being the true children of nature, they are for the most part healthy when received. But, like the Indians who were put in the comfortable dormitories of government schools, they are unfit for cell buildings, hence it appears to be no hard matter for the Mexican to become infected with tuberculosis.

Add to the above characteristics of convicts the fact that many are received suffering with consumption—even in the last stage—and it will not be difficult for the medical man to understand that the disease here became a problem of no small moment, and the quotation from my report shows how we have tried to solve it.

The Wynne Farm is situated well beyond the limits of the city of Huntsville, and is an ideal location for the purpose for which it is used. The men sleep in a large open pavilion or stockade where each one has a quantity of fresh air, almost equal to that he would enjoy if "camping out." The kitchen and spacious dining-room are also constructed so as to admit of the free circulation of air. All the buildings are kept clean and the whitewash brush is never permitted to lie in idleness. Cheap spittoons are used, which are kept disinfected by a liberal use of chloride of lime and carbolic acid. When the men are out the pavilion is thoroughly fumigated with the vapors arising from the mixing of these two chiefs of disinfectants.

Every day that is free from damp and chill, every man who is able to do so is expected to occupy his time in some light work in the orchard, garden, or farm. If one is not able thus to exercise, he is required to sit out in the porches, walk about the yard, etc.

These men are required to bathe often. They are supplied with comfortable and suitable clothing which is kept clean by frequent washings. The food consists of vegetables, poultry, beef, bacon, rice, oatmeal, fruits, etc., all of which is properly cooked. Fresh milk and butter we have in abundance, with coffee and tea.

When any of the men are very weak, they are given whiskey *pro re nata*. As to medicine, I rely on cod-liver oil with creosote and hypophosphites—treating symptoms and complications as the cases may require.

So far the results have met every expectation, and more, for the garden and farm products of these consumptives have been more than sufficient to pay for their keep; and the physician interested in the subject of tuberculosis would be surprised to note the wonderful improvement in the great majority of the patients. Many who were sent there a little more than a year ago suffering with incipient phthisis are now, so far as both subjective and objective evidences may be relied upon, entirely well. Others, who went there apparently in the last stage, reduced in flesh and strength as a result of frequent hemorrhages, are now strong and in good physical condition. Men have gone there so reduced in strength as to be unable to walk twice across the room, whose evening temperatures would reach 103°–104° F., and who, in less than three months would be entirely free from fever, and able to do light work.

I take it that no physician of the present day will question the correctness of a move such as we have made, and I think I have shown that it is not only feasible but profitable to separate convicts suffering with consumption from those not so infected, and certainly humanitarian considerations would demand it. Some are cured, others have their lives prolonged, all are rendered more comfortable, and the non-tuberculous convicts are protected. In closing I would state that it appears to me that consumptive convicts do better under proper conditions than do those who are free. One of the chief reasons for this is enforced regular habits and mode of living. They are not exposed to night air nor the nightly excesses that many free men indulge in. We all know that the sexual desire of the tuberculous man is often augmented, even after he has grown too weak to relieve it; and there is little doubt in my mind that an overindulgence in this respect often shortens life. Here, however, there are no excesses, and no one is required to labor beyond a degree that constitutes proper and healthful exercise.

To conclude, I will say that when a proper amount of exercise (without fatigue), fresh air, and sunshine fail to benefit the consumptive, there is little to hope for this side of the peace of the grave.

W. E. FOWLER, M.D.
Physician to the Huntsville, Texas, Penitentiary.
HUNTSVILLE, TEXAS, March 6, 1901.

MARRIAGE AMONG LEPERS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: What is the general opinion of the medical profession in America on the advisability of allowing lepers to marry? Should it be allowed or forbidden?

M. B. CARLETON, M.D.,
Superintendent Leper Asylum.
SABATHU, INDIA, February 6, 1901.

HYDROGEN PEROXIDE IN APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: On page 392 of the MEDICAL RECORD for March 9, 1901, Dr. Miller states his belief that the employment of hydrogen peroxide was responsible for the death of an appendicitis patient, and I am quite sure that the surmise is correct. "The case did well up to the eighth day, and on this occasion the hydrogen peroxide did not escape so freely as it had at the previous dressings. The temperature commenced to rise, and within forty-eight hours the patient succumbed to suppurative peritonitis." My comments will be brief. Hydrogen peroxide used freely at the moment when the operator arrives at a pus collection will blow out the pus instantly. Salt solution is then used for flushing away the foam, and the field is clear. This technique allows one to work with celerity and with a minimum degree of disturbance to the patient—a very desirable point in pretty appendicitis work. If there are multiple pus collections present, they can be evacuated promptly one after the other, and the operator can be very comfortable in the feeling that he is not going to infect the peritoneum in subsequent manipulation of structures in the infected area. The mechanical advantages of hydrogen peroxide for instantaneous cleansing purposes are apparent. There is another feature that should also be appreciated at a glance by any one with mechanical instincts. If the rapidly expanding mass of foam is not given free escape externally, it will go somewhere else. One need not study both Ganot and Deschanel in order to fix this point in mind. If hydrogen-peroxide foam is given a line of least resistance by the operator, it will follow that line.

I have seen this "sheet anchor of success" used on the wrong side of the ship very often. Not long ago one of my own assistants injected peroxide into a deep fistula of the leg after opening an abscess, and the peroxide promptly did what was to have been expected. It escaped widely into the loose connective tissues and produced a large new area for infection. Hydrogen peroxide properly employed seems to me to be really a necessity for successful work in appendicitis cases with pus. It is not proper to use this resource continuously for several days in succession, because it destroys new lymph that is needed for repair. It destroys granulations that are needed for repair. Further, it is not mechanically proper to use peroxide in any cavity

from which the foam cannot escape freely. A detailed description of the way in which peroxide may be employed usefully is given in my work on the subject of appendicitis and the accompanying statistics are offered in evidence.

In the case that Dr. Miller quotes, peroxide used up to the eighth day must have been interfering with wound repair during all of that time, and on the eighth day, when the external opening of the wound had presumably become contracted, peroxide injected into the bottom of the cavity probably followed natural laws, and did what might have been anticipated.

ROBERT T. MORRIS.

58 WEST FIFTY-SIXTH STREET, NEW YORK,
March 9, 1901.

New Instruments.

A NEW SACCHAROMETER AND UREOMETER COMBINED.[1]

BY A. ROBIN. M.D.,

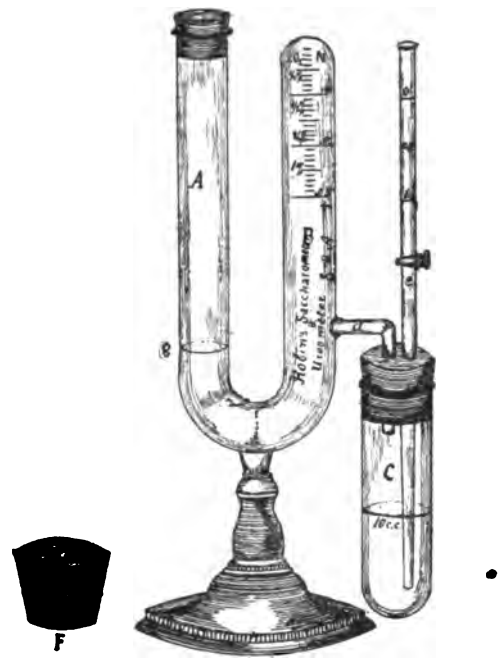
NEWARK, DEL.,

PATHOLOGIST AND BACTERIOLOGIST TO THE DELAWARE STATE BOARD OF HEALTH LABORATORY.

ANY one who has been working with Einhorn's saccharometer has no doubt convinced himself of its inaccuracy. The principle on which this saccharometer is based is faulty. As soon as fermentation takes place, the fermenting liquid is displaced into the bulb at the free end of the tube, and a variable amount of gas escapes. The amount of CO_2 thus lost will depend upon the rapidity with which fermentation and consequent displacement of the liquid progress. To obviate this loss of gas, which cannot be determined directly or indirectly, thus rendering the results uncertain, the following apparatus was devised:

A U-shaped glass tube (*AB*) with a small side tube (*d*) is connected by means of a rubber stopper (*F*) with a test tube (*C*) of a capacity of 20 c.c. (see figure). The diabetic urine is diluted with water until it reaches a specific gravity of 1,020, the volume of water as well as its relation to the volume of urine being noted, and the results multiplied by the number of dilutions. The U tube is then filled with water to the mark (*g*). To do this the index finger is placed on the free end of the side tube (*d*), the arm (*A*) is filled with water which is forced into the arm (*B*) by inclining the apparatus. The upper end of *A* is then closed by a cork, and the finger removed from the side tube. The apparatus with the rubber stopper on the side tube (the latter should be covered with a little vaseline to prevent the possible escape of gas through the perforation), but disconnected from the test tube (*C*), is placed in the stand and set aside. Ten centimetres of the urine are placed in the tube *C*, a tiny crystal (about 0.05 gm.) of tartaric acid is added, and 1 gm. of Fleischman's yeast incorporated by means of a glass rod. The addition of the tartaric acid inhibits the growth of bacteria which may modify the fermentation, and the latter results from the yeast alone, thus rendering the results more uniform. This done, the test tube is connected with the apparatus, the rubber stopper being pushed in as tightly as possible. While this is being done, a few air bubbles escape into the arm *B*, but they are removed by inclining the apparatus, until they are forced out into *A*. The cork should be removed from the upper end of *A* and the apparatus set aside in a moderately warm place. In about twenty to thirty minutes, fermentation will commence and gas bubbles begin to accumulate in the upper end of the arm *B*. At the end of twenty to twenty-four hours fermentation is complete, and the volume of gas multiplied by the number of dilutions represents the approximate amount of sugar. This, of course, has been determined empirically. When fermentation is complete and negative pressure is established in the tube *C*, some of the water from arm *A* will flow back into *C*, but this does not affect the volume of gas in *B*. It will be noticed that the gas in *B* is not pure CO_2 but composed largely of air. The object of displacing the latter is self-evident. As CO_2 is quite soluble in water, it becomes necessary either to collect the gas under mercury or substitute a gas insoluble in water. It is seen that the tube *C* has twice the volume of the fermenting liquid; the volume of air above the liquid is about equal to the volume of CO_2 generated when only one per cent. of glucose is present. While fermentation is going on, the air from *C* is displaced and collects in *B*, thus largely minimizing the error concurrent with a variable absorption of the CO_2 by water. However, if for any reason it be desired to obtain CO_2, or any other gas, in a pure state, it may be done by filling the U tube with mercury instead of water, filling the tube *C* up to the stopper and rejecting the first few bubbles of gas which represent the air in the side tube.

The following comparative experiments made with the author's saccharometer and that of Dr. Einhorn



Saccharometer and Ureometer combined. The figure shows the apparatus set up as a Ureometer. *F*, The rubber stopper used for the saccharometer.

show the marked difference between the two, as well as the inaccuracy of the latter. The tubes were of equal dimensions and calibration, made by Eimer and Amend, New York. The same amount of yeast and glucose were used and other conditions were identical. The reading was taken at the end of twenty-four hours.

Glucose Solution, per cent.	Author's Saccharometer, Divisions of the Tube.	Einhorn's Saccharometer, Divisions of the Tube.
½ in water	2.8 (½ per cent.).	1.0 (¼ per cent.).
½ in water	2.6 (½ per cent.).	1.4 (¼ per cent.).
½ in water	2.6 (½ per cent.).	1.6 (¼ per cent.).
½ in urine	2.1 (½ per cent.).	1 (¼ per cent.).
½ in urine	2.1 (½ per cent.).	1 (¼ per cent.).
½ in urine	2.1 (½ per cent.).	1 (¼ per cent.).

Owing to the larger amounts of gas collected with the author's apparatus, a larger tube was found necessary. It then occurred to the author that this apparatus could be rendered still more useful by making it serve the purpose of a ureometer as well. The U tube being a collecting tube for any kind of gas, it was evident that nitrogen could be collected in it as well as carbon dioxide. Of the various ureometers on the market the most satisfactory is Doremus' improved by Hinds. It

[1] From the State Board of Health Laboratory.

was therefore deemed advisable to take the latter as a pattern. Accordingly, the arm *B* was made of the same size and calibrations as Doremus', and a stopper with two perforations substituted for the one used in collecting CO_2.

To use the apparatus as a ureometer proceed as follows: 1. Fill the U tube with water as described above. 2. Put the rubber stopper on the vertical limb of the side tube. 3. Fill the tube *C* to the 10 c.c. mark with the hypobromite solution.[1] 4. Connect the apparatus with the tube *C*. 5. Place the graduated pipette into the second perforation, leaving the stopcock open so as to allow the displaced air to escape. 6. Close the stopcock and slowly remove the cork from *A* (if a bubble of air is forced into *B* remove it by inclining the apparatus, with the index finger on the free end of *A*). 7. Fill the pipette with urine to the 0° mark, by means of a dropper. 8. Open the stopcock and allow 1 c.c. of urine to flow into the test tube *C*. Close the stopcock.

The urea will be decomposed by the hypobromite solution, and at first air, and then nitrogen will escape into the arm *B*. When no more gas bubbles are seen to generate in *C* the reaction is at an end, and the volume of gas in *B* is noted, deducting from the total amount two divisions of the tube for the air displaced by the 1 c.c. of urine. Thus, if the volume equals 0.02 or two per cent. the actual volume of N would be only 0.0118, or 1.8 per cent.

It is thus seen that in this apparatus we have a combination which makes it not only doubly useful but reduces the cost to a minimum. The physician who is not doing enough of uranalysis to justify the purchase of two pieces of apparatus will find this arrangement especially serviceable. Another advantage of this form of ureometer over that of the improved Doremus' is that not only can it be kept cleaner, but in case any of the parts break they can be readily replaced at a trifling cost.

This apparatus is manufactured exclusively by Messrs. Eimer and Amend, New York, to whom the author is greatly indebted for their able execution of his designs.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 16, 1901:

	Cases.	Deaths.
Tuberculosis	327	189
Typhoid fever	19	10
Scarlet fever	608	29
Measles	234	6
Diphtheria and croup	324	58
Smallpox	37	6
Varicella	78	0
Cerebro-spinal meningitis	0	5

An Old-Fashioned Doctor.—The Sunday *Sun*, February 23d, contained the following well-deserved appreciation of the old-time physician, exemplified in the person of the late Dr. Hornbeek. "The old-fashioned doctor who combined the duties of nurse and physician, and who was indifferent to considerations of comfort, careless of fees, and unconscious of the social or business status of his patients, has become almost a tradition. He exists in only a few localities. Dr. Philip Du Bois Hornbeek, who recently died in the town of Wawarsing, Ulster County, was a fine example of this type of practitioners. When Dr. Hornbeek began to practise in Wawarsing, half a century ago, there were no specialists. Like the old doctor of Drumtochty, he looked after all the organs of the body, and served as accoucheur, dentist, surgeon, and druggist, with equal skill and success. Like many old practitioners, Dr. Hornbeek was soft of speech and gentle in manner. His very presence in the sick-room soothed and cheered. When the case was critical and the life of the patient hung trembling in the balance, Dr. Hornbeek would sit at the bedside day and night, noting every symptom. In his mild and kindly way he would encourage and stimulate the sufferer, and, if it were humanly possible, bring him back to health again. For years Dr. Hornbeek rode horseback over the roughest regions in the wild and hilly district where he lived. He was a noble man and an excellent type of a stamp of physician fast dying out."

The Use of Opium, Ganja, and Intoxicating Drinks in India.—Drunkenness has always prevailed in India among certain classes, but as a nation the people have been temperate for many centuries. It is deeply to be regretted that of late years drinking-habits have been acquired by some educated Hindus, whose forefathers never touched intoxicating liquors. This is largely attributable to European example. The British government revenue from the sale of toddy, opium, bhang, etc., is immense.

Pasteur's Statue.—It has been erroneously announced, says the *Pharmaceutical Journal*, that M. Antonin Carlés has completed the model of the monument which is to be erected to the memory of the great Pasteur in his native town, Dôle. According to an interview published in *La Presse*, the sculptor declares that the statue will not approach completion for several months yet, and that it certainly will not be erected before the end of next year. It may not be out of place here to give an outline of the work. At the foot of the monument is a woman, whose appearance denotes suffering and distress, holding to her bosom two young children, who have been snatched from death, and listening attentively to the voice of Science, who reveals to her the universal benefits conferred upon mankind by the illustrious savant. At her side another woman personifying Science tenders, with a magnificent gesture, a wreath of laurel toward Pasteur, who, standing erect in a meditative attitude, dominates the whole. The effect is wonderfully striking and significant.

Bacteriology of Distemper.—If Dr. Copeman's researches are confirmed, the micro-organism of distemper in dogs has at last been isolated. He has succeeded in isolating a small cocco-bacillus, the introduction of which subcutaneously into healthy dogs produces the disease within a week. Working with this organism, a vaccine has been prepared, which Dr. Copeman states is capable of protecting against attacks of the disease. Many members of the medical profession will, perhaps, doubt the utility of devoting energy to the study of the diseases of dogs, when so much still remains to be accomplished in human pathology. We would remind such objectors that anatomy has been most successfully studied in animals, and that the best of our knowledge of human physiology is derived from investigations carried out in dogs. With our present imperfect conceptions of pathological processes, it is not the individual case that will enlighten; advance can be made only by

[1] This solution is best prepared extemporaneously. Have on hand a solution of sodium hydrate, 100 gm. in 250 c.c. of distilled water. To 5 c.c. of this solution add 1 c.c. of bromine; stir gently with a glass rod until the latter is dissolved and add 5 c.c. of water.

widening our conceptions, and so obtaining material for generalization. From such a point of view such work as Dr. Copeman's is most valuable.—*Medical Press.*

The Medical Profession for Women.—This subject is discussed in an interesting paper by Marie A. Belloc, in the January *Leisure Hour*. The writer estimates that for women who can face the expense and the long time required for training, the medical profession affords an excellent opening; not only is this so in India, but there is certainly some opening on the Continent for British medical women. A lady doctor, half French or half German, could build up a large practice there. Paris has always favored women doctors. The writer also insists that a woman finds it far easier to build up a practice, even in England, than do her male competitors, chiefly owing to there still being few women doctors and their novelty itself helping much to making them known.

Longevity in Spain.—Spain as a nation may be dying or decaying, as Lord Salisbury somewhat bluntly put it, but, if statistics are to be believed, her people individually are among the longest lived in the world. *The British Medical Journal*, in its issue of February 16th, gives a list of the patriarchs in one part of Spain culled from the voters' tables. Asturias is the particular province which holds the record for the largest number of centenarians, and it is to be doubted if any district of similar size on earth can show so large a number. Each of the electoral districts of Langreo, Morcin, Grado, Villaviciosa, and Carreno has one centenarian. Siero and Oviedo have each two, Salas has electors aged respectively 101, 103, and 104. Cangas de Tineo has still more venerable triplets of 101, 105, and 106. Boal has two, aged 101 and 102; Franeo, one of 107; Valdes, two of 105 and 107; Pitona, two of 102 and 104, while Parres holds the record with three fine relics of antiquity, aged respectively 103, 105, and 107. This single province rejoices in no fewer than twenty-five centenarians in a total population of 600,000.

Alcoholism and Depopulation.—Alcoholism and depopulation are two subjects which at this moment excite the absorbing interest of humanity. It is, therefore, interesting to inquire what relation there is between them. From the fact that France is the country in which alcoholism prevails most, and in which the population increases least, it would appear that alcohol is a considerable factor in depopulation. Many authors, such as Lanceraux, Legrain, Jacquet, Pinard, and Debove, have launched anathemas against alcoholism from this point of view. M. Ovize, of Lyons, who has tendencies toward the rehabilitation of alcohol, claims that alcoholism, though a very ancient practice, has never prevented the population of the earth from increasing. Alcoholic excess, he says, has existed from time immemorial among the Hindoos and Persians. The laws of Manu and Lycurgus attested in their day the abuse of alcohol. It was regarded as hurtful, but hurtful only to the health of the individual and not to his descendants. However this may be, M. Ovize is forced to bow before the statistical results given by the life-assurance companies, which show greater longevity among abstainers; on the other hand, it must be admitted that the birth rate is at its minimum in Normandy, for instance, where the consumption of alcohol is very high, and at its maximum in other parts of France, where the consumption of alcohol is less. Beyond doubt there exist legislative provisions which may play a very important part either in combating or in favoring depopulation; but it must be admitted on the evidence of facts that alcoholism is, in this last-named case, one of the most active causes; it uses up the human race at both ends, so to speak, by increasing mortality and diminishing the birth rate or producing only degenerate offspring. Therefore, the writer of the article says, I cannot subscribe to the opinion of M. Ovize that the chief cause of the depopulation of a country is to be traced to economic causes, and in no way to alcoholism.—European Edition of *New York Herald.*

Some Remarks on X-Ray Diagnosis.—W. W. Graves says that there is no diagnostic procedure which requires more painstaking and more attention to detail than a successful *x*-ray examination. It is the popular idea, and believed in by many physicians, that it is easy to make an *x*-ray examination. Only those who have had experience in this line of work best know of the difficulties to be overcome. It is easy to make an *x*-ray picture which will satisfy the curiosity, but it is not easy to make an *x*-ray examination that fully satisfies the exacting demands of diagnosis. Roentgen's light may be, and is, of much value in medical and surgical diagnosis, but in order that its possibilities shall be fully realized, it will require work, work, work, on the part of its devotees.—*St. Louis Courier of Medicine*, January, 1901.

Experimental Pancreatitis.—Simon Flexner states that the results of the experiments (given in detail) lead to the conviction that (1) hemorrhage *per se* is a common condition in all forms of pancreatitis; (2) when it is exoessive, it dominates the process; (3) it is usually more pronounced than are the inflammatory lesions, and the two conditions may be separate and distinct in the same organ or parts of the organ; (4) fat-necrosis is due to perversion of the pancreatic secretion and the direct result of the action of the fat-splitting ferment. Owing to the severity of the means used to provoke pancreatitis in experimental cases, it is not to be supposed that hemorrhage would commonly occur independently of inflammation of the gland; and this is found to be the case. Disintegration of the pancreatic tissue is one of the results of free hemorrhage. If we recall the tendency of the pancreatic secretion to act upon the pancreas, it follows that these injured foci might easily become the starting-points of another form of degeneration which would lead to necrosis of the gland and to reactive inflammation; that this dead tissue might then in turn form a favorable point for the location and multiplication of micro-organisms, whose presence would still further complicate the process.—*University Medical Magazine*, January, 1901.

Two Cases of Amblyopia following the Use of Jamaica Ginger.—John Dunn reports these cases, one of which was in a boy aged nineteen years, the other in a man aged thirty-nine years. The former drank two bottles of Jamaica ginger and some essence of lemon, while the latter drank four bottles of the ginger and some paregoric. The object was to "sober up." The two cases were seen, one four, the other two months after the attack. In both there was optic atrophy with changes in the diameter of the retinal vessels. The history is as follows: The attack begins with nausea and vomiting, which are followed after a varying length of time, "twelve to forty-eight hours" (Woods), by total blindness. This blindness is preceded by dimness of vision. At this time there are no visible changes in the fundus. As a rule, the vision after a few days is partially restored. Neuritis may be demonstrable in the fundus after a few days, going on to atrophy. The vision after a few months seems to grow worse rather than better, and suggests nerve-fibre degeneration. The pupils, when the blindness is not absolute, respond directly, consensually and in accommodation. The field of vision has nothing absolutely characteris-

tic, there may be more or less concentric contraction for white, with a central scotoma, or, as in this second case in which vision was reduced to $\frac{8}{200}$, there could be demonstrated no contraction of the field for white. The color tests are inconclusive. While in the cases we have accurate accounts of the appearances in the fundus as seen after atrophy has set in, we have no satisfactory detailed description of the changes in the fundus visible during the first few days after blindness occurs; nor has in any case the microscope had its say as to what the changes really are.—*Virginia Medical Semi-Monthly*, January 25, 1901.

Treatment of Lead Poisoning by Electricity.—J. Auriol Armitage reports the results of the use of the electric bath in cases of lead poisoning. The patients are all in lodgings, practically outside of control, so that late hours, drink, and standing on the damp ground at football matches have caused not a few relapses. Many of them having wives and families practically destitute have insisted upon returning home before they were completely cured. Notwithstanding these drawbacks, there were thirty-seven cures, either partial or complete, out of forty cases. The author gives the details of the treatment, and full reports of typical cases.—*The Birmingham Medical Review*, February, 1901.

A Case of Asthma Associated with Prolapse of the Liver.—H. B. Anderson reports a case in which the first real attack of asthma followed pneumonia. That the hepatic prolapse aggravated, if it did not actually occasion, the asthmatic attacks, there can be no doubt. The patient noted this fact himself, and so long as the liver remains in place he is comfortable. Moreover the asthmatic attacks are always improved by treatment directed toward the replacement of the organ. Whether the prolapse acts directly as a cause, or indirectly by producing the gastric disturbances noted before the attacks, it is impossible to say. Probably the reflex disturbance produced in each of these ways would play a part. At present an attempt is being made to support the organ by a bandage. If this is not successful operative measures may be resorted to.—*The Canada Lancet*, January, 1901.

Brain Injury with Peculiar Whistling Spells following Operation.—W. C. Krauss reports the case of a herdsman in a stock yard who was struck by a passing train. He received several scalp wounds and a depressed fracture three inches above and one inch behind the left ear. He was immediately trephined and the depressed bone removed. It was necessary to strap him in bed, as he constantly tried to remove his bandages with his right arm or waved it up and down. About twelve hours after operation he began to whistle, not, however, the "popular songs of the day," but the whistle calls he was accustomed to use in calling or driving his flocks. He would continue whistling for about one minute, then would cease for five or ten minutes, and kept this up at regular intervals until he died, four days after operation. At no time was it possible to distinguish any melody. The sounds were of the same pitch and intensity, and of the same character. They were audible throughout the ward, and attracted the attention of patients and attendants. To the physicians in attendance it was a strange experience to hear these whistle calls coming from a patient in a state of unconsciousness. It was impossible to rouse the patient at any time before or after the operation, and he died, whistling a few minutes before death.—*Journal of Nervous and Mental Disease*, January, 1901.

Treatment of the Umbilical Cord.—Max Stolz describes a simplified method which has given excellent results in the Royal Lying-in Hospital of Graz. The cord is cut twice, the second time being one hour after the first. A fine silk ligature is applied close to the skin and the cord cut through with sterile scissors ½ cm. higher up. A sterile dressing is applied which is changed every second day, and dermatol sprinkled on. This method differs from those of Ahlfeld and Martin in that the application of alcohol and cauterization of the stump, recommended by these two authors respectively, are omitted. Out of five hundred cases it was found that the stump dropped off on an average on the sixth day, while only one instance of secondary bleeding occurred. The advantages of the method are the quickness with which the stump dries up and the minimization of risk of infection by dressing only every other day.—*Wiener klinische Wochenschrift*, January 31, 1901.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended March 16, 1901:

		Cases.	Deaths.
Smallpox—United States.			
Alabama, Mobile	March 2d to 9th	..	1
California, Los Angeles	February 24th to March 2d	5	
Oakland	February 24th to March 2d	1	
Sacramento	February 24th to March 2d	1	
Illinois, Chicago	March 2d to 9th	7	
Indiana, Evansville	February 24th to March 9th	2	
Kansas, Wichita	March 2d to 9th	23	
Kentucky, Lexington	March 2d to 9th	1	
Louisiana, New Orleans	March 2d to 9th	14	3
Massachusetts, Lowell	March 2d to 9th	1	
Somerville	March 2d to 9th	1	
Michigan, Detroit	March 2d to 9th	1	
Grand Rapids	March 2d to 9th	1	
Minnesota, Minneapolis	February 24th to March 2d	4	
Winona	March 2d to 9th	2	
Nebraska, South Omaha	December 28th to February 5th	5	
N. Hampshire, Manchester	March 2d to 9th	21	
New York, New York	March 2d to 9th	54	10
Ohio, Cincinnati	March 2d to 9th	2	
Cleveland	March 2d to 9th	52	
Dayton	November 2d to 9th	1	
Oregon, Portland	February 1st to 28th	2	
Pennsylvania, Erie	March 2d to 9th	2	
Philadelphia	March 2d to 9th	1	
Steelton	March 2d to 9th	1	
Tennessee, Jackson	January 1st to 31st	20	2
Memphis	March 2d to 9th	10	
Nashville	March 2d to 9th	11	
San Antonio	February 1st to 28th	16	
Utah, Ogden	March 2d to 9th	18	
Washington, Tacoma	February 25th	6	
West Virginia, Huntington	March 2d to 9th	11	
Wheeling	February 24th to March 9th	4	
Wisconsin, Milwaukee	March 2d to 9th	2	
Smallpox—Foreign and Insular.			
Austria, Prague	February 9th to 23d	14	
Vienna	February 16th to 23d	..	1
Belgium, Antwerp	February 9th to 23d	2	
Canada, Ontario, Sudbury	February 22d	Prevalent.	
Ceylon	January 26th to February 2d	1	1
Egypt, Cairo	January 28th to February 4th	2	
Great Britain, England, London	February 16th to 23d	1	
New Castle-on-Tyne	February 16th to 23d	1	
Scotland, Dundee	February 16th to 23d	2	
Edinburgh	February 16th to 23d	1	
Glasgow	February 22d to March 1st	..	13
India, Bombay	January 29th to February 12th	..	6
Calcutta	January 26th to February 9th	..	235
Karachi	January 27th to February 10th	15	7
Madras	January 26th to February 8th	..	8
Italy, Naples	February 20th	Present.	
Malta	February 16th to 28th	1	
Mexico, Yucatan, Progreso	February 19th to 28th	16	4
Philippines, Manila	January 5th to 19th	4	
Russia, Moscow	February 2d to 16th	10	1
Odessa	February 8th to 23d	26	7
St. Petersburg	February 8th to 16th	7	1
Warsaw	February 8th to 16th	..	6
Yellow Fever.			
Colombia, Honda	January 7th	Epidemic.	
Guaduas	January 7th	Epidemic.	
Cuba, Cienfuegos	March 4th	..	1
Havana	February 25th to March 4th	2	1
Mexico, Vera Cruz	February 16th to 23d	2	
Cholera.			
India, Bombay	January 29th to February 12th	..	12
Calcutta	January 26th to February 9th	..	33
Madras	January 26th to February 8th	..	22
Straits Settlements, Singapore	January 12th to 26th	..	35
Plague—Foreign and Insular.			
Africa, Cape Town	February 16th to 26th	44	6
China, Hong-Kong	January 19th to 26th	2	2
India, Bombay	January 29th to February 12th	..	1,711
Calcutta	January 26th to February 9th	..	176
Philippines, Manila	January 3d to 19th	..	2

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SOME FALLACIES OF THERAPEUTICS.[1]

BY GEORGE L. PEABODY, M.D.,
NEW YORK.

IN this day of active therapeutic advance, when the ingenuity of the chemist, the cupidity of the manufacturer, and the honest zeal of the physician conspire to multiply therapeutic agents and procedures, there is danger of our being swamped by the multiplicity of devices to cure the ills of man, if we do not eliminate the useless and the harmful, and leave ourselves unhampered by the vast accumulation of the needless agents of the past and present, with open minds to investigate the claims to recognition of the new arrivals of yesterday, to-day, and to-morrow.

It is astonishing, if we think about it, how prone we are to adopt new procedures, only because they are new, and at the same time, how common it is to perpetuate perfectly impotent and even harmful methods that come to us with no other sanction than that which time can give.

The latest editions of works on therapeutics are full of echoes of the past, repeating the errors and inconsistencies of the old editions and the older writers, from a spirit of conservatism or inertia, as if we had no more accurate means of investigation to-day than our fathers had generations ago. While this may be partly due to the desire of each claimant for literary distinction to write a book as ponderous as the last, it is certainly partly to be explained by an unwillingness or lack of courage to depart from the traditions of the past—a fear of trusting one's individual judgment and experience when the matter under consideration is backed by years of repetition and asseveration, which seem in time to amount to argument and even to conviction.

Take the subject of the use of bitter substances as appetizers as an illustration. Perhaps no idea in therapeutics is more wide-spread or more generally acted upon than that bitter substances conduce to an improvement in the appetite; and certainly none is less susceptible of explanation or of proof. Strychnine salts, the bitterest of them all, are locally irritant to the abraded skin if applied in concentrated solution, and doubtless also to the mucous membrane of the stomach; and if they have any effect in the way of sharpening the appetite after they reach the stomach, this can be explained only by a possible local irritant effect. But they are never put into the stomach in sufficient concentration and quantity to have any such effect; if they were, they would promptly show their toxic powers after absorption. The bitterness, the flavor, the taste of this strychnine is, of course, wasted upon the stomach, which has no sense of taste and no perception of flavor.

Can the operation be explained by its effect upon the sense of taste, or possibly by the stimulation of the saliva, such as is brought about by any object with a pronounced flavor? May it be caused by the swallowing of this saliva itself, which, like any other mild alkali, is known to stimulate the secretion of gastric juice? And may this increased flow of gastric juice announce its readiness for work by calling for food to work upon? If this be the explanation, of course it discredits the use of similar agents in any other form than one which will stimulate the sense of taste and at once proclaims as useless all the methods of administering them in pills or capsules or any similar disguises. It would also suggest the propriety of introducing chewing-gum into the pharmacopœia as a stimulus to the appetite.

It seems to me that, in the vast majority of cases in which bitter substances actually do increase the appetite, they are swallowed with alcohol in some form, perhaps in one of the many seductive combinations known under the name of "cocktail," and that the stimulation of the gastric mucous membrane is really due to the irritant effect of the alcohol rather than to the bitter in the mixture, although that may make it more palatable.

The class of mixtures known as "tonics" and "bitters," which are largely consumed by the laity and to which certainly, in part, is due the idea that bitters are tonics and appetizers, very generally contains a large percentage of alcohol.

A few years ago the Massachusetts State board of health examined many of these, which were procured in the open market. Of forty-seven of those examined, forty-six contained an average of more than twenty-one per cent. of alcohol. This ranks them far above the wines in alcohol percentage, and, indeed, well up among the spirits. One of these was described by its vendors as a purely vegetable extract, "a stimulus to the body, without intoxicating," and it contained over forty-one per cent. of alcohol. Another was called "sulphur bitters," and was advertised to contain no alcohol. It really contained no sulphur, as might have been expected, and it also contained over twenty-one per cent. of alcohol. One dealer's "sherry-wine bitters" yielded forty-seven per cent. of alcohol, and the "stomach bitters" of two other dealers contained respectively forty-two and forty-three per cent. of alcohol.

Almost all of these compounds are sold as being "non-alcoholic," and several of them are boldly recommended as "soothing inducements to temperance," in doses of a wineglassful three "or more" times a day!

It is not surprising that, with these and similar extemporaneously made compounds as the most accessible forms of "bitters," the laity should still believe in the use of bitter substances to provoke an appetite; but is there any real ground for us to add to the arguments in favor of such a belief?

While on the subject of alcohol it may be well to touch upon a very general fallacy in regard to its evil effects upon the body. It happens to me very frequently to get the statement, not only from the patient and his lay friends, but also from his doctor, that he has been most temperate in the use of alcohol, the evidence being that he "never was drunk in his life." Further investigation often shows that he has for years

[1] Read at a meeting of the Practitioners' Society, February 28, 1901.

been a steady and persistent and even a hard drinker, who always drank more alcohol than he could possibly oxidize, whose heart, and arteries, and stomach, and liver, and kidneys, and brain, all show evidences of degenerative changes directly due to alcohol, the victim himself and his friends honestly believing that the limits of temperance have never been overstepped, because he never got drunk. It is not surprising that this should be the lay measure of the possible evils of alcohol, but that doctors should share such a belief, and sanction indulgence in spirits accordingly, is truly deplorable. They should know that the phenomena of intoxication are in themselves incidents of little pathological moment. The heart and the arteries, and the tissues generally, care very little whether their owner gets drunk or not; what they object to is the damaging effect of the alcohol upon them, without any regard to the moral or social consequences of the indulgence.

The fallacy that alcohol adds to body temperature is certainly as old as Shakespeare, who speaks of "hot and rebellious liquors." I suppose, however, it may be said no longer to exist among doctors.

Boric acid occupies a prominent position among the fallacies of therapeutics in the past as in the present, and probably also in the future. It furnishes a capital illustration of the authority of tradition, of the repetition and propagation of error, merely because it has been handed down to us by the fathers; and even if it were an isolated instance, as it is not, it ought to cause us to pause and consider whether we are not today doing much the same thing with many another agent.

From 1702 to 1847,[1] nearly a hundred and fifty years, it was extensively used internally. During much of this time it was supposed to be a potent sedative, and so general and abiding was the faith in its therapeutic power, that it was known as the "sal sedativum." It was then discovered that this appellation of two words contained two vital errors—that it was not a salt but a free acid, and that it possessed no sedative powers whatever. Then, in 1847, Binzwanger experimented with it. He subjected it to carefully conducted tests upon himself, and came to the conclusion that in therapeutic doses it was a wholly indifferent drug, incapable of accomplishing any useful purpose. It was then for a long time abandoned.

Then later investigation showed that in large amounts, doses of from 7 to 10 gm., it was disturbing to digestion, it caused alkaline vomiting and produced a distinct increase in the amount of urine. It often increased the amount to the extent of two-thirds; and ten minutes after the taking of the first dose, it could be found in the urine.

In 1872 Dumas, a French chemist, discovered its antiseptic power, and soon thereafter it was introduced into surgical practice by Lister. It was taken up by surgeons, as were all of the antiseptics that came to them from Lister, but as compared with carbolic acid it was disappointing in its powers; and it was not long before surgeons condemned it as inefficient and useless, and then its surgical use was largely abandoned.

Presently we came to know that it was less efficient as a means of destroying lower organisms than as a means of preventing their development; but it is only comparatively recently that its true powers and limitations have been ascertained.

A glance at what has been written regarding it,[2] shows that many hold it in high esteem, and that others deny it any merit whatever.

With this difference of opinion regarding it, one is justified in drawing the inference that the causes of the successful use of it by one group and the failure of the other, lie probably not in the drug itself, but in the way in which it is applied.

The first question to be settled with regard to it was this: Does it kill micro-organisms, *i.e.*, has it disinfecting or sterilizing powers? The second question to be settled was: Does it prevent the development of bacteria in the body tissues or in culture media that closely resemble them?

Not to take up your time with all the details of the experiments which were undertaken to settle these points, I may pass on to the conclusions. A saturated solution of the acid was used, cold, a four-per-cent. solution. After thorough exposure to this solution for eight days, staphylococcus was found to be active; and it was necessary to expose this organism to the saturated solution at least three weeks to be sure of killing it. The very sensitive anthrax bacilli resisted an exposure of less than three days.

Thus, the disinfecting power of boric acid is so trifling that for practical purposes in this application it must be disregarded entirely.

If to these organisms, even when they are freely delivered over to it, it does so little harm, it is still less likely to be useful as a means of killing them or similar organisms, when they are buried in the epidermis of a surgeon's hands or concealed on the surface of a wound, when it is simply used as a surgical washing material in its full strength of a four-per-cent. solution. Its disinfecting power in this way is really zero; and in fact it is perfectly possible to infect a fresh wound by washing it with a dirty boric-acid solution. The small amount of the acid left upon the wound by washing it is soon absorbed and disappears, leaving the organisms brought with it to develop unhindered and produce their effects. This has been shown by putting anthrax bacilli into boric-acid solution, and then washing fresh, clean wounds in mice with it. The uniform result is that anthrax is produced in them and kills them.

We are not to conclude that the acid is useless for surgical purposes, however, for, as a means of preventing the development of bacteria with all the consequences of their toxins, it is of decided value. There is a practical difference between killing bacteria and preventing their propagation. In sterile media, if it be present in the strength of four or five per thousand, it prevents the development of staphylococcus; six per thousand prevents streptococcus from growing; nine per thousand, anthrax bacillus; seven per thousand, typhoid bacillus; and three per thousand, cholera spirillum. A much lower per-thousand strength greatly retards the development of all these organisms without wholly preventing it.

In order to see how strong the acid must be to prevent the growth of miscellaneous organisms, such things as are known to be rich in various bacteria were used, like garden earth, water from privies, decomposing blood, etc. With these substances, tubes containing sterilized blood serum and meat extracts were infected, after varying percentages of boric acid had been added to them. Tubes with low percentage, such as one per cent., rapidly showed development of numerous micro-organisms; those that had two per cent. showed a slower development, *i.e.*, not until three weeks had elapsed; while those with two and a quarter, two and a half, and three per cent. remained permanently free from the development of bacteria. Frequent repetition of these experiments led to the same results, so that it would seem fair to conclude that bacteria cannot develop in boric-acid solutions of a strength of two and a half per cent.

The practical application of these conclusions is not difficult, but it does require care. Gauze can be impregnated with strong solutions—up to twenty-five per

[1] Binz: "Vorlesungen über Pharmakologie."
[2] Therapeutische Monatshefte, 1891, p. 477.

cent. in boiling water—and this can be used for keeping wounds sterile.

Thus it is useless as a means of disinfecting wounds, hands, instruments; it is of no use in wounds that have been rendered aseptic by other means, if they can be kept so by proper dressings which exclude air. It is idle to employ it to prevent the development of bacteria in wounds to which bacteria cannot gain access. The chief sphere of its usefulness would be in those wounds which are very likely to contain infecting organisms, such as result from injuries in factories, railways, mines, etc., and also in abscesses, furuncles, ulcers, gangrene, etc.

It often happens in injuries that infecting organisms are forced deeply into tissues where they cannot be reached by strong antiseptics, like sublimate and carbolic acid. These two favorite antiseptics, especially, are much feebler in their bactericidal power below the surface than might be supposed, because of the impairment of their power that results when they come into contact with albuminous substances. If, however, boric acid be applied in potent solution and in such manner as to insure its presence in adequate strength, it will gradually diffuse itself in the tissues and prevent the development of lower organisms, much better than will many other more favorably known agents.

It has been found serviceable in wounds which contain necrotic tissue, which is well known to be a breeding-place of countless bacteria. We may then wait patiently for such tissue to be cast off instead of removing it surgically, with more or less sound tissue.

This agent, which is generally despised by surgeons, really has several advantages over more potent antiseptics. It is non-irritating; it is relatively non-poisonous; it is rapidly eliminated from the body; contact with body tissues does not interfere with its potency.

It is not to be considered wholly harmless. Several cases of severe, and some of fatal, poisoning have been traced to it. Death has resulted from washing out a pleural cavity with a five-per-cent. solution; and a similar result followed the use of the same strength in a large lumbar abscess.

Thus, after a checkered career of two hundred years, boric acid is still under examination and still very differently rated by different observers. While generally rejected by surgeons, the proofs of its power and usefulness seem incontestable; but its earlier uses have entirely disappeared. Almost the only internal use that remains to it is due to its power of acidifying ammoniacal urine in cystitis, if it be taken internally in daily amounts of half a drachm to a drachm.

Tannic acid is another agent whose general use in various ways is much open to criticism. From the harsh, astringent taste, and the styptic feeling, and sense of roughness and stiffness and dryness that it imparts to the mouth, together with a knowledge of its well-known effects upon dead tissues, as seen in tanning leather, the inference has been drawn that, in its application to mucous membranes and to living tissues generally, it causes a contraction of them, of the separate cells and of the blood-vessels, and further, that these effects are due to a coagulation of albumin and abstraction of water from the tissues. These two latter effects are still very generally ascribed to tannin, when it is brought into contact with living tissues.

As a matter of fact, the following is the truth:

From very weak tannin solutions, organic tissues absorb water and swell in consequence; instead of causing a contraction of blood-vessels, in weak and strong solutions alike, it causes arteries, veins, and capillaries to dilate. This dilatation is not due to reflex action as is the case with many irritants, but is a direct effect upon the wall of the vessel. Vessels dilated by tannin can always be again contracted by silver nitrate. On inflamed mucous membranes we can never see any diminution caused by tannin in the lumina of vessels, as can easily be seen under the influence of silver nitrate. Nor can we observe any diminution of existing secretions, in spite of the subjective sensation of dryness that follows its application.

In stomach and intestines it is absorbed and transformed into an alkaline tannate, which no longer precipitates albumin. In this condition it circulates in the blood, only after it has satisfied its chemical affinities and become inert so far as local effects of tannin are concerned. Hence there is no warrant for the very convenient belief that after its absorption it can produce styptic or hæmostatic effects upon remote organs. Thus, we can no longer hope to check bleeding from kidneys or uterus by giving tannin per os. The alkaline tannate in the circulating blood causes no coagulation of albumin, causes no vessel to contract, and would still remain at the site of hemorrhage inert, as it is elsewhere, even granting that it should ever reach the bleeding point. It would seem probably true that the apparent power of a few grains of tannin per os to cause distant hemorrhage to cease, is merely a coincidence, and not an illustration of cause and effect. That serious hemorrhages from stomach, and intestines, and lungs cease without the application of any therapeutic procedure is within the experience of us all. This use of tannin is probably purely a matter of tradition.

Ergot is known to produce a primary fall of blood pressure, which is followed almost at once by an enormous and persistent rise of pressure in the arteries. There is no proof that ergot causes any contraction of pulmonary vessels, and it is known to cause a rise in pressure in the pulmonary artery; yet, in spite of these facts, it is frequently given to arrest pulmonary hemorrhage, and is still recommended for that purpose by some of the best writers on practice.

Lithium is a drug in regard to which much false impression exists, and especially as it occurs in nature in mineral waters. As an experimental solvent for uric acid, Garrod showed the power of lithium carbonate many years ago; clinically, as a solvent in gout, it is almost always valueless when given even in reasonably large amounts. In these amounts it is especially likely to disorder digestion.

Experimental use of it justified great hopes of its clinical value, hopes which practice has not sustained. It certainly has no influence over uric-acid excretion in persons in health.

In mineral waters it is a very frequent ingredient, but it exists always in such minute percentage that as bearers of lithium they must necessarily be valueless. As pure, potable waters many of them have merit, but none of them contain lithium in quantities which ought to entitle them to consideration.

Lithium acetate is less likely to disorder digestion; it is not unpleasant to the taste and is freely soluble. But clinically, like the carbonate, it is of no value.

In regard to arsenic, I have often met a fallacy in the criminal courts, which is fostered by text-books. This is the belief that a toxic dose which causes death must necessarily act as a preservative of the body. Every dissecting-room attendant knows that the amount necessary to preserve a body is much larger than an ordinary lethal dose; and every hospital physician knows that a lethal dose may cause a fatal gastro-enteritis and other degenerative processes in vital organs, and yet may be almost entirely eliminated before death. Bodies so poisoned are especially prone to decomposition, yet I have heard learned advocates inform a jury that death by arsenic could not be asserted, because the body decayed, and because the chemist did not recover from it an amount equal to a lethal dose.

In regard to mercury, therapeutic ideas are especially rich in fallacies. Thus calomel is still given to stimulate the liver, whereas experiment has long since proved it to be a hepatic sedative. That it is at the same time a cholagogue is quite consistent with this, for so is any laxative which acts upon the upper part of the small intestine, and thus causes a discharge of bile that would otherwise be reabsorbed.

The great change in opinion as to the value of mercurialization is of comparatively recent date. Not very long ago it was resorted to in almost every protracted inflammation and fever. Now its field of usefulness is practically restricted to syphilis. It is still somewhat resorted to, improperly as I believe, as a means of removing the products of inflammation of serous membranes, and in some of the organs like the liver and kidneys.

As to the iodides, potassium iodide especially is a willing horse that has often been much overridden. Few drugs have been given so recklessly, to accomplish the most varied purposes, as has potassium iodide. This is to be explained largely by the fact that our ignorance of its physiological action is so great that its utility or uselessness in different conditions can be ascertained only by experience. Furthermore, no amount of knowledge of its physiological effects could explain its utility in syphilis, in the later lesions of which its power is universally acknowledged. Hence we are tempted to "try it" very freely. One of the fields in which it is much misused is arthritis deformans, in which it is wholly without effect. Gout is another. I frequently find it administered with colchicum in the treatment of gout. In serous inflammations it is now less given than it was formerly, but we still encounter it in the treatment of pleurisy, pericarditis, peritonitis, and meningitis. In these diseases it is usually given after the fever has subsided, in the expectation that it will aid in the absorption of exudations, both fluid and plastic exudations. Dispassionate criticism does not reveal a single case of these diseases in which absorption of exudation is caused by the iodides. To remove hyperplastic connective-tissue growths in certain viscera, it is still employed, without the slightest warrant. Thus it is often blindly given in chronic nephritis, cirrhosis, and meningitis. Except in syphilitic diseases of these organs, it is wholly without effect.

Its utility in asthma probably accounts for a certain faith in its utility in emphysema. Except that the potassium element in it may lower arterial tension by its direct effect upon an overacting heart, there is no reason for its use in this latter condition.

In chronic lead poisoning there is a general belief that potassium iodide aids in the elimination of lead which has been deposited in the tissues. Now lead is chiefly eliminated by the intestines; and there is absolutely no proof that the iodide increases the activity of the elimination of lead in any way. Still the text-books go on repeating the injunction to give iodide in these cases, in the hope of causing elimination of lead by the urine, which has been shown by painstaking investigation not to occur.[1] Iodide baths are now rarely resorted to. They were formerly much in vogue in spite of the fact that absorption of it by the skin to any appreciable extent has never been proved.

Many mineral waters are praised because of the iodine which they contain. When it is present at all in them, it is always in too minute a proportion to be significant.

It is gravely asserted that the iodine in sea air contributes much to the beneficial effects of a residence by the sea.

Who among us did not at one time believe in the efficacy of the Bergeon method of treating pulmonary tuberculosis? Which of us had not at one time a means of relieving dyspnœa in quebracho? And who resorts to these methods now?

Of all the hundreds of doctors who give creosote and its allies internally in tuberculosis, are there not many who believe that its beneficial effects are due to its antagonism to the bacilli? And yet there are positive proofs that it never exerts its curative influence by the manifestation of any such power; but only by improving intestinal digestion, and thus benefiting nutrition.

Among present-day fallacies perhaps none are more to be regretted than several of those that relate to gaseous or aërial disinfection. Sulphurous acid gas, chlorine, and other gases are very unsafe substitutes for cleanliness and scrubbing with antiseptics or even rubbing the bounding surfaces of a room with bread. Most of the gaseous substances employed have so little penetrating power that they will not destroy animal life on the other side of a thin board partition. Formaldehyde is probably the best of them, but its penetrating power is feeble as compared with superheated steam. Of course, there is no special advantage in disinfecting the air of a room at all, for it may all be removed by opening doors and windows: it is the other contents and the bounding surfaces which need our attention.

The idea of disinfecting a room by the generation of chlorine gas in it while it is occupied by human beings is still advocated by some as practical, absurd as it seems to be.

The inhalation of oxygen is often practised, upon very absurd premises. The amount of oxygen which is taken up by the blood in the lungs is wholly dependent upon the consumption of oxygen in the systemic circulation and upon the hæmoglobin percentage in the blood cells. Granted that there is no obstruction to the entrance of air to the lungs, venous blood is transformed into arterial blood in the lung capillaries just as easily, and as quickly, and as fully if atmospheric air be inhaled as if pure oxygen be substituted for it.

When obstruction of any sort exists, or when anything interferes with the normal atmospheric pressure in the air passages, oxygen inhalations will give great relief to the dyspnœa which ensues. Thus, for example, in balloon ascensions where the atmosphere is markedly attenuated, symptoms of oxygen insufficiency are known to occur and can be relieved by breathing a more richly oxygenized air, without altering the atmospheric attenuation.

In certain diseases of the respiratory organs a similar condition comes about, and in these conditions oxygen often relieves symptoms of dyspnœa, and remedies the defective exchange of gases in the lungs and the consequent accumulation of carbonic acid in the blood. Among such conditions are acute exacerbations of chronic bronchitis, emphysema, asthma, some bad cases of pneumonia, miliary tuberculosis with its intense bronchitis, and some cases of heart disease. But there is no justification for the extensive use of oxygen in general diseases which either arise from defective hæmatosis or are connected with imperfect digestion or oxidation; such as chlorosis, anæmia, leukæmia, gout, uric-acid diathesis, scurvy, rickets, etc.

In these cases the amount of oxygen absorbed is wholly dependent upon the percentage of hæmoglobin in the blood, and cannot be increased at will by increasing the oxygen percentage in the air that is breathed.

The sphere of usefulness of oxygen inhalation under normal atmospheric pressure is really very limited. As a matter of fact, arterial blood is more than nine-tenths saturated with oxygen by the breathing of atmospheric air; and if we could increase this amount by let-

[1] Therapeutische Monatshefte, 1893, p. 476.

ting a patient breathe pure oxygen, it would not benefit him. The arterial blood would still yield only its normal oxygen percentage in the system, and, as venous blood in the right heart, be a little richer in oxygen than is normal—that is all.

The length of this paper has gone beyond the limits which I had intended to set for it; but I have merely selected for your consideration a few of the many topics which crowd upon one's mind when he contemplates its title. That I might have made it much longer will perhaps induce you to excuse its length.

IONIZATION IN ITS PHYSIOLOGICAL AND PATHOLOGICAL RELATIONS.

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I. The Theory of Electrolytic Dissociation.—Precipitation membranes, permeable to water but impermeable to some substances dissolved in the water, were discovered by Moritz Traube, but it was not until Pfeffer[1] conceived the idea of supporting these delicate membranes in the walls of unglazed vessels of earthenware that accurate osmotic measurements could be made with them. This end he accomplished by placing one of the membrane-forming solutions (copper sulphate) on the inside of the porous vessel, and the other (potassium ferrocyanide) on the outside. The two solutions, penetrating the wall from opposite directions, meet in the interior of the wall, and there deposit a semi-permeable film (copper ferrocyanide). The porous vessel is then filled with aqueous solutions of various substances (sugars, salts, etc.) and immersed in pure water. A current of water passes from without into the cup containing the dissolved substance, with a force to which Pfeffer applied the term "osmotic pressure." With a suitable manometer the osmotic pressure may be measured directly. The pressure of a given solution is very nearly proportional to its concentration, in other words, proportional to the number of molecules it contains. With an increase in temperature, there is an increase in the osmotic pressure.

Previous to the experiments of Pfeffer it had been known that certain vegetable cells burst when placed in pure water or in a solution of less concentration than that contained in the cell. Pfeffer pointed out that in this case there is a semi-permeable membrane (the cell wall) separating the cell contents from a liquid of lower osmotic pressure, and that the rupture of these vegetable cells is due to an imbibition of water, with consequent rise in cell turgor.

The experiments of Pfeffer paved the way for van't Hoff's[2] theory of dilute solutions, which shows the complete analogy between dilute solutions and gases. The semi-permeable membrane furnishes a means of directly measuring the osmotic pressure of a solution. It is found that the osmotic pressure exerted by a dissolved substance is the same as the pressure exerted by an equal amount of that substance volatilized and occupying the same volume as that of the solution. Pfeffer's results show that the osmotic pressure at constant temperature is proportional to the concentration of the solution, or, in other words, the osmotic pressure of a given quantity of substance is inversely proportional to the volume of the solution which contains it. Other experiments show a close relation existing between the absolute temperature of a given solution and its osmotic pressure. These facts permitted van't Hoff to apply the gas laws of Boyle and Gay-Lussac to dilute solutions: At constant temperature the pressure of a dissolved substance varies inversely as the volume of the solution; at constant volume the osmotic pressure is proportional to the absolute temperature.

When Avogadro first published his law—equal volumes of different gases under the same physical conditions contain the same number of molecules—a number of facts were found which seemed not in accord with it. It was observed, for example, that the vapor density of ammonium chloride—and hence its molecular weight determined from its vapor density—was only half (while its vapor tension was twice) as great as was required by its formula, NH_4Cl. The explanation of this apparent exception was forthcoming, however, when it was shown that upon being heated ammonium chloride splits up into ammonia and hydrochloric acid, thus doubling the number of molecules. It is a similar dissociation that accounts for the diminished density and increased tension of the vapors of other substances which show like exceptions to the law of Avogadro.

Van't Hoff's application of the law of Avogadro to dilute solutions gives us: Equal volumes of all solutions having the same temperature and the same osmotic pressure contain the same number of molecules. The law of van't Hoff had to contend with the same difficulties as that of Avogadro; for, while the behavior of many solutions went to support it, that of others offered apparent exceptions to the rule. The experiments of Pfeffer show that the osmotic pressure of a solution is proportional to the number of molecules it contains. Other facts go to show that the rise of the boiling-point (diminution in vapor tension), or the lowering of the freezing-point, of a solution is also dependent upon the number of dissolved molecules. Now, for many solutions, more especially strong acids, bases, and salts, it was found that the osmotic pressure is higher than the law of van't Hoff requires. Similarly, it was found that these same substances show too great a rise of the boiling-point, and too great a lowering of the freezing-point. In other words, they conduct themselves as though they contain a larger number of molecules than is expected from the chemical formulæ of the dissolved substances.

To explain these exceptions recourse must be had to one of two theories; either the law is not an absolute one, or else some change has occurred in the solutions. While working on the electrical conductivity of various solutions, Arrhenius[3] noted that those which conduct electricity are those which offer apparent exceptions to the law of van't Hoff. It was this fact which led him to the conclusion that in solutions which are conductors of electricity (electrolytes) the molecules of the dissolved substance are, in some way, dissociated into simpler substances—the ions. An electrolyte in solution is converted, either wholly or in part, into ions, each of which conducts itself like a molecule. This splitting up of molecules into ions makes the osmotic pressure greater, the boiling-point higher, and the freezing-point lower than required by the molecular formula of the electrolyte, and, to a degree, dependent upon the amount of dissociation. According to Arrhenius' theory of electrolytic dissociation, then, a solution of hydrochloric acid is made up of H- ions, Cl- ions, and undissociated molecules of HCl. Similarly, a solution of sodium hydroxide is made up of Na- ions, OH- ions, and undissociated NaOH. The degree of dissociation is dependent upon the degree of dilution—the greater the dilution, the greater the number of dissociated molecules. The greater the degree of dissociation, the greater is the electrical conductivity.

Kohlrausch ascertained experimentally that the molecular conductivity * of a salt increases as the dilution increases, and that the rate of increase becomes

* By the molecular conductivity of a solution is meant its specific conductivity, multiplied by the volume of the solution in litres which contains one gram-molecule of the dissolved substance.

smaller as the dilution increases, until finally a point is reached at which the molecular conductivity remains constant, even though the addition of water to the solution is continued. At this point, dissociation is complete. For many substances, more especially strong acids, bases, and their salts, dissociation is practically complete when a gram-molecule * is dissolved in 1,000 litres of water. Solutions which conduct electricity freely are entirely split up into ions, while those which conduct electricity but poorly are dissociated to but a small extent. Upon this hypothesis Arrhenius measures the degree of dissociation of a substance by the conductivity of its solutions.

Ions differ from molecules, in that they are charged with positive or negative electricity, and to this saturation with electricity is due the difference in the behavior of the molecules and ions. The negatively charged ions which travel toward the positive pole or anode are termed anions; those charged with positive electricity and travelling toward the negative pole or cathode are termed cathions. Thus the ions of a completely dissociated hydrochloric acid solution may be written H^+ and Cl^-. In solution the positive and negative ions neutralize each other, and so the electrical equilibrium of the solution is maintained.

Beside the facts already brought forth, numerous other evidences (specific volume, optical and thermal properties of solutions, etc.) go to prove the truth of the dissociation theory of Arrhenius. The properties of the aqueous solutions of electrolytes are, then, well explained by the assumption that in these solutions the dissolved substances are split up into ions, and that the properties of the solutions are due to the properties of the ions contained in them. For example: Hydrochloric acid dissociates into H- ions and Cl- ions. Sodium chloride dissociates into Na- ions and Cl- ions. These solutions are the same in so far as they both contain Cl- ions, and different because one contains H- ions and the other Na- ions. These differences determine the differences in the properties of the two solutions.

II. The Relation of Ions to Life Phenomena.—(1) In 1896, Kahlenberg and True[1] made the first application of the theory of electrolytic dissociation to the problems of physiology. The physiological action of any substance is due to its chemical character. The chemical character of the solution of an electrolyte is due to the properties of its ions, plus the properties of its undissociated molecules; hence these authors concluded that the physiological effects of such a solution must also be due to the ions and to the undissociated molecules contained in it. Kahlenberg and True experimented upon the bean *Lupinus albus* L., to determine in how strong solutions of various acids, bases, and salts the roots will keep alive. Freshly germinated seeds, properly supported on corks, were placed in the solutions to be tested. Failure of growth and certain changes in the appearance of the radicles served as evidences of the death of the lupine. For strong acids, HBr, HCl, HNO_3, H_2SO_4, etc., the point at which the seedlings will just live is reached when a gram-molecule is dissolved in 6,400 litres of water. In solutions as dilute as this, dissociation into ions is complete, and there are no longer present any molecules of the acid. Hence the toxic action cannot be due to the molecules. If it can be proved that at this dilution the anions are non-toxic, the conclusion seems justified that the poisonous properties of these acids are due to their H- ions.

No toxic effect is exhibited by a solution of NaCl equimolecular * with an HCl solution that produces the death of a lupine, nor even by one of greater concentration. At the dilution used both these substances are totally dissociated. The solutions are the same in so far as they both contain Cl- ions, and different in that one contains H- and the other Na- ions. The toxicity of HCl cannot be due to the Cl- ions, as an equal, or even larger, amount of the same ions in an NaCl solution proves harmless. The Na- ions, can have no toxic action, since the NaCl solution is non-toxic. The toxic action of the HCl must then be due to the H- ions. The same reasoning can be applied to $NaNO_3$ and HNO_3, and to the other acids mentioned above.

Similarly, the toxic effects of the hydroxides are due to their OH- ions. NaCl produces no effect upon lupines in solutions equimolecular with toxic solutions of NaOH. It has already been shown that at the great dilution at which these solutions are toxic neither the Na- ions nor the Cl- ions are the toxic agents. The action of the NaOH must then, of necessity, be due to the OH- ions. That it is the ionic condition of the H and OH which determines the toxicity is proved by the fact that in H_2O, in which these constituents exist in practically an undissociated state, none is exhibited.

The poisonous properties of a dilute solution are, therefore, due to the ions it contains, and if at the particular concentration under consideration toxic ions of only one kind are present, the behavior of the solution is to be attributed to those ions.

(2) Loeb[2] used the change in the irritability of the gastrocnemius muscle of a frog, and the amount of water absorbed by it, as an index of the toxicity of the solution of an electrolyte in which the muscle was immersed. A muscle immersed in a physiological (0.7 per-cent.) NaCl solution † shows, during the first hour, no variation in weight. If, however, a small quantity of an inorganic acid or of an alkali be added to the solution, there is a great increase in the weight of the muscle. For inorganic acids the increase varies with the number of H- ions in solution. Equal amounts of H- ions, in equal amounts of the solvent, induce quantitatively equal increase in weight. A muscle immersed in a physiological salt solution to which a small amount of the hydroxide of lithium, sodium, potassium, strontium, or barium has been added, shows an increase in weight, due to the OH- ions in solution. For equal amounts of OH- ions in equal amounts of the solvent, the weight increase is equal.

The increase in the weight of the muscle is due to an absorption of water, explainable on the ground that the H- ions of the acids, or the OH- ions of the alkalies have a fermentative action which causes hydrolytic splittings in the muscle, and an increase in its osmotic pressure.

Loeb[3] also investigated the influence of organic

* A gram-molecule contains the weight of one atom or one molecule of the active chemical, expressed in grams. A gram-molecular solution contains in a litre the weight of one atom or one molecule of the active chemical expressed in grams. Taking the molecular weight of hydrochloric acid as 36.4, a gram-molecule contains 36.4 grams. A gram-molecular hydrochloric solution contains 36.4 grams of the pure acid, diluted to make one litre, 1,000 c.c., at 0° C.

* Comparative studies of the physiological action of electrolytes have usually been made with percentage solutions. In dealing with the properties of acids, bases, and salts, we must compare equimolecular (chemically equivalent) solutions. A normal HCl solution contains 36.4 grams of the acid; a normal HBr solution contains 80.9 grams of HBr. The amount of H contained in each of these solutions is, however, the same. Similarly, a normal NaCl solution contains 58.5 grams of the salt. Compared with a normal HCl solution, the Cl concentration is the same in both solutions. Thus, chemically equivalent quantities of different substances can be compared. A failure to compare chemically equivalent solutions accounts for the erroneous results which have been obtained whenever comparative studies have been made on the physiological, pathological, and pharmacological action of chemical compounds.

† A 0.7 per-cent. NaCl solution is supposed to have the same osmotic pressure as the tissue fluids. For this reason a muscle immersed therein neither loses nor takes up water.

acids upon the absorption of water by muscles, and in a large series of acids found that the degree of dissociation of the acid in solution, and the amount of water absorbed by the immersed muscle, bore no relation to each other.

Although a muscle immersed in a 0.7 per-cent. NaCl solution shows no increase in weight during the first hour, a considerable increase is not uncommon after several hours. After eighteen hours, an increase of nearly seven per cent. was noted by Loeb. When a gastrocnemius is immersed in a 2.8 per-cent. NaCl solution it loses water. Later, however, this is followed by an absorption of water and an increase in weight, which exceeds the original weight of the muscle. In his first communication, Loeb suggested as a possible explanation for these apparent exceptions to the laws of osmotic pressure, the occurrence of secondary changes in the muscle, accompanied by an increase in the number of molecules. Such an increase would be accompanied by a rise of osmotic pressure within the muscle. In a series of experiments in which the gastrocnemii of frogs were immersed in a 4.9 per-cent. NaCl solution, the reaction of the muscles, in all cases, became distinctly acid after a few hours. The time required for such a change increased with the dilution. Dry-weight determinations showed the increased weight to be due to an absorption of water, and not to an increase in the amount of NaCl in the muscle. Thus Loeb proved the truth of his original hypothesis, and showed that the weight increase in a muscle immersed in a pure salt solution is due to secondary changes associated with acid formation. These observations of Loeb throw light upon several points in muscle physiology. Ranke[7] has shown that a fatigued muscle absorbs water from the blood. Other observations have shown that a stimulated muscle becomes distinctly acid in reaction. These facts harmonize well when we remember that the presence of an acid in a muscle increases its osmotic pressure, and causes it to absorb water even from a 0.7 per-cent. salt solution.

Immersion in hypotonic * solutions is also accompanied by acid changes, an increase in the osmotic pressure of the muscle cells, and a consequent absorption of water and increase in weight. To show the far-reaching importance which these phenomena have in physiological questions, I quote directly from Loeb:

"We know that during muscle activity acid is formed, and furthermore, that an active muscle absorbs water. . . . In this water absorption is to be found the cause of labor hypertrophy. The possibility of determining the amount of katabolic change during muscular activity, from the increase in osmotic pressure, lies near at hand. It is to be remembered, however, that it is this very katabolic change which leads to the formation of acids, and to an increase in the osmotic pressure of the muscle during activity. This rise in osmotic pressure is caused, in the main, by the fermentative power of the H- ions of these acids. Acid production is, then, of significance in the production of labor hypertrophy. It would be of interest to know if acid formation does not underlie in animals, as in plants, all phenomena of growth.

"From these experiments we also get an insight into the ways and means by which an organism protects itself against a loss of water, or adapts itself to conditions in which water famine prevails. Biology has thus far had an eye only for the means of protection against evaporation. Our experiments show, however, that a second group of protective measures present themselves which are of service to the organism, namely, increase in osmotic pressure. We have seen that loss of water is in itself accompanied by acid formation, and that, in consequence, a muscle is put in a position to draw water even from a concentrated solution. It seems possible that the wonderful power which some plants possess to adapt themselves to a 'dry' earth, and their power to draw water from the same is dependent, in part at least, upon processes of the above kind. It might, perhaps, be of interest to determine if, during great dearth, an increase in osmotic pressure does not occur, dependent upon the formation of acids in such plants."

(3) It is a well-known fact that water combines with sodium, potassium, and calcium soaps in definite proportions; but that the amount of water absorbed by the soaps is dependent upon the metal involved. The potassium soaps absorb a large amount of water. The sodium soaps absorb much less, but still a large amount. The calcium soaps, on the other hand, take up but little water. Substitution of sodium for potassium in potassium soaps is accompanied by a loss of water; substitution of potassium for sodium in sodium soaps is accompanied by the absorption of water.

In a series of experiments, Loeb [8] demonstrated the similarity which exists between the absorption of water by soaps, and the absorption of water by muscles. Previously this author found that a muscle immersed in a 0.7 per-cent. NaCl solution suffers neither increase nor decrease in weight during the first hour of immersion. Slight variations were noted, however, during the first hour, when isotonic solutions of potassium, calcium, or lithium were used. After eighteen hours these variations become considerable. In a NaCl solution the muscle has gained seven per cent.; in KCl there is an increase of forty to fifty per cent.; in $CaCl_2$ a loss of twenty per cent.; in LiCl an increase of a few per cent. Equimolecular solutions of the chlorides of strontium, barium, cobalt, and manganese affect the muscles as do solutions of calcium chloride.

As the degree of dissociation of sodium and potassium salts is about the same, it is clear that the above variations in the absorption of water cannot be dependent upon differences in osmotic pressure. The addition of a KCl solution to a sodium soap is accompanied by a diffusion of K- ions, a substitution of the K- ions for the Na- ions, and the formation of a potassium soap. An absorption of water occurs with the formation of the potassium soap. Similarly, the addition of a $CaCl_2$ solution to a sodium soap is accompanied by a diffusion of Ca- ions, the formation of a calcium soap and a consequent loss of water. Loeb believes that similar conditions prevail in the case of muscle. The various salt ions stand in definite combination with the proteids of the muscle. Immersion of a muscle in a given solution is accompanied by a diffusion of Li-, Na-, K-, or Ca- ions. In the case of soaps such a diffusion of ions would result in the formation of lithium, sodium, potassium, or calcium soaps. In the case of muscles a similar reaction occurs and compounds between the metal ions and the proteids of the tissues are formed. These lithium, sodium, potassium, and calcium ion proteid compounds resemble the soaps in their relative affinities for water.

(4) In 1881 Biedermann[9] discovered that striped muscle fibres contract rhythmically when immersed in solutions of various sodium salts, but it was not until 1899 that Loeb [10] showed that this phenomenon is dependent upon the presence in the solutions of certain ions. A series of experiments was made to determine the behavior of the frog's gastrocnemius in various salt solutions. As a result of these observations it was found that rhythmic contractions occur only in solutions of electrolytes, and not at all in solutions or non-conductors (urea, glycerin, dextrose, cane sugar,

* When two solutions have the same osmotic pressure, they are said to be isotonic. When the osmotic pressure is unequal, the one with the higher pressure is hypertonic; that with the lower pressure is hypotonic.

milk sugar). Herein lies another proof of the existence of ion proteid compounds. Solutions of all sodium salts are capable of calling forth rhythmical contractions in skeletal muscles, but in a 0.7-per cent. NaCl solution contractions begin later and are less powerful than in an equimolecular NaBr solution. This indicates that not only the metal ions, but also the anions, influence the physical properties of the ion proteids. The use of other solutions showed that Li-, I-, and F- ions are also capable of inducing rhythmic contractility in muscle, but that the character of the contractions varies greatly, and is dependent upon the specific action of the different ions.

Solutions of sodium salts produce rhythmic contractions of skeletal muscles only when the muscle cells contain a sufficient number of Ca- ions. As soon as there is a lack of Ca- ions, the Na- ions lose their power. On the other hand, if an excess of Ca- ions is present—produced experimentally by adding $CaCl_2$ to the NaCl solution—no contractions result. It looks, therefore, as if the substitution of certain quantities of Na- ions for Ca- ions causes contractions, but if this substitution is carried too far the muscle loses its irritability. On the other hand, the presence of too many Ca- ions in the NaCl solution prevents the substitution of a sufficient number of Na- ions for the Ca- ions, and so rhythmical contractions are prevented. Other ions (K, Mg, Bi, Ba, Sr, Co, Mn, etc.) retard or prevent the occurrence of rhythmic contractions in skeletal muscles. It is the Ca- and K- ions in the blood which prevent the skeletal muscles of our bodies from beating rhythmically.

That the retarding action of the Ca- and K- ions is not dependent upon the reduction of the irritability of the muscle is proved by the fact that in a 0.7 per-cent. NaCl solution to which has been added an amount of $CaCl_2$ sufficient to prevent rhythmic contractions, the irritability of the muscle suffers less and is preserved for a longer time than in a pure physiological salt solution. The loss of contractility seems rather to depend upon the formation of definite proteid compounds with Ca- and K- ions.

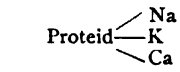
The presence of small quantities of H- and OH- ions favors the production of rhythmic contractions when present in solutions of electrolytes which are in themselves capable of calling them forth. In solutions of non-conductors, or in solutions of electrolytes which have a retarding influence upon the occurrence of rhythmic contractions, the addition of small amounts of NaOH, HNO_3, etc., exerts no such favorable influence. To OH- and H- ions, then, is to be attributed a katalytic action which, though capable of aiding, is, in itself, incapable of calling forth rhythmic contractions.

When the spinal cord or the nerve connected with the muscle is immersed in solutions of electrolytes capable of calling forth rhythmic contractions in muscle, no such contractions result. This proves that the rhythmic contractility of a muscle is inherent in the muscle tissue itself, and not in the nerves connected with it.

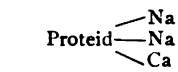
Coupling his results with those of Greene,[11] who previously had determined the relation of the inorganic salts of the blood to the automatic activity of the terrapin heart, Loeb concluded that the same factors which determine the production of rhythmic contractility in the gastrocnemius of a frog are those which determine the automaticity of the heart. This view is confirmed by the experiments of Lingle[30] on the automatic activity of the turtle heart.

More recently, Loeb[12] has studied the effect of ions upon the rhythmic contractility of a medusa—Gonionemus. The Gonionemus is a jellyfish consisting of a rhythmically contracting swimming bell with a peripherally grouped chain of ganglia. The experiments of Loeb demonstrate that Na-, K-, and Ca- ions exist in definite but different proportions in the contracting bell, and in the peripheral chain of ganglia. Both myogenic and neurogenic contractions occur. The former are those originating from the bell when freed from its ganglia; the latter those originating from the peripheral ganglia. The myogenic contractions are prevented by a smaller amount of K- and Ca- ions in the surrounding NaCl solution than are the neurogenic contractions.

(5) Other facts go to prove the truth of the existence of ion proteid compounds. If the foregoing is correct it follows that we may regard protoplasm as a proteid in combination with various ions. To represent this idea graphically the formula of an ion proteid compound might be written thus:



Such a compound would have definite chemical characteristics. Let us suppose that it were possible to substitute Na- ions for K- ions in the above formula, thus:



It is evident that the latter ion proteid compound would differ chemically and physically from the first. Theoretically these two proteids should differ physiologically.

If it be true that certain life phenomena depend upon the presence of proteids combined with certain metal ions (Na, K, Ca, Mg, etc.), then it follows that solutions which supply the organism with only one sort of ions must alter the chemical and physical properties of the proteids and so be poisonous. On this ground Loeb[13] came to the conclusion that even a NaCl solution must be poisonous, although this salt permeates all animal tissues, and is the main constituent of sea water.

Howell[14] has attributed to the NaCl in our blood the rôle of preventing the tissues from losing or taking up water, that is to say, the property of maintaining the osmotic equilibrium. Solutions of NaCl in concentrations of 0.5–1 per cent. have ever been held to be "indifferent" substances. Thus it has been believed that such solutions may be left indefinitely in contact with muscle preparations, without affecting their irritability. Locke,[15] however, found that differences existed between the contraction curves of muscles immersed for some time in NaCl solutions, and those kept in a moist chamber or tested immediately after removal from the body of an animal. On this ground he concluded that NaCl is not an "indifferent" substance in animal physiology. True[16] noted that the osmotic pressure of solutions of $NaNO_3$ and KNO_3 in which Spirogyra will just live, is lower than that of a pure sugar solution; hence he concluded that other factors than disturbances in osmotic equilibrium go to make these salts harmful for Spirogyra.

Loeb used in his experiments the freshly hatched fundulus, a marine fish. An addition of five per cent. NaCl to sea water does not injure this animal. In a pure NaCl solution, isotonic with sea water, the fish dies, however, in a short time. When such a NaCl solution is diluted with distilled water, the fish lives longer the greater the dilution, and in pure distilled water lives indefinitely.

Thus is demonstrated the toxic effect of NaCl in pure solution. It now becomes necessary to show that the addition of certain other ions annihilates the toxic effects of NaCl. If small amounts of solutions of KCl, $MgCl_2$, and $CaCl_2$ are added to the NaCl solution, the poisonous effects of the pure NaCl solution disappear, and the fish lives indefinitely. Indeed, the

addition of small amounts of K- and Ca- ions counteracts the toxic effects of NaCl, even in solutions hypertonic with sea water.

The Gonionemus propels itself by rhythmical contractions of its swimming-bell. When thrown into a pure NaCl solution the rhythmical contractions cease; when returned to sea water the contractions of the bell recommence. In the pure NaCl solution the Na- ions take the place of the K- and Ca- ions; this alters the physical properties of the tissues and prevents the occurrence of contractions. The return to sea water is accompanied by the replacement of K- and Ca- ions in the ion proteid compounds, and a consequent return of contractility. A dilute solution of NaCl permits this medusa to contract much longer than one isotonic with sea water. The addition of KCl, $MgCl_2$, and $CaCl_2$ counteracts the poisonous effects of a pure NaCl solution. Thus it is again proved that the Na- ions in a pure NaCl solution are poisonous, but that the same solution is harmless if K- and Ca- ions are present. What is true in these experiments of the toxicity of a pure NaCl solution is equally true of the toxic properties of a pure KCl, $CaCl_2$ or $MgCl_2$ solution.

The relation of the activity of the cilia of sea-urchin larvæ to the salts of the sea water was studied by Loeb. The slowly poisonous effect of a pure NaCl solution is counteracted by the addition of small amounts of K- and Ca- ions. During these experiments the remarkable fact was brought out that ciliary motion continues for some hours in solutions of $MgCl_2$ and $CaCl_2$, and in solutions of NaCl and KCl—both of them liquids in which muscular contractions are impossible. This proves conclusively that ciliary motion is not, as is often believed, a muscular phenomenon.

A study of the effects of ions upon young trout and tadpoles has led Anne Moore[28] to practically the same conclusions as have been reached by Loeb in regard to the poisonous effects of a pure NaCl solution.

Recently Loeb [18] has studied the poisonous effects of the various ions upon embryonic tissues.

(6) Entirely independently of Loeb, Pauli [17], [18] has reached the conclusion that the inorganic salts of the animal economy exist in combination with the protoplasm as ion proteid compounds. The coagulation of albumin by heat occurs only in the presence of certain neutral salts. With variations in the amount of salt, variations occur in the temperature at which the albumin coagulates. It is found that certain laws govern the point at which a given salt-albumin mixture will coagulate. When the effects of equimolecular salt solutions on the temperature of coagulation are compared, and the results arranged according to the different acidulous radicles, it is found that the action of the salts is independent of the bases. On the other hand, arrangement according to the basilous radicles shows the action of the salts to be independent of the acidulous radicles. The effect of a given salt upon the coagulation of albumin is, then, not dependent upon either its basic or acid constituents alone, but upon the sum of the action of its constituent ions. The metallic ions, arranged in the order of their ability to raise the point of coagulation of albumin, run as follows: NH_4, K, Na, Li, Ba, Mg. The acid ions arranged in the same way show: Chlorides, acetates, sulphates, oxalates, chromates, chlorates, nitrates, bromides, and iodides.

A study of the effect of the mixture of two salts containing a common ion, with a solution of albumin, shows that there exist certain mixtures of two such salts in which the addition of more salt of the one kind produces no change in the point of coagulation of the albumin. The occurrence of such stable salt-albumin compounds are explainable on no other ground than that the albumin molecule exists in actual combination with both the ions of a given salt.

A further proof of the correctness of this view lies in the solubility of globulin. Globulin (egg) is soluble in neutral salt solutions of moderate concentration. Diluting to a certain point with water results in a precipitation of the globulin. Similarly, the addition of neutral salts to the original globulin solution causes its precipitation. Changes, then, in the salt concentration (changes in the ion concentration) bring about changes in the properties of the globulin. According to Pauli, the increase in the concentration of the neutral salt solution diminishes its electrolytic dissociation, and with the consequent decrease in the number of free ions a precipitation of the globulin occurs. Comparative studies with the substitution of equimolecular solutions of non-electrolytes (urea, dextrose) for the salt solutions show that the solubility of globulin is dependent upon the presence of free ions.

* * *

The question has often arisen, What is meant when we say that a muscle-nerve preparation or a living tissue possesses a positive or negative charge of electricity? As the result of certain experiments on the influence of static electricity upon nerve-muscle preparations, Loeb [19] has suggested the following: Applying the law of electrical conductivity in solutions to conductivity in living tissue, it is seen that the conductivity is dependent upon a migration of ions, as it is only the liquid portion of a cell which can serve as a conductor. According to Ostwald, the passage of static electricity in a liquid conductor can be conceived of only as the passage of positive or negative ions over the surface of the solution. In a similar manner, Loeb conceives of a distribution of negative or positive ions upon the surface of a nerve-muscle preparation. The passage of a spark between the two metal spheres of the discharger of the static machine causes a migration of ions in the muscle, accompanied by the transformation of ions into atoms. These, directly or indirectly, produce the chemical changes which in the muscle manifest themselves in contractions at the time of the electrical discharge.

* * *

In 1897 Richards[30] expressed the view that the sour taste of acids is dependent upon the H- ions which they contain, and suggested the possibility of using the intensity of the taste as a means of measuring the amount of their electrolytic dissociation. Experiments with a series of mineral acids showed that a definite relation exists between the concentration of the H- ions in the solution and its power to affect the sense of taste. As a further proof of the fact that it is the H- ions which determine the degree of acidity in the solution of an acid, the following experiment may be cited: To an HCl solution of known strength was added equimolecular NaOH in various quantities. It was found that the degree of acidity decreases as the amount of NaOH increases. When enough NaOH is added to neutralize completely the acid, the sour taste of the solution is entirely lost. The explanation for this change is a simple one. The chemical reaction which occurs may be thus expressed:

$$HCl + NaOH = NaCl + H_2O$$

The H- ions of the HCl have combined with the OH- ions of the NaOH to form H_2O. H_2O is practically undissociated, hence no free H- ions are found in the resulting solution. Since there are no H- ions in this solution, it has no sour taste. When only partial neutralization occurs a sour taste persists, proportionate to the number of H- ions left in solution.

In 1898 Kahlenberg[31] repeated and enlarged upon the experiments of Richards. Kahlenberg's experiments led him to formulate the general law: The taste

of the solution of an electrolyte is dependent upon the ions contained in it.

The sour taste of acid solutions is due to the H- ions contained in them. The H- ion can be detected in $\frac{n}{800}$* solutions, though under $\frac{n}{200}$ the taste is not sour, but astringent in character. Richards was able to detect the H- ion in $\frac{n}{10000}$ solutions. The OH- ion produces an alkaline taste detectable even in $\frac{n}{400}$ solutions. The halogens have a salty taste. Of them the Cl- ion has the most pronounced taste, and is recognizable in $\frac{n}{50}$ solutions. The Cl- ion affects the sense of taste at a slightly greater dilution than the Br- ion, while the I- ion is not recognizable except at a concentration above a $\frac{n}{6}$ solution. The ClO_3- and BrO_3- ions have a salty taste, but this is not so pronounced as in the case of the Cl- and Br- ions. The NO_3-, SO_4-, and CH_3COO- ions have all only a slight taste. The last-named is slightly sweetish.

Na- ions are slightly disagreeable to the taste. K- ions produce a peculiar, bitter, disagreeable taste which is much more pronounced than that of the Na- ions. The taste of Li- ions simulates that of the Na- ions, but is less marked. Mg- ions have a distinctly bitter taste in $\frac{n}{6}$ solutions. NH_4- ions also have a bitter taste. The taste of Ag- and Hg- ions is metallic in character, and is detectable in the first in concentrations above a $\frac{n}{5000}$, and in the second in concentrations above a $\frac{n}{20000}$ solution.

The intensity of the salty taste of Cl-, Br-, and I- ions decreases with an increase in their atomic weights. The taste of the cathions also varies with variations in their atomic weights. When the taste of the various ions is compared with their motility as expressed in their speed of migration under the influence of the electric current, a number of instances are found that seem to indicate that the greater the motility of the ion, the more pronounced is its taste; other results, however, go to prove that the intensity of the taste is determined not only by the readiness with which the ion can penetrate to the nerve endings, but also by its reaction with the protoplasm of the same. The character of such a reaction is necessarily dependent upon the character of the ion.

By the comparative study of solutions having common chemical properties, the characteristics of the individual ions are determined. Let us consider two hypothetical, equimolecular solutions. $B+A^-$ and $B+C^-$. If the A- and C- ions are tasteless, then the taste of the solution is due to the B- ions. If the B- ions have a certain taste, then a difference in the taste of the two solutions must be due to a difference between the ions A- and C-. Comparing solutions which contain a common anion but different cathions of known characteristics, we approximate the characteristics of the anion. When the substance under consideration is not entirely dissociated, we have to take into consideration the taste of the undissociated molecules.

* *
*

Garrey[23] studied the effects of ions upon the aggregation of a flagellate infusorian, Chilomonas. A complete analogy exists between the effects of certain ions and the effects of other stimuli (light, galvanic current, etc.) in the formation of gatherings of these infusoria. Garrey was able to distinguish two causes for the infusorial gatherings: first, chemokinesis; second, positive chemotropism. By the first term is understood a reaction of the infusorian to sudden changes in the concentration of the chemical; by the second, an orientation of the organism which causes it to move toward the centre of diffusion of certain chemicals. Chilomonas exhibits chemokinesis toward the hydroxides of lithium, sodium, potassium, calcium, strontium, and barium; and toward the acids, HCl, HNO_3, and H_2SO_4. The effects are due in the first case to the OH- ions, and in the second to the H- ions. That we are dealing with ion effects is proven by the fact that different alkalies containing the same number of OH- ions in equal amounts of water produce equal effects upon the organism. Similarly, equal amounts of H- ions at the same concentration produce equal effects.

HCl of a certain concentration is able to cause gatherings of infusoria. Since an equimolecular NaCl solution is unable to do the same, it must be the H- ions which determine the activity of the acid. The same reasoning applied to equimolecular NaOH and NaCl shows that the OH- ions are the effective agents in the production of the infusorial gatherings.

Toward the carbonates of the alkali metals and alkali earths, Chilomonas is chemokinetic, and the effect is probably due to the OH- ions* formed secondarily, and in part, perhaps, to CO_3- ions or undissociated molecules. NH_4OH owes its chemokinetic properties to the OH- ions, plus the NH_4- ions or NH_4OH molecules. The effects of CO_2 are similar to those of the other weak inorganic acids. The chemokinetic reactions of Chilomonas to the inorganic salts of iron, zinc, copper, mercury, and silver are due to the metallic ions.

From a study of the data furnished by Miquel's[24] table on the efficiency of antiseptics, Kahlenberg and True[4] concluded that just as the poisonous action of solutions of electrolytes upon the roots of lupines is dependent upon the ions contained in them, so also is their bactericidal power. In the hands of Paul and Krönig[25] this theory was fully substantiated. They exposed for varying lengths of time cultures of the staphylococcus pyogenes aureus, and the spores of anthrax, dried on properly prepared Bohemian garnets, to equimolecular antiseptic solutions. The garnets being of equal size served as a means of obtaining approximately equal numbers of bacteria to expose to a given germicidal agent. After being washed to remove the antiseptic solutions, the garnets were introduced into tubes of culture media, and the media plated. The number of colonies developing within a certain time after such a process served as an index of the bactericidal power of the electrolyte under consideration.

Equimolecular solutions of mercuric salts arrange themselves, according to their degrees of electrolytic dissociation, in the following order: $HgCl_2$, $HgBr_2$, $Hg(CNS)_2$, HgI_2, $HgCy_2$. When arranged according to their bactericidal powers, the order is the same. This power, then, is dependent upon the number of Hg- ions contained in the solution. $HgCl_2$, which contains the largest number, has the strongest germicidal action, while $HgCy_2$, which is least dissociated, has the feeblest. So weak is the action of the cyanide that, at a concentration four times that of a bichloride solution capable of destroying all cocci and spores, it permits the development of several thousand colonies of the staphylococcus and many colonies of the anthrax bacillus.

If K- ions are substituted for the Hg- ions by the substitution of KCl for $HgCl_2$ in the antiseptic solution, the germicidal powers of the solution decrease —another fact which proves that the Hg- ion is the specific germicide. If now, instead of substituting KCl for $HgCl_2$, KCl be merely added to a definite solution of $HgCl_2$ of known germicidal power, the disinfecting power of the solution is diminished. The same is true of the chlorides of other metals. This

* A normal eight-hundredth solution. A normal solution is a gram-molecular solution. The denominator indicates how many times the normal solution has been diluted.

* All salts of strong bases with weak acids are decomposed by water. The reaction may be thus expressed: $Na_2CO_3 + HOH = NaOH + NaHCO_3$. The NaOH gives rise to the OH- ions.

occurs either because the electrolytic dissociation, and, in consequence, the number of Hg- ions, is diminished through the presence in the solution of another electrolyte, or because of the formation of the less dissociable double salt, $NaHgCl_3$.

Behring[26] states that the bactericidal power of a mercurial is dependent upon the amount of mercury contained in it, and is independent of the nature of the compound. That this is not true is conclusively proven in the above experiments.

The toxic effects of silver and gold salts are similarly found to be dependent upon the Ag- and the Au- ions. The Pt- ions have only slight germicidal properties. That it is the ions which are thus effective is proved by the fact that $HgCl_2$ or $AgNO_3$ in absolute alcohol and ether (solvents in which but slight dissociation occurs) have no deleterious effect upon anthrax spores. Experiments with other metallic compounds show that when the metal of a metallic salt exists as part of a complex ion, the number of metallic ions is decreased, and the germicidal properties of the solution are correspondingly diminished. The toxic action of a metallic salt depends not alone upon the action of the metal ions, the cathions, but also upon the anions, for two equimolecular, equally dissociated solutions, containing a common metallic ion may show different bactericidal powers. Other experiments go to show that the undissociated molecules also play a part.

In normal solutions, or in concentrations greater than this, the strong acids act not only according to the concentration of the H- ions, but also according to the specific properties of the anions. The more dilute solutions of the strong acids act according to their degree of dissociation. The hydroxides of potassium, sodium, and lithium, all of which dissociate to about the same degree, have the same germicidal powers. To the less degree of dissociation of the hydroxide of ammonium is to be attributed its lesser power of disinfection. The oxidizing agents, nitric, chromic, chloric, and manganic acids, have oxidizing and germicidal properties dependent upon their degrees of dissociation.

The work of Scheurlen and Spiro[29] corroborates the results obtained by Paul and Krönig.

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It will be noted that but little has been said in the preceding pages of dissociable organic compounds, such as organic acids and salts. This is because dissociated organic substances do not follow in their physiological and pathological manifestations the ordinary laws of ionization. Richards[20] found in comparing the sour taste of tartaric, citric, and acetic acids with that of inorganic acids, that the former are more sour than one would expect from the number of free H- ions in their solutions. Kahlenberg[21] observed that acetic acid is about four times as sour as one would expect from the dissociation theory. From the study of a series of acid sodium salts of dibasic organic acids, the same author[27] finds the attempt to explain the sour taste of these substances on the theory of electrolytic dissociation unsatisfactory.

Garrey[22] found the reaction of Chilomonas to a $\frac{n}{1000}$ lactic acid the same as that to a $\frac{n}{1000}$ hydrochloric acid solution. It can at once be seen that we do not here deal with the effect of H- ions alone, as at 19° C. a lactic acid solution of this concentration contains less than a third as many H- ions as the HCl solution. The effects of organic acids, then, do not bear a definite relation to the number of free H- ions that they contain.

The experiments in which Loeb showed that the addition of small amounts of an acid to the physiological salt solution in which a muscle is immersed, causes the muscle to take up a considerable amount of water have already been cited. For inorganic acids the amount of water taken up by equal masses of muscle in a given time is the same, if the solution contains an equal number of H- ions in the unit volume. The organic acids, however, act more strongly, and cause a greater absorption of water than would be expected from the degree of their dissociation.

These apparent exceptions to the general behavior of electrolytes demand an explanation. Loeb [6] suggests that the organic acids are transformed inside the muscle into products which undergo a greater degree of dissociation. A somewhat similar explanation is offered by Ostwald [28] when he writes: "The phenomena observed here [referring to Loeb's experiments on muscles] would be explained if we assume that the muscle cells contain the neutral salts of an acid of medium strength, the anion of which reacts with the H- ion of the organic acid." Thus would be formed an acid capable of greater dissociation and consequently greater chemical activity. Garrey is inclined to believe that similar transformations explain the behavior of Chilomonas toward organic compounds, and it is possible that the exceptions which organic compounds offer to taste reactions may also be cleared up on this assumption.

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The theory of ionization offers a new field for investigation in the realm of medicine. Its application to the problems of physics and chemistry has elucidated many obscure points. In the solution of the problems of medicine it will yield yet greater results. In the preceding pages an attempt has been made to give some of the evidences which show that in dealing with the action of dilute solutions of inorganic substances we are dealing with the action of their constituent ions. This fact is ever to be borne in mind when we consider physiological, pathological, and pharmacological problems which involve the presence of inorganic substances.

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Post-Operative Suppression of Urine.—Morphine in gr. $\frac{1}{8}$ dose every four hours.—CHITWORTH.

CREOSOTE IN PNEUMONIA: A RÉSUMÉ.[1]

By I. L. VAN ZANDT, M.D.,

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JANUARY 7, 1894, on account of indications of fermentation in the alimentary canal, I gave a patient, forty-eight hours sick with pneumonia, one drop of creosote every three hours. This was added to my ordinary prescription. I was surprised, on my return the next day, to find the temperature slightly subnormal and other symptoms correspondingly improved. The dose was reduced; the temperature went up. Again I gave a larger dose, and the next day dismissed my patient.

I was so impressed by this observation that I began then, and have continued to this day, prescribing creosote in all cases of pneumonia.

In June, 1898, I read a paper on the subject before the North Texas Medical Association. This was received by some with incredulity, they citing the fact that "all authorities" (whatever that may mean) said that pneumonia was a self-limited disease, and must run its course. Others were willing to make a trial on my report, reinforced by that of several gentlemen present, who had adopted the treatment at my suggestion.

Quite a number of those present, and others who read the published paper, have reported satisfactory results.

In my former paper I mentioned that there was some unevenness as to results in different cases, some yielding in twenty-four to forty-eight hours, others continuing a week or more. I suggested that difference in the infecting micro-organism might account for this unevenness, favoring the idea that the pneumococcic-infected were most amenable to the treatment. This seems to have a probable corroboration in the reports of some others, written and verbal; but the absolute corroboration can be had only when the clinician and microscopist unite in the investigation.

My original prescription was ammonium salicylate gr. viiss., creosote gtt. i., syrup ʒ i., every three hours. In some cases the creosote alone was given. Latterly I have given creosote carbonate gr. (or ℔) viiss., emulsified with acacia. Others give larger doses with possibly better results and no harm.

During all this time I have had cases in which the fever was gone in from twenty-four to forty-eight hours, and I am now somewhat disappointed if my patient is not ready for dismissal by the third or fourth day. In cases which persist longer there is generally an amelioration of symptoms, and the coming of an appetite, to which I was formerly a stranger in pneumonic cases. There is generally a gradual decline in the fever, with only slight moisture of the skin, a critical sweat being rare.

Another thing I, as well as others, have found, is that if the medicine is discontinued as soon as the fever has ceased, there will likely be a recurrence of all the symptoms. Hence I continue the medicine at longer intervals for two or three days after subsidence of the fever.

This recurrence of the fever in lobar pneumonia is a strong argument in favor of the improvement being due to the medicine, for, according to Austin Flint, in lobar pneumonia "relapse never occurs."

The mortality of pneumonia is, as given by Tyson, lobar 20 to 40 per cent., lobular 30 to 50 per cent.; Osler, lobar 20 to 25 per cent., lobular 30 to 50 per cent.; Delafield, lobar 12 to 34 per cent.; Anders, lobar 15 to 25 per cent., lobular 25 to 50 per cent.; average of all, 22 to 39 per cent.

In these seven years I can now recall only four fatal cases of pneumonia in my practice. Two of these were under my care from the beginning of the attack: one following grippe, the other a measles case in most unsanitary surroundings. The other two patients were turned over to me in desperate condition: one sick a week, the other two weeks. In the earlier part of this time I think I lost two or three babies. I treated sixteen cases last winter, with no fatality; dismissing four on the second, five on the third, one each on the fourth, fifth, sixth, seventh, eighth, and two on the tenth days.

Within a year or two after my first observations I saw that some French writer was recommending creosote for bronchopneumonia. In the fall of 1898 "The Doctor's Factotum" contained an extract from the London *Lancet*, reporting twenty-six cases of pneumonia treated with creosote, without a death, of much shorter duration, and with a better recovery than usual. Creosote was not given early in these cases.

Prof. Andrew H. Smith, of New York, in the *Medical News*, November, 1899, after citing several writers and his own experience, goes so far as to recommend that family physicians keep their patrons provided with carbonate of creosote or one of the salicylates, preferably the former, as being better tolerated by the patient, so that in case of indications of an attack of pneumonia (pain in the side with chill), he may take the drug at once and probably prevent the development of an attack.

Dr. J. A. Gracey in the *Charlotte Medical Journal*, December, 1899, says: "The treatment of pneumonia by the administration of creosote was first brought to the notice of the writer by a paper read by Dr. Van Zandt, of Fort Worth, Tex., at a meeting of the North Texas Medical Association. . . . My method is to give either drop doses of creosote every two hours, or ℔ x. or xv. of creosote carbonate in some simple menstruum. When given early in the attack the results are almost specific; the temperature subsides, the respiration improves, and in the course of twenty-four hours the condition of our patient is so much improved that we sometimes doubt our diagnosis.

"In later stages the results, while not so brilliant, are yet very satisfactory. The cough, pain, and temperature subside, the character of the sputum is changed, and recovery is hastened. And not only in pneumonia do we get such good results, but in acute bronchitis as well.

"The method is worthy of trial, and one has only to use it to be convinced of its merits. Of course, the strength of the patient must be supported, the secretions and excretions attended to; and I am satisfied that we have in the creosote treatment as near a specific for the trouble as is known to-day.

"At the pediatric congress held in Marseilles in 1898, Dr. Cassouté, physician-in-chief to the Marseilles hospitals, gave a brief preliminary notice of his new method for the treatment of pulmonary affections. The method consists in the continuous administration of fairly large doses of creosote carbonate. In most cases a typical fall of temperature occurred during the first twenty-four hours of treatment; and if the creosote carbonate was continued for a sufficiently long period of time the apyrexia was a permanent one. The temperature curve rose again, however, when the drug was discontinued, before the auscultatory signs had disappeared. Relapses and sequelæ, so frequently seen under other methods, were entirely absent."

Dr. Charles F. Stokes, United States navy, in the *Brooklyn Medical Journal*, August, 1900, says: "I have employed it in several cases with excellent results. . . . Early treatment offers most satisfactory results."

Dr. J. W. Frieser, of Vienna, in the *Aerztliche Central-Zeitung* says: "The treatment of acute inflammatory affections of the respiratory passages with the drug has yielded entirely satisfactory and even brilliant results in my hands. Both clinician and practical physician are fully aware that we formerly pos-

[1] Read before the Central Texas Medical Association.

sessed no remedy that was even half-way satisfactory in its action upon pneumonic disease process. Our entire therapeutic armamentarium was symptomatic and expectant in its nature. . . . But it is an unmistakable advance if experience teaches us the employment of a remedy which has an influence on the disease process itself, and possibly upon the specific organisms that cause it. The favorable effects of creosote carbonate upon the various forms of pneumonia have been noticed by others as well as by me; and they are undoubtedly due to antiseptic and antibacterial action of creosote, which, in the form of the carbonate, can be introduced into the body in sufficient quantity and in innocuous shape. . . . Besides this it has a favorable influence on the heart and the patient's general condition; it causes, as I have often noticed, a rapid fall of temperature and retrogression of the local symptoms. The gastro-intestinal canal is in no way injured by its use. . . . In some cases the inflammatory processes in the lungs got well with such extreme rapidity that the method might be called an abortive treatment. The temperature rapidly sank to normal, the general condition noticeably improved, the tongue cleaned and became moist, and the appetite returned. . . . Equally favorable results were obtained from the use of creosote in five cases of acute bronchitis. The action of the drug was reliable and the recovery of the patient rapid."

Dr. Wilhelm Meitner, in the *Medicinisch-chirurgisches Centralblatt*, June 22, 1900, says: "The most important effect of the creosote treatment is the surprising fall of temperature a few hours after its administration is begun; it becomes normal in two days or sooner. With this the general condition improves, the pulse becomes better, the breathing quieter; the cough is lessened, thirst ceases, and the dryness of the mouth and lips disappears. Then the tongue cleans, the appetite returns, the entire course of the disease is cut short, and convalescence is about abrogated. Under creosote treatment I have never seen that weakness followed by a slow convalescence, which is the rule even in typical one-week pneumonias, under the usual medication.

"Some cases run so rapid a course under the treatment that it is hardly possible to give their history. A child falls suddenly sick, with a temperature of 102.2° or more, and the pulmonary signs of an acute catarrh. After two or three doses of creosote carbonate in the next four to six hours, it is better; in twenty-four hours the fever and physical signs are gone; on the second day the child cannot be kept in bed. An adult with marked coryza suddenly begins to cough violently; the first large dose of creosote mitigates his cough, and in twenty-four hours it has disappeared. To me, at all events, the favorable influence of creosote carbonate in acute pulmonary diseases seems absolutely demonstrated. I am sure that its action is the quicker the earlier its administration is begun; that it is harmless and well borne in the doses that I employ; and that no other treatment at all is required in the class of cases under consideration."

Dr. M. Eberson, in the *Aerztliche Central-Zeitung*, July 7, 1900, says: "It has been customary, after the diagnosis of a pneumonia has been made, to admit the presence of a severe disease, requiring five to nine days to run its course. Creosotal von Heyden is now prescribed by the attendant. When he returns on the next day there is no trace of fever. The child is playing, it is hungry, bright, and does not cough. Percussion and auscultation show no signs of inflammation. The physician, and more especially the parents, begin to have a doubt of the diagnosis. But now comes the interesting part! Treatment is stopped; and behold! on the next day the subjective and objective symptoms of pneumonia are again present.

"Two things may therefore be claimed for the creosote treatment. In the first place, it cuts short the disease in a most remarkable manner. In the next, and more important, it causes complete resolution of the disease focus, so that the sequelæ, more especially after catarrhal pneumonia, will not be as important in the future as they have been regarded to be in the past. Nor does it seem to me to be unimportant, considering the bacillary origin of pneumonia, that the sputum and excreta are voided disinfected, so that the contagiousness is reduced to a minimum.

"It is incontestable that the creosote treatment of pneumonia is a very important advance in practical medicine."

Now, with this array of testimony re-enforcing my own observations for the last seven years, I trust that the members of this association will not consider me oversanguine when I express the opinion that the use of creosote or carbonate of creosote in the treatment of acute pulmonary inflammations is one of the greatest life-saving discoveries of the century just ended.

ORCHID CULTURE IN ITS RELATION TO A NEW, IMPROVED, AND COMPLETELY EFFECTIVE METHOD OF DISINFECTION.

By J. M. W. KITCHEN, M.D.,

EAST ORANGE, N. J.

With the exception of a few of my personal friends, I imagine that not a single reader of the Medical Record could guess as to the relation suggested in my heading. There are a few doctors of medicine who grow orchids, and they would be likely to come nearer to solving the problem than others; for they know what the orchid grower has to contend with in the way of bacteria and insects pests—the conditions needed to successful orchid growing being unusually favorable to the existence of a long list of foes that do not bother the grower of ordinary flowering plants—pests which are exceedingly difficult and expensive to keep in subjection, and which have been, and are now, the principal obstacle to profitable commercial orchid culture.

A few years ago, when my honored parents passed into the unknown, and accommodatingly left to their heirs the accumulation of prudential lives, I took the opportunity to shake off the dust and respiratory-irritating influences of New York City life, and emigrated westward twelve miles, when I struck a land elevated two hundred feet above sea level; blessed with an atmosphere that gave me complete immunity from bronchial irritation, and a chance to study the mosquito at least nine months in the year. The average New York City medico may not believe what physical benefits may be secured by a removal from the city this short distance into Essex County, N. J. He may not realize that in various other districts of the northern part of the hilly half of the State, there are sanatoria equal in value to the far-distant resorts to which he sends his patients for climatic advantages. Still such advantages do exist. There are other advantages to be gained by such an emigration. I enjoy, for example, the privilege of living on a civilized street, yet have a considerable area of back land on which one may gratify himself in all sorts of horticultural and floricultural indulgences. I took to orchids somewhat extensively, and was very soon in conflict with the foe before mentioned, and determined to conquer or die. I am alive to tell the tale, and the "bugs" are not. I have not made a fortune in orchid culture; but, because of one thing leading to another, I have invented a combustion regulator that is really a marvel, and, also without intending to do a

great act, have evolved an idea that will be of value to the world, which, with the editor's permission, I will relate. The object I had in view was to find an easy and economical means of controlling insect and other forms of life in my orchid houses. Incidentally, allow me to state that bacteria of various kinds, which have been a source of great loss to me, have been overcome by means of a sufficiency of fresh air, and in furnishing other conditions inducing the greatest normal vigor of existence in the various species under my care; just the same, it will be noted, as in managing the cases of human beings attacked by the lower forms of life. The problem of the insects was complicated by the fact that in the potting-soil used in orchid culture a very fibrous material has to be used—usually fibrous peat and sphagnum moss, in the interstices of which the pests could hide and in a measure protect themselves from such insecticidal means as were brought to bear on them. These hiding pests had to be reached, and they had to be killed without marked injury to the host-plants—a problem it will be seen not unlike that presented in medical practice in many instances. In solving this problem I have spent several years, and have learned many things of interest to science. I have found that the lower forms of life can be destroyed by feeding them with articles inimical to life; by bringing matters in contact with them which destroy by corrosive action and by a hardening of the tissues; by causing them to absorb paralyzers of function, and by repeatedly subjecting them to influences of a depressive nature that prevent reproduction, though they may not be immediately fatal to the individual. I have brought to bear on the enemy nearly every poison known to science, and have repeatedly nearly killed myself instead of the foe. I have discovered that any agency that will injure the protoplasm of an insect or a germ, will also injure the protoplasm of a higher animal or of a plant. In applying life-destroying agencies to germs or insects, it is more a matter of methods than of destructive agents. With plants as with men, we must apply destructive agents to the parasites without doing harm to the hosts. To a certain degree the peculiarities of idiosyncrasy may be made available. It is very astonishing that some poisons which are very dangerous to man have little or no effect on certain insects. The converse is true in a lesser degree. With this fact in mind, may we not take increased hope that something may be found which will destroy various inimical bacteria in the human body, without fatal results to man? Of all the poisons experimented with, I have found hydrocyanic acid gas the most deadly to all forms of life. It is also the most dangerous to handle. Several times I have unknowingly inhaled this gas, and nearly lost my life each time. The noticeable effects occur with the quickness of a lightning stroke. One may cautiously inhale a slight amount of an attenuated mixture of the gas and air, with only a rather agreeable general glow of the body and a slight vertigo. But if there is a sufficient dose inhaled, one is suddenly stricken with almost complete respiratory paralysis, blindness, and other paralytic conditions. A sufficiency of this gas will destroy all forms of life in plants or animals. The next most powerful poison is nicotine. The nearer its approach, in use, to chemical purity, the greater is its proportionate effect. So far as I can judge from my experiments, a smoker does not absorb much if any of pure nicotine. In my efforts to disassociate nicotine from the tobacco plant, I found that, in the process of burning, practically all of the nicotine was decomposed into other and less deadly products. It is astonishing how far a very little chemically pure nicotine will go in destroying life. It seems to do so almost entirely by paralyzing function.

I have found by subjecting some very resistant forms to repeated small doses of it—doses that are not large enough appreciably to affect plant life—that reproduction can be prevented. This observation is at least suggestive in considering the effect of the use of tobacco on the race of man. My experiments confirm the general opinion that formaldehyde is the most effective of all germicides. In the form of vapor I found that I could destroy all forms of life with it. Its action seems to be that of a powerful oxidizer and hardener of tissues. It destroys plant tissues as well as animal protoplasm. Many agents seem to be effective, through their mere hardening influence on albuminous matter. Some are distinctly corrosive, actually destroying and disintegrating tissue. I found that the most effective method of applying destructive agents was that of dipping into fluids which were more or less tinctured with the destructive agents—the destructive power being more or less potent according to the strength of the contained effective agent. But this method is, of course, of limited usefulness. The process of diffusing vapors and gases is by far the most generally effective, convenient, and inexpensive method, the diffusion being effected by the application of heat. I found that the effectiveness of vapors and gases thus generated was largely controlled by the distance from the source of generation of the germ or insect treated. These gases and vapors were also effective in proportion to the quickness of generation and their consequent concentration. I used all sorts of apparatuses in generating vapors and gases. Vapors are more effective than dry gases, and they are more effective if applied to dry areas. Moist atmosphere surrounding an insect or germ seems to tend to protect it. I found that many escaped by hiding in the moisture-holding peat and moss above referred to. I used all sorts of apparatuses to generate vapors, commencing with large, costly, and complicated forms, and gradually evolving downward into the simple, inexpensive, and uncomplicated form of a number of small generating devices. I found that the greater the number of points of generation of the destructive vapors I used, the greater was the success, and this brings me to the point of my communication, viz., that in order to secure the best effect in methods of disinfection, a large number of points of generation and a quick liberation or formation of the disinfecting vapor should be used. In my greenhouse work I use a number of small generators, such as is outlined in the accompanying cut, distributed around the area of the house operated on. A little wood alcohol is placed in the generator lamps and lighted. The disinfecting material is put in the superimposed evaporating-pan, and the apparatuses are left to do their very perfect work. It is obvious that the same method can be applied to house disinfection. Small generators can be placed in the several parts of a room, in corners, in closets, and under beds, and will produce very much more germicidal effect, and at much less expense and labor, than in using one large apparatus, the vapor from which may be, perhaps, applied through a keyhole. By using this diffuse method of generation, of course, any degree of concentration and strength of disinfecting vapors can be obtained by merely multiplying the number of generators.

Lymphatic and Portal Affections following Appendicitis.—J. C. Munro believes 1. That the retroperitoneal lymphatics are probably always infected to

some extent in inflammation of the appendix, the degree of the infection not necessarily depending on the extent of the appendical inflammation; a mild, chronic appendicitis at times giving rise to a severe lymphangitis. 2. That the lymphatic disturbance may date its origin from an appendicitis occurring many months beforehand. 3. That a lymphatic infection severe enough to warrant local treatment is rare when compared with all the cases of appendicitis, but that such an affection is probably more common than a portal infection. 4. That mild infections of both the lymphatics and of the portal system may yield to medical treatment. 5. That persistent fever, without other evident cause, should suggest one or both of these infections. 6. That spasm, tenderness, and later fulness in the right loin should indicate a retroperitoneal infection from some source or other, possibly due to an appendicitis, though due in many cases to renal, hepatic, pleural, or other lesions. 7. That chills and hepatic tenderness, associated at times with jaundice, may be of appendical origin, and that this origin, especially in obscure cases, should be sought for most carefully in physical examination, in the personal history, and, if necessary, in abdominal exploration. 8. That drainage in the loin gives prompt and satisfactory relief when pus or even a diffuse cellulitis has formed. 9. That prompt and thorough drainage of the liver, together with removal of the inflamed appendix, offers the best means for recovery from septic infections of the liver. 10. That aspiration of the liver is an imperfect, unsatisfactory, and unsurgical procedure. Abdominal section with definite, free exploration of the liver and free opening of all abscesses within reach is far more satisfactory, not difficult, and less dangerous than aspiration.—*St. Louis Medical and Surgical Journal*, February, 1901.

Rhus Glabra in Enuresis.—J. J. Cassidy states that the internal use of rhus glabra will prevent incontinence of urine. Its action resembles that of tannic acid. The writer reports the cases of three lads treated from February 23 to June 24, 1900, their ages ranging from twelve to fourteen years. The prescriptions used were as follows:

℞ Ferri citratis..... gr. clx.
Syrupi calcii lactophosphatis,
Syrupi cascaræ aromatici.....āā ʒ ij.
M. S. A teaspoonful after dinner (noon).

℞ Extracti rhois glabræ fluidi..... ♏ cccxx.
Syrupi.....q.s. ad ʒ ij.
M. S. A teaspoonful at bedtime.

The cure probably resulted from the continued action of the vegetable astringent on the vesical mucosa, and particularly the fibres of the sphincter vesicæ. These medicines proved successful in three relapsing cases of enuresis, and two of the patients are known to have remained cured. The third lad did not return for examination.—*The Canadian Journal of Medicine and Surgery*, February, 1901.

Case of Wandering Hydatid.—J. Small reports the case of a man forty-five years of age, a wool classer. The man had always been well and strong; he did not smoke or drink. He presented himself with a large swelling on the right dorsal surface of the chest—showing through the clothes. About three years previous, the patient heard a crack and at once a swelling about as large as a saucer appeared. There was no pain, cough, or inconvenience. On rubbing, it sometimes became flatter and smaller. The final diagnosis before operation was a hydatid. This proved to be correct. The cyst contained from three to four pints of purulent fluid. The wound was dressed daily. Five days after the operation, the discharge proved to be pure bile. A month after operation, the wound was perfectly healed. The writer calls attention to the remarkable fact that a cyst could emigrate from the liver, perforate the diaphragm, pleura, etc., and finally erode and burst through a rib—for there was discovered a round hole in one of the ribs—all without causing pain, discomfort, or cough.—*Intercolonial Medical Journal of Australasia*, January 20, 1901.

Congenital Hypertrophic Stenosis of the Pylorus, with an Account of a Case Successfully Treated by Operation.—James H. Nicoll reports the case of a child of five weeks, who vomited the entire contents of his stomach in fifteen to twenty minutes after each meal. The vomiting was a prompt and complete ejection of the milk previously taken, in large part clotted but not otherwise changed. There was no hiccough, nausea, or pain. The writer carried out an operation which was practically a Loreta's. The infant made a perfect recovery, the effect of the operation being complete relief of the previous obstruction. At the present date, twelve and one-half months after operation, except that he is slightly rickety, the child remains in perfect health. Various theories have been advanced as to the causation of this affection. 1. That the condition is the result of a congenital developmental aberration. 2. That it is the result of a congenital hypertrophy of the pyloric muscles, and secondary to antagonistic and inco-ordinated action of the stomach on the one hand and the pylorus on the other; this inco-ordination depending on functional disorders of the gastric nervous system, and resulting in "congenital gastric spasm." 3. That it results from spasmodic contraction arising from gastric irritation after birth, and therefore not congenital. 4. That the condition is the result of chronic inflammatory processes.—*Pediatrics*, February 1, 1901.

A Method of Repairing the Divided Ureter by Direct Suture.—A. Gubaroff in removing a large fibrosarcoma was obliged to resect a portion of the ureter. In repairing the injury a very simple method of suturing was resorted to, but owing to the patient's death a month later, from causes independent of the operation, an examination of the result was made possible. The lower stump was nicked longitudinally to admit the entrance of the upper one, and the two were held in position by a single suture. A sound was now introduced and the suturing continued until the longitudinal slit had to be closed, when the sound was withdrawn and the previously inserted sutures were tightened, whereby close union was obtained. By this method all the openings in the ureter are longitudinal, and it has been shown that such heal readily, without the formation of fistulæ. The most important factor in the operation is to secure early and complete peritoneal adhesions: the sutures serve only until this shall have taken place, and hence are to be of quickly absorbable material, such as very fine reindeer sinew. On autopsy it was found that perfect union with no narrowing of the lumen had been obtained.—*Centralblatt f. Chirurgie*, February 2, 1901.

Chromic Acid Used as a Cauterant, Followed by Toxic Action.—John W. Shaw reports the case of a young woman apparently in the best of health, but whose labia majora were covered by a mass of vegetations, extending upward toward the pubis and downward toward the anus. These had been variously treated but had constantly recurred. An anæsthetic was administered, and the usual solution of chromic acid applied, of the strength of one hundred grains to the ounce of water, the surrounding parts being carefully protected. Less than a half-ounce of the acid solution was used. The case developed into one of chromic-acid poisoning. The patient remained in an

extreme condition for about thirty-six hours, after which she gradually returned to a normal state, and after two weeks was able to leave her room. As to the literature on the subject, a few of the therapeutists mention that death has been produced by local applications of the acid. The probable explanation of what occurred in this case is that the chromic acid was absorbed and entered into combination with the sodium of the sodium carbonate of the blood to form sodium chromate. The writer propounds the question, Is this well-known remedy to be used in similar cases?—*Virginia Medical Semi-Monthly*, February 8, 1901.

Metabolism in Old Age.—Géza Kövesi investigated the changes occurring in bodily activity in old age by studying the excretions of two individuals, aged seventy-six and seventy-eight years respectively, kept for varing periods of time on diets whose chemical composition was accurately determined beforehand. It was found that the caloric needs of the body were greatly diminished, but that the consumption of albumin in the intestine proceeded normally. An accumulation of albuminous material could be effected even on a low daily allowance of such food, since the demands of the body for albumin grow less with advancing years. The breaking down of albuminous material also is greatly diminished in the senile state. This double saving, whereby the cell requires less albumin, while at the same time the activity of albuminous decomposition is reduced, does much to explain the processes of senile involution and refers the significance of the bodily changes taking place at this time to alterations in actual cellular metabolism.—*Centralblatt f. innere Medicin*, February 2, 1901.

Subconjunctival Angioma.—Scholtz Kornel reports this case. The patient, wife of a shopkeeper, had noticed this tumor since she was ten years old. The widely opened orbit is to two-fifths of its extent occupied by a dense, flattened swelling. Its posterior surface lies in contact with the eyeball. The new growth protrudes from behind the caruncula, and its shape closely corresponds to the form of the semilunar fold, and the whole swelling is, as a matter of fact, covered by the greatly stretched semilunar fold, with which it is firmly connected, so that it is not movable. The swelling is firmly attached to the tissues at its base, and its size is not much reduced by pressure. The eyelids can be well closed. The tumor was evidently an angioma. Common as are angiomas starting from the eyelids and invading the conjunctiva, cases in which they develop in the conjunctiva itself or under it are nevertheless very rare. The interesting points in the present instance are the unusual form and site of the tumor and the thickness and rigidity of the walls, in consequence whereof the size of the tumor cannot be lessened, even on considerable pressure. —*Medical Press and Circular*, February 13, 1901.

The Treatment of Chronic Myocarditis.—Robert H. Babcock states that, when cardiac inadequacy has once declared itself, there are three principles which should guide its management: The reduction in the amount of work required of the heart; the attempt to restore or support heart power; the treatment of complications. Great judgment should be exercised in advice given to the patient as to the curtailment of heart strain. His zeal must not overbalance common sense. In restoring heart power, resort may be had to drugs, rest, exercise, and the so-called Bad Nauheim treatment. Of drugs, digitalis and its congeners are generally and most commonly employed. For those who are only threatened with, but as yet do not manifest cardiac asthenia, golf is an excellent form of exercise. Bicycling is dangerous for most of these patients. The efficacy of the Bad Nauheim treatment is now recognized by most men of wide experience in this class of heart disease. Chronic nephritis does not contraindicate the Bad Nauheim treatment. When glycosuria and nephritis coexist, together with myocardial degeneration, resistance gymnastics and the balneological treatment are not contraindicated. Angina pectoris may be regarded as a complication, though, strictly speaking, it is but a symptom. The long-continued use of iodide of sodium is highly recommended by the French and by Vierordt. Rumpf insists that the dietary be free as far as possible from articles rich in lime salts.—*The Chicago Medical Recorder*, February, 1901.

The Treatment of Anæmias.—Clifford Allbutt says that recent researches show that in ordinary anæmias there is a reduction of blood as a whole—corpuscles and plasma. In chlorosis, on the other hand, the dilatation of the heart and voluminous if not high-pressure pulse seem to signify increased blood bulk. In the latter, high altitudes would seem to be a better adjuvant in treatment than the use of spa waters, which would have the disadvantage of adding to the bulk of blood already excessive. For the anæmias of impoverishment the colder high climates are not to be sought, but rather watering-places near the sea, with warmth of air, baths, and clothing. These patients are suffering from a defect of function of all the glands of the body, and do well on mineral waters of the muriated class and mild mercurials.—*Medical Press and Circular*, February 20, 1901.

Foreign Body in the Brain.—F. R. Ross reports the case of a man with suicidal tendencies who drove the whole length of a shoemaker's awl into his brain, by placing the handle against a brick wall and driving his head against the point. The handle of the awl fell to the floor and the skin closed over the wound, leaving no evidence of the entrance of the awl except a slightly bruised spot at the point of entrance. He immediately became unconscious, remaining so for several hours, when consciousness returned, and he was apparently no worse for the injury. About one week later his temperature began to rise, the right leg was swollen, he became stuporous, and finally delirious. The fever rose to 105° and 106° F., sweating was profuse, and emaciation rapidly supervened. The symptoms gradually abated, and in a few weeks he was able to resume business. He continued in a varying condition of health for about a year and a half. Part of the time he was quite well, and at other times he suffered from acute melancholia. During one of his lucid intervals he mentioned the fact of his attempt at suicide, but his story was not believed, as there was no scar, and he had no head pains. His story finally gained credence, and an exposure of the skull was made at the site he claimed the awl to have been driven into the brain, viz., one inch posterior to the external angular process and one inch above the zygomatic process; the skin was lifted and the end of the awl was soon exposed, and being grasped with a pair of strong forceps it was removed. Attached to it and surrounding it was a fibrous sheath, and to the sheath was attached a small portion of brain tissue. Recovery from the operation was uneventful, and in two weeks the man was up and about. The author does not believe that the foreign body in the brain had anything whatever to do with his insanity, since he was insane before its entrance, and there was an undeniable history of heredity in his family, and heredity unquestionably was the cause of the mental aberration. Neither did the awl's removal aid in his recovery, for recovery took place at first before its removal, and was nearly completed the second time before the awl was removed. The case is reported to illustrate the tolerance of brain tissue.—*Texas Medical Gazette*, February, 1901.

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THE ROENTGEN RAYS IN PRACTICAL MEDICINE.

ALTHOUGH scarcely more than five years have elapsed since the discovery by Roentgen of the light waves now generally known by his name, great advances have been made in the practical application of this somewhat mysterious form of energy. While perhaps unjustified predictions were made and false hopes aroused by reckless propagandists in the primary enthusiasm born of a startling revelation, the new rays have, nevertheless, proved themselves of distinct diagnostic and therapeutic service. On the other hand, it was at one time feared that the prolonged exposure thought necessary for successful observation would interfere with the usefulness of the procedure. Great improvements have, however, been made in the technique, so that admirable results can now be obtained within extraordinarily brief periods. An interesting review of the applications of the *x*-rays in medical practice has recently been published by Kümmell (*Berliner klin. Wochenschrift*, 1901, Nos. 1 and 2). With the aid of the rays, a diagnosis is possible at times, and with a precision that could not be attained in any other way. The rays were employed first and most extensively for the detection of foreign bodies in various parts of the human body. The removal of bodies thus disclosed was at times attended with some difficulty, on account of the failure of the skiagraph to reveal their exact situation; but this was greatly lessened by securing pictures at different planes. This difficulty has been obviated also by the preparation of stereoscopic pictures.

The demonstration of bullets in the extremities, the chest and abdomen, as well as the head; and also of fractures caused by gunshot injuries, has been one of the features of recent military surgery, so that a skiagraphic outfit has become a necessary part of every surgical armamentarium. Dilatation or stenosis of various viscera, as of the œsophagus and the stomach, may be demonstrated by the introduction of concentrated solutions of bismuth or of capsules containing bismuth, or of hollow sounds containing shot, metallic wire, or spirals. Not only the presence of foreign bodies, such as coins, pieces of metal, etc., may be detected by means of the *x*-rays, but also the progress of the Murphy button when it has been employed for anastomotic purposes. Of pathologic concretions, biliary calculi have been but rarely discovered with the aid of skiagraphy, and urinary calculi, especially in the kidney, scarcely more frequently.

By means of the Roentgen rays it is possible, not only to confirm the diagnosis of fracture, but also to detect the presence of complications, such as dislocation, and to observe whether reduction has been properly and completely effected and is correctly maintained. A like statement is applicable to dislocations, simple or complicated. Deformities apparently due to fracture or luxation are occasionally found, with the aid of the *x*-rays, to be merely anatomical anomalies. In the domain of accidental injuries, skiagraphy may be of much value in establishing not alone the presence, but likewise the absence, of actual lesions. It is applicable, further, in the diagnosis of congenital luxation of the hip joint, and in controlling the results of treatment. With its aid the differentiation between congenital luxation and coxa vara can be confirmed. Inflammatory changes in other joints, free bodies, tuberculous or other lesions, osseous and fibrous ankylosis, and the differentiation between traumatic and pathological processes, may be made out. Syphilitic, tuberculous, and osteomyelitic thickening of, and deposits in, long and short medullated bones are readily recognizable in the skiagraphic plate, as is gradually progressive production of new bone, after destruction by osteomyelitis. Sequestra, in process of separation or already detached, can be recognized with great certainty, and the proper time for their removal decided upon. Foci of disease in bone, tuberculous processes in the epiphyses and diaphyses of the long bones, osteomyelitic lesions and bone abscesses are clearly demonstrable, and are thus rendered amenable to treatment. Tumors seated upon bones, as well as central osteosarcomata, yield a distinct picture.

The presence of chemical substances, such as combinations of iodine, in any part of the body, as when injected into a joint or other cavity or fistulous tract, can be readily detected. It has been possible by means of skiagrams to demonstrate fine changes in bone, as for instance atrophy after operations on joints, the application of plaster splints, and flaccid paralysis. The existence and the progress of ossifying myositis can be distinctly observed. Arteriosclerosis also can be recognized at times at an early stage. The course and the distribution of the blood-vessels in the spleen can be shown in detail, after injection of opaque material. Good skiagrams of the internal viscera can be obtained after brief exposure. In this way the distended lungs of emphysema, the thickened pleura following inflammatory processes, the presence of empyema with the compressed lung, of pneumothorax, of cavities in the lungs, and of peribronchial foci, of pulmonary gangrene, of abscess of the lung may be shown. The shadows of the heart, the aorta, of aneurisms, and of mediastinal tumors, have also been useful in diagnosis.

In the technique the preparation of stereoscopic pictures has been a marked advance. This requires exposure in rapid succession of each half of the plate, without change of posture. Great improvement has been made in induction apparatus, so that sparks of

from 40 to 60 cm. and more are easily obtained. The current interrupter is an important adjunct of the apparatus, and one of electrolytic mechanism has proved exceedingly useful. Much importance is to be attached to the character of the tubes, which should be properly exhausted and sufficiently soft. The preparation of good pictures requires much skill and experience. The *x*-rays have also rendered valuable aid therapeutically, being applicable especially in the treatment of diseases of the skin. Among diseases that have been successfully submitted to the action of this agent, are lupus vulgaris, lupus erythematosus, chronic eczema, vascular nævus, hypertrichosis, favus, and sycosis.

It will thus be seen that the *x*-rays have become an important, and in the hands of the careful clinician, a reliable aid in the diagnosis of various conditions. As with other methods of investigation, their employment is hedged in with certain possibilities of error; but these will be avoided if it be borne in mind that the results yielded by it are purely physical, and that, after all, their interpretation must be made by an intelligent mind.

TUBERCLE BACILLI DISSEMINATED BY COWS IN COUGHING, AS A POSSIBLE SOURCE OF CONTAGION.

THE general belief at the present time that the means by which tuberculosis is chiefly disseminated, by the inhalation of dried tuberculous sputum which becomes pulverized and is carried about by currents of air, or put into motion in other ways, has been strongly substantiated by numerous experiments. Flügge, however, is not in accord with these views, and is of the opinion that the spread of tuberculosis is due mainly to the inhalation of minute particles of sputum which the act of coughing thus ejects. He further holds that these particles float in the air for a considerable period of time, and may be blown hither and thither by very slight currents. Klebs, in this country, has demonstrated the fact that, during the act of coughing, minute particles of sputum, often containing tubercle bacilli, are thrown out. At his instance, too, Dr. Curry, of Boston, carried out a series of elaborate experiments (*Boston Medical and Surgical Journal*, October, 1898, vol. cxxxix., No. 15) with the object of thoroughly investigating the matter. Dr. Curry concluded from his experiments that, although there is a possible, and even a probable, danger from this source, Flügge has greatly exaggerated this danger. Dr. Mazyck, lecturer and demonstrator of bacteriology, veterinary department, University of Pennsylvania, has been led to undertake experiments to see if it were not possible that cows in the act of coughing would likewise expel small particles of tuberculous material rich in tubercle bacilli. The results of these studies were made the subject of a paper by Dr. Mazyck, which was read before the Pathological Society of Philadelphia on November 8, 1900. The belief is common that cows when coughing swallow all their sputum, and do not project it to any extent. Dr. Mazyck, by ingenious methods devised by himself, has disproved this theory, and has practically demonstrated that, in the act of coughing, cows, as well as men, atomize, so to speak, their sputum, and project it into the air in minute particles, which may float for some time. Inoculation of guinea-pigs with this secretion gave a considerable proportion of positive results. Dr. Mazyck came to the conclusion that the danger of infection by means of this atomized sputum, as far as mankind goes, is confined practically to those in constant contact with the animals, but for other animals in the same stable the infected animals must be considered a source of danger. The moral to be derived from the outcome of Dr. Mazyck's experiments would seem to be that when tuberculosis is diagnosed in a cow, she should be as far as is possible isolated—at any rate, she should not be confined in a shed with healthy animals.

GELATIN INJECTIONS FOR ANEURISM.

ANEURISMS of the great vessels of the body are such unsatisfactory things to treat, both medically and surgically, that anything which promises an advance in this connection should have a fair hearing. During the past two or three years a number of attempts have been made to cope with certain aneurisms beyond the reach of radical surgical intervention, by means of the subcutaneous injection of solutions of gelatin, administered with the view of increasing the coagulability of the blood. There have been numbers of cases reported by different observers, most of whom are on the continent of Europe. The technique of the injection has usually been the same among all operators, and consists in the subcutaneous injection of a sterile solution of gelatin, to the amount of about 250 c.c., at intervals of two or more days. The strength of the solution has usually been one or two per cent., and no serious local disturbances have been reported.

Geraldini, an Italian observer, reports (*Gaz. degli Osped.*, February, 1901) four aortic aneurisms, in the treatment of which he made use of this method, with great apparent benefit, though the details are not given with quite as much completeness as is desirable. In one patient who had an aneurism involving the innominate artery, the benefit was apparently very great. Forty-five injections were given in all, and the tumor ceased to pulsate, and diminished in prominence. Another patient with an aortic aneurism received sixty injections, and much benefit was claimed. In this case, albuminuria developed during the course of the treatment, so that the injections were discontinued for a number of days. In the other two cases in this series marked improvement was also noted. A number of other writers have reported more or less similar favorable experiences, and several cases have been reported in which no benefit was seen, but the four cases mentioned above are of enough importance to gain attention for the method, and to make it advisable to pursue the matter under proper circumstances.

The gelatin is said to act, as would naturally be supposed, by increasing the coagulability of the blood, though it seems to us that the limit of safety in this in-

crease must very soon be reached if the cause of the increase is mechanical—that is, solution of the gelatin in the plasma. It does not appear that the plasma could exercise its physiological functions with more than a very small percentage of gelatin in solution in it. We must not, furthermore, be too ready to decide favorably in the case of this method, until we are able to judge in how great a degree other recognized means of treatment have been employed, from which many favorable results have heretofore been reported. Potassium iodide, rest, and restricted diet have often given at least temporary satisfaction in cases of aneurism of the great vessels, and a large share of a good result might really be due to such means, when the disposition would be to credit the novel method with the good done, without making due allowance for the adjuvants.

Several instances of the employment of the method in this country have been reported, in which there has been no perceptible improvement, and apparently the physiological limit of its applicability and safety would seem to be very considerably on this side of the point at which mechanical suspension of gelatin in the blood plasma would be sufficient to exercise its power of increasing coagulability to a sufficient extent.

However, more clinical evidence is what is needed, and as, with proper precautions, there seems to be no danger in the employment of this method, there is no objection to asking for further trials. Evidence is not likely to accumulate very fast, since aneurism is not a very common disease here; but the burden of the proof lies with the new method.

THE HEALTH OF NOME.

From time to time reports have been circulated with regard to the prevalence of sickness, and especially of smallpox, in Nome, Alaska. The ordinary reader of the newspaper from a perusal of some of these accounts might be led to believe that Nome was a veritable death trap, where to go would be to court at least serious danger to health. Dr. Call, health physician in that town, sent in October last, at the request of Lieut. D. H. Jarvis, acting United States treasury agent there, a true account of the state of affairs. He reports that smallpox was introduced into Nome by the steamship *Oregon*, whose captain surreptitiously removed two cases of the disease from the vessel to Nome River, about three miles east of the city. As Dr. Call was aware that the climatic and sanitary conditions of Nome were such that the malady would spread rapidly, immediate steps were taken to prevent this occurrence. A smallpox hospital was established, and other measures for fighting the disease efficiently were put into force. The result was that, at any time, there were no more than thirty-one cases. The first case developed on June 17th, and the last on August 2d. On August 27th, the few remaining cases were discharged from the smallpox hospital, and the following day the camp which had been formed outside the town was destroyed by fire. Dr. Call states that, generally speaking, the course of the disease was mild, similar to that of the epidemic in the spring and summer of 1900, in the northwestern United States. Of the patients who came under Dr. Call's immediate notice, sixteen had never been vaccinated, and of these cases he remarks that five were of moderate severity, one was severe, and ten were mild; showing pretty conclusively that there exists to-day an hereditary immunity in countries recognizing vaccination. Undoubtedly the virulence of the outbreak in Nome has been greatly exaggerated; but the physicians of the town must be commended for their successful energetic efforts to stamp out the disease before it had gained a foothold.

News of the Week.

Ambulance and Car in Collision. — On Sunday, March 24th, while crossing Sixth Avenue at Thirty-eighth Street, an empty New York Hospital ambulance was struck by an electric car and overturned. Both the driver and the surgeon of the ambulance were thrown out and slightly hurt.

American Laryngological Association. — The twenty-third annual congress of the association will be held at New Haven, Conn., Monday, Tuesday, and Wednesday, May 27–29, 1901. The president of the congress is Dr. Henry L. Swain, of New Haven.

Bellevue Physician Dead of Scarlet Fever.—A young Bellevue physician, Dr. Ralph J. Hess, twenty-seven years of age, died in the Scarlet Fever Hospital on North Brother Island on Sunday, March 24th. He is supposed to have contracted the disease while working among the poor on the East Side. The progress of the malady was very rapid, as it was recognized that he was suffering from scarlet fever only on March 19th.

New York Medico-Surgical Society.—At the annual meeting of the New York Medico-Surgical Society, held at the Hotel Manhattan, Saturday evening, March 16th, the following officers were elected: *President*, Robert A. Murray, M.D.; *Vice-President*, A. R. Robinson, M.D.; *Member of the Executive Committee*, W. Duff Bullard, M.D.; *Secretary*, J. Arthur Booth, M.D.

Death of a Dublin Professor.—Another great Dublin scientific man has just passed away, in the person of George Francis Fitzgerald, F.R.S., D.Sc., professor of experimental science in the University of Dublin. Dr. Fitzgerald, who was only forty-nine years of age, had held his professorship for twenty years and was one of the most deservedly popular teachers in the university of the Irish capital.

The Late Professor von Pettenkofer.—A post-mortem examination of the body of the late Professor von Pettenkofer, made by Professor Bollinger, showed the presence of chronic inflammation of the dura mater, which had caused marked thickening and hypertrophy, considerable calcification of the cerebral arteries, chronic arthritis deformans of the right knee joint, and gall stones in the gall bladder. The distinguished

hygienist had suffered from diabetes for many years; the affected knee caused him much pain from time to time, and his sufferings were greatly intensified during the last week or two of his life by a septic condition of the throat and mouth.—*British Medical Journal.*

Smallpox on a Steamer.—The Anchor Line steamer *Britannia*, which arrived March 26th from Marseilles, Genoa, Leghorn, and Naples, was detained at quarantine on Monday, owing to a case of smallpox among the steerage passengers. The patient is convalescent and has been removed to North Brother Island.

Sudden Death of a Lady Physician.—Dr. Mary S. West, 122 East Twenty-eighth Street, died very suddenly on Sunday, March 24th. Dr. Frank King, 141 Lexington Avenue, who had been attending her for some time, thought that the circumstances of the case justified him in reporting it at the coroner's office. Coroner's Physician O'Hanlon examined the body and decided that the deceased died of apoplexy.

Minnesota Bill to Regulate Marriages.—The State senate on Friday, March 22d, reconsidered and finally passed Senator Chilton's bill prohibiting the marriage of insane, epileptic, and idiotic persons, and requiring a medical certificate of all applicants for marriage licenses. Amendments were adopted making the physician's certificate not quite so sweeping, and permitting the marriage of any feeble-minded person over forty-five, the bill originally having extended such permission only to women.

Chicago Eye, Ear, Nose, and Throat College.—This college on February 1st moved into a new building situated at 206 Washington Street, southeast corner of Franklin Street. The reason for this move was that hospital facilities having been added to the school, the building formerly occupied was not sufficiently commodious. The present building, which is a four-story and basement one, has the three upper stories given over to hospital purposes, the remaining two floors being devoted to recitation and out-patient rooms. The addition of a hospital to an institution devoted expressly to the teaching of eye, ear, and nose work is, we believe, a unique feature in this country.

The Plague at the Cape.—The reports from Cape Town with regard to the plague, says *The Medical Press and Circular*, continue to be of a most disquieting nature. The colonial office has at length shown public, official recognition of the epidemic, and on February 27th published returns for the week ending February 23d, as follows: Twenty-nine cases remained under treatment at the end of the previous week; seven deaths have occurred since the commencement of the outbreak; twenty-one still under treatment; one hundred and sixty-seven contacts. Many fresh cases have since been reported, and the city has been placed under strict sanitary supervision. The full control of the city as regards plague has been handed over to a special commission. One of the chief measures is a systematic house-to-house cleansing, and a wholesale cleaning out of the native quarters.

Memorial to Dr. Jacob.—Subscriptions are being collected for the purpose of raising a memorial to the late Dr. Archibald Hamilton Jacob.

Ravages of the Indian Famine.—According to census returns just issued, the population of the central provinces of India has decreased by 1,100,000 as a result of the famine.

A Lady House Surgeon in England.—For the first time in the history of the York dispensary, a lady house surgeon has been appointed. This it was stated had been done "with a full knowledge of all the difficulties and objections that might be raised."

Population of Alaska.—According to a bulletin just issued by the census office, the population of Alaska is 63,592. The first United States census in 1880 showed a total of 33,426 and that of 1890, 32,052. The total land surface of Alaska is 590,884 square miles, and the average number of persons to 100 square miles is 11.

State Inebriate Reformatory for Great Britain.—Mr. Ritchie recently stated in the British House of Commons that he had received numerous representations from county authorities urging the establishment of a state inebriate reformatory. He was anxious to comply with these representations, and he was now in communication with the treasury on the subject.

A New Hospital to be Erected.—A new brick and brownstone hospital building, five stories in height, will be erected in One Hundred and Thirty-sixth Street near Amsterdam Avenue for the Hebrew Benevolent and Orphan Asylum Society at an estimated cost of $70,000. The new hospital will be used for emergency purposes.

Institute of Divine Healing.—The Francis Schlatter Institute was incorporated at Albany on March 11th, for the cure of acute and chronic diseases, by means of medicine, osteopathy, and divine healing. The capital stock is $1,500, and the principal office is in New York City. The directors are Benno A. Hollenberg, M.D., Francis Schlatter, and Luverna Schlatter, of 807 Lexington Avenue.

State Board of Health Suggested for Montana.—Many of the influential papers of the State, says the *Sanitarian* for March, favor the creation of a State board of health for Montana. Among others is the Billings *Gazette* which well says that, properly organized and composed of good, reputable members, such a body can do much good to conserve the general health of the State, if its authority is not too much curtailed. It is in the curtailing of necessary authority that most State boards of health have been partial or entire failures.

Parisian Milk.—At the Pasteur Institute Dr. de Rothschild recently gave a lecture in which he stated the conclusions to which his investigations had led him, regarding the unwholesomeness of the milk supply of Paris. He stated emphatically that, unless the milk was boiled, very little of the article sent into Paris was fit to drink. He affirmed of the 600,000 litres of milk

consumed in Paris each day, that only 25,000 litres might be counted as perfectly safe. Treatment with preservative chemicals, or dilution with water, spoiled the remainder, without counting various other sources of contamination. Parisian milk dealers, in contradiction of these definite statements, protest that Dr. de Rothschild bases his figures on a standard of purity that is too high.

New Treatment for Pneumonia.—The *New York Sun* has received a despatch from Paris stating that Dr. Talamon, one of the physicians at the Buchat Hospital, has announced the successful treatment of pneumonia by injecting anti-diphtheritic serum.

Rabies in Rochester.—A committee of three physicians appointed by the mayor of Rochester to investigate the alleged prevalence of rabies in Rochester, has reported that it is much more common than is generally believed. The committee urges the close muzzling of all dogs, with basket wire muzzles.

$500,000 for Victoria Infirmary, Newcastle, England.—Watson Armstrong, heir to the late Lord Armstrong, the well-known big gunmaker and shipbuilder, will present $500,000 to the Victoria Jubilee Infirmary, which has not been finished because of a lack of funds. He says that, had his great-uncle lived long enough to know of Queen Victoria's death, he would have been the first to assist in building the hospital bearing her name.

Fifty Cases of Smallpox in a Small Town.—It is reported from Seaford, Sussex County, Delaware, a town of 1,700 inhabitants, that there are fifty cases of varioloid within its confines. The disease is stated to be of a mild type, and there has been only one death. The Wilmington Methodist Episcopal Conference should have held its annual meeting at Seaford, but was advised by the State board of health not to do so.

India's Birth Rate Lower.—Complete census returns give the population of India as 294,000,000, an increase in the last decade of 7,000,000. Deducting the population of the Beloochistan, Shan states, Chiun Hills, and Sikkim territory, enumerated for the first time, a net increase is shown of only 1.4 per cent., which is due to improved census methods. Thus the population is for the first time stationary. Owing to two famines, mortality from disease, and a great decline in the birth rate, the native states show excessive declines.

Smallpox not Dying Out.—Three deaths from smallpox and eighteen new cases were reported to the board of health last week. Eight of the new cases are from Brooklyn, and the patients are school children, bearing out the prediction made weeks ago by the health-board physicians that the failure of the old Brooklyn school board to enforce vaccination in the schools would result in many cases among the pupils. Very few pupils in Manhattan have had the disease. The physicians of the board are averaging about 10,000 vaccinations a week. There are thousands of persons in this city who have never been vaccinated. The health authorities predict that this month there will be more cases than in any month since the disease became epidemic in November.

Decision in Chicago as to School Vaccination.—Judge Dunne has decided that school authorities have no legal right to exclude from the schools children who have not been vaccinated, unless an emergency which necessitates guarding from smallpox is shown to exist.

The New York Academy of Medicine.—At a stated meeting of the Academy on April 4th, the order will be as follows: Subject: "The Duty of the Public to the Medical Profession." First paper by D. B. St. John Roosa, M.D., LL.D.; second paper by W. H. Thomson, M.D., LL.D. Discussion by Drs. A. H. Smith, F. R. Sturgis, A. Jacobi, F. P. Kinnicutt, and others.

Plague at Southampton.—A case of bubonic plague was reported last week at Southampton, England. The man suffering from the disease was a Lascar who had recently arrived from Cape Town. The authorities have isolated all the persons who have come into contact with the Lascar during the voyage, and the transport is to be thoroughly disinfected. It is believed that the disinfecting cylinders will also kill rats aboard a vessel.

Diphtheria in Montclair.—Diphtheria is prevalent to a somewhat alarming extent in Montclair, N. J. The milk supply was thought to be responsible for the outbreak. The board of health took prompt action in the matter, and upon investigation discovered that two men employed by the Fairfield Dairy were suffering from the disease. The board of health and the medical milk commission of Essex County issued circulars to the effect that for the present the sale of milk be discontinued by the Fairfield Dairy Company.

The "Bell" Medical Bill.—At a regular meeting of the Medical Society of the County of Westchester, the following resolution was adopted:

Resolved, That it would promote the welfare of the people of the State of New York, that the Senate and Assembly should antagonize the passage of the measure known as the "Seymour bill," regulating and legalizing the practice of osteopathy.

At a regular meeting of the Medical Society of the County of Westchester, the following resolution was adopted:

Resolved, That in the interest of public health and safety we heartily endorse the measure known as the "Bell bill," and we earnestly urge the support of this measure on the part of the senator and assemblymen of this district.

Quarantine Rules between the United States and Cuba Modified.—The announcement has been made from Washington that, in view of improved conditions in Cuba, and the fact that the passengers as well as vessels are inspected before leaving Cuban ports by the United States quarantine officers, and suspected luggage is disinfected, the Treasury Department has so modified existing regulations as to permit, until April 15, 1901, travel from Cuba of non-immunes after their

inspection at the port of departure, and necessary disinfection of effects. This waiver includes the northern ports.

Famine in China.—The latest reports from China are not only by no means encouraging but are extremely ghastly. Famine is said to be causing so much distress in the Province of Shensi, that roots and the bark of trees are eagerly eaten, while cannibalism is common.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending March 23, 1901. Medical Director J. B. Parker detached as president of the medical examining-board, Washington, and ordered to the Naval Home, Philadelphia. Medical Director R. A. Marmion detached from the Naval Home, and ordered to duty at the Washington navy yard, as president of the examining-board. Passed Assistant Surgeon J. M. Moore detached from the Port Royal naval station and ordered to the *Franklin*, April 2d. Passed Assistant Surgeon E. S. Bogert detached from the *Massachusetts* and ordered home to wait orders. Assistant Surgeon H. O. Shiffert detached from the *Franklin* and ordered to the *Solace*, April 1st, and to the Asiatic station. Assistant Surgeon J. C. Thompson ordered to the Port Royal station. Assistant Surgeon E. Thompson detached from the *Nashville* and ordered to the *Solace*. Assistant Surgeon H. H. Hass ordered to the naval hospital, New York. Assistant Surgeon W. B. Grove detached from the naval hospital, New York, and ordered to the naval hospital, Norfolk, Va. Surgeon J. F. Bransford retired in accordance with Act of Congress approved February 5, 1901. Assistant Surgeon S. S. Rodman detached from the naval hospital, Mare Island, and ordered to the *Adams*. Assistant Surgeon R. T. Orvis detached from the *Adams* and ordered to the naval hospital, Mare Island. Medical Director E. S. Bogert, retired, detached from recruiting rendezvous, New York, and ordered home. Surgeon H. L. Law, retired, ordered to recruiting rendezvous, Buffalo, N. Y. Surgeon M. H. Crawford detached from recruiting rendezvous, Buffalo, N. Y., and ordered to marine recruiting rendezvous, New York City. Surgeon P. Leach detached from the *Oregon* and ordered to the *Monocacy*. Passed Assistant Surgeon S. G. Evans detached from the *Kentucky* and ordered to the *Concord*. Passed Assistant Surgeon A. Farenholt detached from the *Concord* and ordered to the *Oregon*. Assistant Surgeon W. E. G. High detached from the *Oregon* and ordered to the *Kentucky*.

Twenty Million Dollars Required to Cleanse Chicago Canal.—Expert engineers now declare that the above sum will be needed to clean the river channel of the Chicago drainage canal. But even this large amount of money will not be sufficient to deal with the Calumet river as well. Its flow of sewage into the lake pollutes the water supply, while the continual increase of population along the banks of this river will tend to render this source of pollution more of a menace to health. It is therefore thought that the commission chosen to report upon plans for improvement of the Chicago river will recommend that the entire proposition of disposing of the city's sewage, whether in the Chicago river or the Calumet, must be solved without delay.

American Congress of Tuberculosis.—The second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, New York, on the 15th and 16th days of May, 1901, in joint session with the Medico-Legal Society of New York. It is proposed to open a museum of pathology, bacteriology, and public health, with an exposition of electrical and other appliances used in any way in the arrest or treatment of the disease. The medical profession of all countries is invited to contribute papers to be read before this congress. The papers should be forwarded to the secretary on or before the 15th day of April next, and the title of the papers forthwith, to facilitate classification, as the time is short.

North Brother Island Hospital.—Complaints to the newspapers made by a former patient of the smallpox hospital, as to improper treatment while there, were proved by recent inspections of the health board to be without real foundation.

Obituary Notes.—Dr. William Channing died in a Boston hospital on March 19th. The deceased was the son of a Boston medical practitioner. He graduated from Harvard in the class with Dr. Edward Everett Hale. Afterward he took his degree in medicine at the University of Pennsylvania and before settling down to practice in Washington, studied abroad. Dr. Channing was a many-sided man, with an especial aptitude for invention. He invented a fire-alarm telegraph, a marine railway, and a number of appliances for use in medical electricity. He was the author of the first books published on this subject. The hand receiver for the telephone, now in use, was his invention, the Bell people having purchased it from him. Dr. Channing was a prominent leader in the abolition movement.

Dr. Jacob E. Hoffer died at Columbia, Pa., on March 22d, at the age of seventy-five years.

Dr. Edward Clarence Fraser died at Philadelphia on March 21st, at the age of sixty-one years. He was a graduate of the University of Maryland and of Jefferson Medical College.

Dr. Richard K. Valentine, fifty years of age, a well-known homœopathic physician of Brooklyn, committed suicide on Friday night, March 22d, at his home, 190 Lincoln Place, while suffering from mania caused, it is said, by grippe.

Dr. George Wren, the house physician of St. Vincent's Hospital, died there on Saturday, March 23d, of typhoid fever. He was born in Bridgeport in 1873, and in 1899 graduated from the Bellevue Medical College, going at once to St. Vincent's Hospital, where he was appointed house physician in January.

Dr. John Henry Hobart Burge, 132 Montague Street, Brooklyn, died on Sunday, March 24th, of heart disease, aged seventy-seven. He is said to have founded the first hospital in San Francisco, in 1849. Dr. Burge was consulting physician at the Long Island College Hospital and St. John's Hospital.

Progress of Medical Science.

Medical News, March 23, 1901.

An Interesting Case of Splenic Anæmia.—Herbert Maxon King reports this case. The patient was a woman aged forty years, born in England. Her mother died at the age of fifty-eight, of an "obscure trouble in the left side." The patient had never lived in a malarial district and gave no suggestion of syphilitic taint. She stated that she was always perfectly well until July, 1899. At this time, in order to relieve constipation, she took some sample pills, after which she had a severe diarrhœa and passed, at times, considerable blood. Her friends stated that for several years she has had a "peculiar, pale-yellow color." She was not emaciated. She complained of griping abdominal pain, diarrhœa, and extreme prostration. There were puffiness under the eyes and œdema of the lower extremities. She had a peculiar, yellowish pallor. The abdomen was not prominent. Palpation of this region did not elicit pain. The liver was not perceptibly altered in size, shape, or feel, although the left lobe was palpable. The spleen, enormously enlarged, retained the contour of a spleen, even to the notch in the anterior border. It filled nearly the whole left half of the abdomen. Palpation of this mass did not cause pain. The urine was of a low specific gravity, deficient in salts. On October 12th, blood examination gave the following results: Quantitative: red corpuscles, 875,000; leucocytes, 3,150; hæmoglobin, .15 (von Fleischl); color index, .86. Differential computation of leucocytes: Small lymphocytes, 22½ per cent.; large lymphocytes, 8 per cent.; polymorphonuclear neutrophiles, 61 per cent.; eosinophiles, 0; transitional forms, 4½ per cent.; myelocytes, 4 per cent. Qualitatively the blood evinced destructive changes of a character more profound than the author has ever noted in any condition except that of pernicious anæmia. There was marked poikilocytosis, as well as polychromatophilia, macro- and microcytosis. In counting 200 leucocytes, there were noted nucleated red corpuscles as follows: Normoblasts, 2; megaloblasts, 13; and other anomalous forms, 5. The splenic blood differed in no essential feature from the peripheral blood. The patient died the following December, and autopsy was unobtainable.

Cerebrospinal Meningitis (Weichselbaum, Jaeger) Treated by Repeated Lumbar Puncture.—By Henry Koplik.

Retrospects and Prospects in Genito-Urinary Surgery.—By Reginald Harrison.

Vertigo; a Stomach Lesion.—By Martin A. H. Thelberg.

Drainage in Abdominal Surgery.—By J. W. Long.

New York Medical Journal, March 23, 1901.

Emphysema of the Eyelid from Nasal Causes.—By Beaman Douglass. The cases specially mentioned are those arising from ethmoidal causes. In order to avoid the accident mentioned in the title, Douglass lays down the following rules for operation for the removal of ethmoidal caries: (1) As much as possible avoid the use of the curette, for it is the curette which is responsible for much of the traumatism occuring to the lamina papyracea. Much better work can be done by the use of the alligator forceps or some kind of cutting forceps having a small, blunt edge, which is less apt to perforate, and which will with equal success drain pus, or remove polyps as well as the mucous membrane lining the ethmoid cells. This forceps is very much more satisfactory than the curette in cutting away the thin layers of bone which form the walls of the ethmoid cells. (2) Another rule is, never to amputate any part of the middle turbinate, as it forms a very important guide along which an operation may be carried out. When it is remembered that the upper part of the middle turbinated body forms the inner wall of the ethmoid cells, it can readily be appreciated that by working carefully along the outer side of the middle turbinate—that is, the side away from the septum—the instrument must in each instance perforate the ethmoid cells; first, those which are anterior, and later, the posterior cells. In this way it is possible to open the ethmoid cells in the immediate neighborhood of the middle turbinated body, without working too near the orbit. This valuable guide will often prevent our entering either the orbit or the brain cavity. If subsequently it becomes necessary to remove this turbinate, it may be taken away after the ethmoid operation.

Infective Sigmoid Sinus Thrombosis.—C. R. Dufour gives a general description of the condition and the history of a personal case. His patient was a man aged forty-five years, with an ear discharging since childhood. The discharge ceased, hemicrania appeared, he became stupid, was chilly all the time, and the light hurt his eyes. These symptoms continued for several days, when he had a pronounced rigor followed by copious sweating. Tenderness was found in the posterior cervical triangle, with pronounced occipital œdema, beginning neuroretinitis, and a fluctuating temperature. The mastoid antrum was opened, cleaned out, the sinus exposed, and about a half an inch of it was found thrombosed at its knee; a portion only of the bony surroundings was necrosed, and was removed. The sinus was compressed above, opened, the thrombus removed, and the vessel curetted; the loss of blood was not great. The sinus was closed and the patient treated according to the method described. The lungs were not involved and there were no metastatic abscesses. The clot had not disintegrated; the microscope revealed streptococci and staphylococci. The patient made an uneventful recovery. It was a case in which the system was not overwhelmed with septic infection before operation. The fundus of the eye cleared up, and sight was normal in about eight weeks.

Some Retrospects and Prospects in Genito-Urinary Surgery.—Lecture by Reginald Harrison. The lecturer pays a high tribute to the work of Bigelow, of Boston, on litholapaxy and to that of White, of Philadelphia, with reference to the operation of castration for enlarged prostate. He thinks that the time may come when it will be possible to open the capsule of the kidney and relieve tension, thereby lessening the danger of chronic changes from the pressure of inflammatory exudation. As questions pertinent to this proposed intervention, he submits the following: (1) To what extent may kidney tension, as seen in kidney congestions, be responsible for permanent structural damage to these organs, which may ultimately result in their chronic degeneration, as observed in some forms of Bright's disease? That is to say, is there such a condition in pathology, to coin a term, as pernicious renal glaucoma? (2) Under what circumstances, if any, is the removal of tension by a surgical proceeding expedient and justifiable?

The Pathology of Intra-uterine Death.—A continued article by Neil McPhatter.

The Physical Examination of the Stomach.—By M. I. Knapp.

The Boston Medical and Surgical Jour., March 21, 1901.

Bubonic Plague.—Joseph J. Curry reports a number of cases occurring in Manila from January 1 to June 30, 1900. The most satisfactory method of diagnosis is the microscopical examination of the contents of a recently swollen gland, removed by aspiration. The plague bacilli occur in large numbers in the glands, even early in the disease. Some cases of the plague simulate malaria very closely. The examination of the blood fails to reveal the malarial parasite, and the blood early shows a marked leucocytosis. It was noticed that the right femoral and right inguinal glands were usually the first to enlarge. No wounds of the extremity were found, which were likely to be the point of entry of the infection. It was common, however, to find skin lesions involving legs and thighs. Dhobie itch is common, and the crotch is a favorite site; scratching may have introduced the bacillus. As most people are right-handed, it is possible that they scratch the right thigh more than the left.

Puerperal Insanity.—Arthur C. Jelly has found, by consulting the medical records of the Institutions' Registration Department of the city, that two hundred cases of puerperal insanity occurred from 1872 to 1900. From an etiological standpoint, cases can be divided into two groups: in the first the puerperal conditions appear to be the sole cause of the insanity—as in cases due to sepsis, exhaustion, perhaps to auto-intoxications. In the second group, predisposition existed and the puerperal state opened the door. Tuberculosis, epilepsy, profound hysteria, alcoholism, are all predisposing causes. The prognosis as to life is good. Recovery is stated to occur in from seventy to eighty per cent. of the cases in asylums. Physicians should be on the alert to recognize conditions favorable to insanity, and try to prevent it by hygienic measures. The author gives directions for treatment of the insanity.

Meat Rations in the Tropics.—P. R. Egan, surgeon of the United States army, contradicts the prevalent idea that meat should not be eaten in the tropics. To argue that because the poorer inhabitants of a country live on a certain food, that is the proper food to be taken in that country, is illogical, since they eat only what they can afford to get, and often suffer from starvation. The writer has found that tuberculosis and anæmia abound in Porto Rico where the people live on rice, beans, maize, dried codfish, and fruits. The people in the towns use meat and are far healthier.

Vomiting of Pregnancy; Suspension of Pregnant Uterus; Extra-uterine Pregnancy; Operation for Fibroids.—By J. Oswald Vogel.

A Case of Retroperitoneal Lymphangiosarcoma; Operation; Recovery; no Recurrence after Two Years.—By J. B. Lund.

Jour. of the Amer. Med. Ass'n, March 16 and 23, 1901.

The Study of Anatomy.—Lewellys F. Barker thinks this subject could well be treated under two headings: (1) What does the science of anatomy include? (2) How can the study of anatomy best be prosecuted? And he devotes the present paper to the consideration of the former. Anatomy is not simply a descriptive science; the study of it as a preparation for practical medicine and surgery represents only one side of its interest and usefulness. The author then gives an interesting account of the history of anatomy, which to-day stands, in the opinion of many, practically complete and incapable of further progress, as far as skill in dissection and anatomical description are concerned. But the process of gathering facts is not all—they must be classified. The physiological viewpoint in anatomy must be considered. Closely connected with this is the mode of consideration of the surgical and topographical anatomist. Comparative anatomy and embryology together constitute morphology, and in this we recognize the part of anatomy which makes it truly worthy of being called a science. Two other phases which have been only recently extensively cultivated, are histogenesis and comparative histology. By histogenesis is meant the study of the development of the individual tissues, including the individual cells. By comparative histology and cytology are meant the comparative microscopical study of the various tissues and cells through a series of animals. As a crowning-piece to the whole system of anatomical study, experimental morphology must be recognized. The subject is too wide to be mastered in all its details, even when a whole lifetime is devoted exclusively to it.

General Bodily Resistance as a Factor in Nose and Throat Disease.—Frank Louis Stillman believes that it is most important for the physician to guard his patient against repeated attacks of illness. The majority of patients coming to the throat specialist are chronic sufferers, and these patients are very hard to cure by medication of any kind. Chronologically, at least, heredity has more influence upon bodily resistance than anything else. Physical types are transmitted. There are certain patients with especial susceptibility to nose and throat diseases. The writer believes that in regard to the reflexes caused by pressure points within the nose the general system is more at fault than the nose. The treatment of the nose and throat should also include general remedies. A thorough investigation of habits and hygiene should be made if the treatment of the case is to be intelligent.

The Amount of Myopia Corrected by Removal of the Crystalline Lens.—Edward Jackson states that, in myopia due to excessive corneal curvature, the removal of the crystalline lens would cause substantially the same optical effect as it would in the emmetropic eye—about 11 D. of change as measured at the cornea, or 12 to 13 D. as measured by a concave lens placed in the usual position for spectacle lenses. In myopia due to excessive refractive influence of the lens, after removal of the lens the eye would be left hyperopic about 11 D. measured at the cornea, and would require a convex 10 D. lens. In myopia due to increased length of axis, the optical effect of removal of the lens, as measured in diopters, increases in direct proportion to the increase of the axis, either at the cornea or at the usual position for correcting lenses.

Astigmatism, its Detection and Correction.—H. Bert Ellis says that the methods of detecting this trouble are both subjective and objective, but the best results come from using both methods in conjunction. The writer does not care for the ophthalmoscopic method. The subjective test is the trial lens. Skiascopy or retinoscopy is probably the most accurate method of measuring the total amount of astigmatism. As to the correction of astigmatism, just so much of the error should be corrected as comports with comfort after a few days' exercise with the correction. The writer emphasizes the value of spectacles *versus* nose glasses.

Diagnosis and Prognosis of Ear Disease.—B. Alex. Randall declares that prognosis in ear disease is of vital importance to the patient, if not to the surgeon. Almost every diagnosis is based upon the anatomy and physiology of the parts. Unaided, as well as aided, sight and touch are most important. The writer then speaks of the speculum, watch and voice tests, tuning-fork, Galton's whistle, bone conduction, and the Politzer test. The history of the patient should always be considered, but more valuable facts will often be obtained by objective methods. Anterior and posterior rhinoscopy should be practised. Response to inflation and pneumatic massage should be noted.

Quantitative Tests for Proteolysis.—A. L. Benedict notes the neglect of the subject of tests for stomach proteids, in works on diseases of the stomach. He then briefly reviews the physiological function of the stomach. On the whole, phosphomolybdic acid has proved, in the writer's experience, the most satisfactory precipitant of peptone—the result being very bulky. The only substances likely to cause a confusion in using phosphomolybdic acid as a test for peptone in chyme are alkaloids. These could not be present in the stomach in sufficient quantity during life to interfere with the test for peptone.

Systemic Factors in Catarrhal Deafness.—Sargent E. Snow states that chronic non-suppurative inflammation of the middle ear is most difficult to treat. The majority of patients are chronic sufferers. There are systemic factors which should be particularly emphasized: (1) A sluggish skin reaction; (2) low vital forces; (3) torpid liver; (4) a lack of proper exercise. The writer approves of cold baths and friction. The general system should be toned up, the liver kept active, and a proper amount of exercise taken. The otologist should pay special attention to the rules of hygiene and should insist on their observance by his patients.

The United States Pharmacopœia of 1900.—Joseph P. Remington states that the decennial convention which assembled on May 2, 1900, in Washington, held a very successful meeting. The officers represented different sections of the country. Various important changes are to be made. No compound or mixture is to be introduced if its composition or mode of manufacture be secret. The average approximate dose for adults, and sometimes for children, is to be stated. This volume will probably be published within three years.

The Pharmacologic Assay of Drugs and its Importance in Therapeutics.—E. M. Houghton declares that, in the absence of pharmacological assay, great variation exists in the strength of certain drugs. Some of the most powerful poisons known, belong to the class of drugs which do not admit of chemical assay. The writer then gives illustrations of variation in the strength of drugs in the open market.

Treatment of Atrophic Rhinitis by Electrolysis, and Some Experiments to Determine the Efficiency of Needles of Different Metals.—By Carolus M. Cobb.

"Ureine" Experiments to Determine the Truth of the recently Announced Discovery by Moor of the True Cause of Uræmia.—By John Weatherson.

A Case of Combined Gastric and Aural Vertigo, with a Discussion of the Pathology of Such Cases.—By G. W. McCaskey.

Anastomosis of the Ureters with the Intestine; a Historical and Experimental Research.—By Reuben Peterson.

Treatment of Laryngeal Tuberculosis at the Montefiore Home for Chronic Invalids.—By W. Freudenthal.

Effect of Alcohol on the Nervous System, the Mind, and Heredity.—By Albert E. Sterne.

Paresis of the External Recti Associated with Irregular Tabes.—By G. Oram Ring.

On Certain Clinical Features of Epidemic Influenza.—By Howard S. Anders.

The Therapeutic Application of the Organic Extracts.—By O. T. Osborne.

Treatment of Addison's Disease, with Case.—By John V. Shoemaker.

The Nature and Treatment of Vertigo.—By J. Leonard Corning.

Elbow Fractures and the X-Ray.—By W. W. Grant.

Surgical Circumcision.—By Ferd. C. Valentine.

Heart Tonics.—By John N. Upshur.

Philadelphia Medical Journal, March 23, 1901.

A New Treatment for Tuberculous Glands of the Neck with Minimal Scarring Involving a Method of Sterilizing a Tuberculous Region through the Lymph Channels.—G. Betton Massey describes his method as follows: A small opening is made through the skin and into the gland by a narrow bistoury, under a chloride of ethyl spray, and into the opening is thrust a sliver of amalgamated zinc to act as an anode, not insulated, of a weak galvanic current—1 to 3 milliamperes—which is turned on gradually and maintained for a few moments, to cauterize the tract and keep it patulous for the treatment proper. When the tract has received a sufficient impregnation with the mixed oxychlorides of zinc and mercury thus developed, to keep it patulous for a few days, the zinc electrode is withdrawn and an insulated gold electrode about the calibre of a piece of No. 18 wire is inserted, its point having previously been amalgamated and made to hold as much mercury as possible. This instrument is left bare for one-quarter of an inch from the point only, in order that all the current action shall be expended within the gland, the remainder of the instrument being insulated with fused hard-rubber or fused shellac. From 2 to 10 milliamperes is now turned on and maintained for ten minutes, or until all the mercury

has been dissipated from the gold surface, after which a piece of absorbent cotton or lint is placed over the opening, topped by a piece of plaster; the patient receives an application at intervals of two or three days. Cocaine may be used to deaden the slight pain. Thus the tubercle bacilli are destroyed, while often some of the gland tissue is left. The scar left is a mere point.

Duchenne-Erb Type of Upper-Arm Palsy following Multiple Neuritis.—D. J. McCarthy reports this case, which represents the double etiology of alcohol and lead in the production of multiple neuritis. Under rest, galvanism, and small doses of strychnine, the patient continued to improve, and at the end of three months presented the clinical picture of the so-called Duchenne-Erb type of combined shoulder paralysis. To this was added extensor palsy of both forearms, producing bilateral wrist-drop. The paralysis and sensory changes in the lower extremities in this case followed the alcoholic type. The intense wasting which occurred about the shoulder girdle was probably due to both the alcohol and lead. The combined effect of lead and alcohol on the nervous system could be differentiated with especial clearness in the present case.

Strangulated and Gangrenous Hernia, Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus; Enterostomy, Primary or Secondary Resection; Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia.—By Thomas H. Manley.

The Toxicology of Tellurium Compounds, with Some Notes on the Therapeutic Value of Tellurates.—By William J. Gies.

Some Modern Gynæcological Resources.—By Augustin H. Goelet.

The Lancet, March 16, 1901.

The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism.—By A. E. Garrod. The rheumatic poison, says the writer, may smoulder for months or even years, breaking out at times in an acute attack. Between attacks a true rheumatic cachexia is developed, so that the relation of the chronic form to the acute manifestations of the disease is not hard to understand. When we come to the cases grouped under the heading of "rheumatoid arthritis," the problem is much more difficult, for we are not yet assured of the correctness of some of the current views as to the exact nature of this latter affection. This term may cover more than one disease, for not all the cases are of a rheumatic nature. Assuming that there are several forms of rheumatoid arthritis, it is quite possible, and even probable, that they differ entirely in their pathology, and that a theory which is true for one form may be wholly incorrect as far as another is concerned. The nodular or senile cases, with their slow progress and essentially chronic characters, present many features which suggest that the lesion present is of the nature of a degenerative or trophic change in the joints, comparable to the degenerative changes met with in other structures. Such a view of its nature receives support from the striking resemblance of these articular lesions to those met with in the joints of sufferers from certain nervous diseases such as locomotor ataxy and syringomyelia. In these latter cases, at any rate, there is nothing to suggest a rheumatic origin, and it is in these that the effects of mechanical influences are most marked.

The Treatment of Tuberculous Peritonitis.—Clinical lecture by I. Burney Yeo. The lecturer states that he has seen good results follow the internal administration of iodine and creosote, and the application to the surface of the abdomen of an ointment made up of iodoform and cod-liver oil in equal parts. The best results are obtained in the early stages, and in those in which there is more or less ascitic fluid. In these there is no matting of the intestines or shrinking or adhesion of the mesentery, but in advanced chronic cases, with induration of the various intestinal coats, adhesions of the coils of bowel to each other, large tuberculous masses and caseous mesenteric glands, neither surgical nor medical treatment offers much hope for recovery. Yeo believes that if iodoform is rubbed into the skin of the abdomen in a young person, it probably rapidly enters the blood, and if its use is persisted in, it is continuously eliminated in the secretions, including the secretions of the serous cavities. It thus comes in contact with the seat of the tuberculous deposit.

Some Personal Experiences of the Epidemic of Enteric Fever among the Troops in South Africa, in the Orange River Colony.—By H. H. Tooth.

The Toxicological Detection of Arsenic and the Influence of Selenium on its Tests.—By W. H. Willcox.

Topographical Anatomy of the Abdominal Viscera in Man.—First Hunterian lecture, by C. Addison.

Serum Treatment of Diphtheria on the Fourth Day of the Disease.—By R. S. McD. Pullen.

Septic Diseases in Graduated Attacks in the Same Patient.—By J. Snowman.

Dorsal Dislocation of the First Phalanx of the Little Finger.—By E. M. Ridge.

Parotitis after Abdominal Section.—By B. Addenbrooke.

Status of the "Country Doctor."—By H. Roberts.

British Medical Journal, March 16, 1901.

An Address on the Causation of Cancerous and Other New Growths.—J. George Adami states that whatever the origin of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement do we get the various grades of tumor formation, from the most benign to the most malignant. He also believes that that line of research is most valuable which lies in the direction of testing various methods of arresting the growth of the tumor cells without injury to the organs in general. But he believes the greatest benefit to the patient and the greatest satisfaction to the surgeon will consist in the recognition and removal of malignant tumors at the earliest possible date—and even the removal of benign tumors before they have taken on possible malignant characters.

Digestion Leucocytosis in Cancer of the Stomach.—Carstairs Douglas believes that digestion leucocytosis is a broken reed on which to lean in the diagnosis of cancer of the stomach. He thinks that, as Marchetti has recently said, digestion leucocytosis essentially depends on the digestive and absorptive powers of the stomach, and that it may or may not occur in cancer of the organ, according to the degree of impairment of its functions. The presence of the phenomenon is probably of more value in excluding cancer than is its absence in proving the existence of the disease.

A Case of Diffuse Scleroderma.—Robert Bleasdale reports the case of a man aged twenty-three years, who was suffering from well-marked diffuse scleroderma. Five years before, having been previously healthy, he began to be troubled with rheumatism in the hands and feet, with considerable swelling about the knuckles. After this had gone on several weeks, the skin on the arms and legs began to grow hard and tense. This condition gradually spread to the face and trunk, and his whole appearance was very typical. He finally developed phthisis and died.

On the Occurrence of Pyrexia in Cancer and Other Diseases of the Liver, and in Cases of Gall Stone.—By C. O. Hawthorne.

Congenital Menstruation, Ovulation, Lactation, and Congenital Puberty.—By W. Roger Williams.

The Milroy Lectures on the Influence of the Dwelling upon Health.—By John F. J. Sykes.

The Application of Romanowsky's Stain in Malaria.—By W. B. Leishman.

The Palliative Treatment of Carcinoma Uteri.—By Gerald R. Leighton.

Case of Malignant Endocarditis; Recovery.—By J. Hepworth.

Case of Ovarian Cyst; Repeated Tapping.—By J. B. Gillam.

Idiosyncrasy to Gelsemium.—By Thomas H. Amyot.

Turpentine Poisoning.—By F. S. Stanwell.

French Journals.

Concerning the Pathogeny and Pathological Anatomy of Pterygion.—Catherine Trapesontzian concludes that the pterygion comes most often from the pinguecula, an affection characterized by hyaline degeneration of the elastic- and connective-tissue fibres, and by collections of hyaline substance between the fibres more or less normal. The proof of this is furnished by the presence of "débris" of the pinguecula that is found in the pterygion. The hyaline degeneration is not limited to the débris, but implicates little by little the rest of the hyperplastic and hypertrophic tissue. The elastic fibres are equally hypertrophied and degenerated, but their number does not appear strikingly increased. Collections of free hyaline substance exist without a doubt, but play a secondary rôle. It is this substance that Weigert considered solidified fibrin. It does not give us the characteristic reaction for fibrin. There is probably in the tissues a certain quantity of serum exuding through the vascular walls. In other cases the pterygion develops without being preceded by a pinguecula. The morphological characteristics of these pterygions, developing in different ways, are the same. The pinguecula signifies a profound alteration of nutrition of the tissues and changes their reciprocal relations. The conjunctiva becomes less supple, less elastic, and consequently more passive; it tends to preserve the abnormal

position which is forced upon it. In every case the process passes below the epithelium of the cornea.—*Revue Médicale de la Suisse Romande*, February 20, 1901.

Certain Morbid Phenomena of Second Infancy, in Relation to a Toxic Dyspepsia of Alimentary Origin.—Sevestre states that it is not rare to observe in the course of second infancy, generally from seven to fifteen years, a group of morbid phenomena which at first sight may appear alarming. At times they make one fear meningitis, cardiac trouble, etc., but if carefully studied they will be discovered to be of alimentary origin. The most common symptoms of these troubles are headache, generally frontal, insomnia, nightmare, palpitation of the heart, fever, and vomiting. These children will often be found to eat very rapidly, without proper mastication, while they drink abundantly during meals. After the indulgence of these habits for some time, the stomach becomes distended and less active; the colon is often distended with gas; the liver is generally enlarged, and constipation is present; the latter sometimes alternates with diarrhœa. These conditions produce toxins which are absorbed, thus giving rise to the untoward symptoms. The bad habits of the child should be strictly corrected. The régime should be carefully revised; proper mastication must be insisted upon. A tonic often serves a good purpose. Massage for atony of the intestine is indicated. Hydrotherapy must not be neglected, and finally the child must be out in the open air as much as possible, even though books have to be laid aside. —*Journal des Praticiens*, February 23, 1901.

Solid Tumors of the Ovary.—Phocas declares that solid tumors of the ovary are relatively rare. In the beginning there are in general painful phenomena. With the functional signs a tumor is found, varying in size from a nut to a mandarin orange, movable, situated at the side of the uterus, not painful, or but slightly so, and uniformly hard. During the period of growth the functional signs vary; among them are menstrual troubles. The evolution of these tumors is slow. Clinically, there are two large classes of solid tumors of the ovary: benign and malignant. After ablation of the tumor, histological examination will give an exact diagnosis, which is so frequently uncertain before operation. According to Dartigues, every solid tumor of the ovary, whatever may be its histological nature, should be removed.—*Le Nord Médical*, March 1, 1901.

Adenomata of the Suprarenal Bodies. — R. Oppenheim believes from his study of this subject that the distinction of suprarenal adenomata into fatty and pigmented adenomata is fully justified. The first are due to the proliferation of the cells of the median cortical zone, and the hyperplastic cells are always the seat of an abundant fatty infiltration. The second come from the hyperplasia of the elements of the zona reticularis. The protoplasm of the cells which constitute them does not contain fat, but is infiltrated with pigment, in such large quantities perchance, as to hide the nucleus and completely destroy the cell. The adenomatous capsules, like the normal capsules, can be the seat secondarily of diverse pathological processes (tuberculosis, hemorrhage).—*Bulletins et Mémoires de la Société Anatomique de Paris*, December, 1900.

Berliner klinische Wochenschrift, March 4, 1901.

Stramonium Poisoning.—E. Friedlaender gives the history of a man aged forty-four years, who was a sufferer from asthma. He was recommended to try a certain cure which consisted largely of dried leaves of stramonium, but by mistake he took it as a drink, dissolving about 30 gm. of the remedy in three-quarters of a litre of tea, and taking of this fluid about 150 c.c. Two friends, who also drank some of the fluid, though a much smaller quantity, took fresh milk on discovering their mistake, and escaped with only vomiting and diarrhœa, without experiencing any of the constitutional effects of the remedy. Immediately on taking the draught the patient felt a severe burning in the throat, and soon became unconscious. On admission, one hour later, to the hospital, his face was slightly cyanotic; respiration was 50 per minute, there were some mucous râles in the chest, and the pulse was 96. He had recovered full consciousness, the pupils were dilated to a maximum, and there was a slight flow of saliva. He resisted for a while all attempts made to pass a stomach tube so as to empty that organ, but later permitted this to be done. Internally he was given coffee and a mild alcoholic stimulant. Under this plan of treatment he gradually recovered his normal condition, though the severe burning pain in the throat persisted for quite a time. He was discharged on the fourth day.

The Staining of Diphtheria Organisms.—Dr. Piorhowska believes it possible to demonstrate positively the existence of these organisms by staining-methods, and advises the following method as a means for bringing out the germ more sharply. From a culture of bacilli from fifteen to twenty-four hours old, grown at a temperature of 37.7° C. on either glycerin-agar or Loeffler's blood serum, dry cover-glass preparations are made and stained with methyl-blue for twenty to thirty seconds. Decolorization is effected by holding for five seconds in a three-per-cent. solution of HCl-alcohol, and the contrast stain is then effected by dipping for five seconds in a watery solution of eosin (one per cent.). The polar nuclei are by this method sharply stained, while the central portion takes a red color which is more marked than with the vesuvin stain commonly employed.

The Surgery of Carcinoma of the Stomach.—By H. Lindner. A historical review of the operation and a hopeful statement with reference to its future.

Rare Forms of Syringo-Myelia. — By Dr. de la Camp. Two clinical cases.

Deutsche med. Wochen., Feb. 28 and March 7, 1901.

The Treatment of Gangrenous Hernia (Conclusion).—W. Petersen is an advocate of local anæsthesia in these cases, and believes in wide resection of the diseased portion of gut. The form of local anæsthesia that gives the best results is Schleich's infiltration method, and its employment greatly facilitates the work of the operator and increases the patient's chances of recovery. The danger of post-operative shock and collapse is practically done away with, while all risk of inhalation pneumonia is obviated and the operator can take sufficient time to determine just how much of the intestine is so far damaged as to require removal, a thing not always possible when a poorly borne general anæsthesia demands a prompt conclusion of the operation. For the purposes of resection and anastomosis, the Murphy button represents an improvement of the greatest value, since it saves time and increases the safety of the operation. A point on which especial stress is laid, is the thorough emptying of the intestine before the suturing is begun. The author effects this by inserting into the diseased loop of bowel a stomach tube through which the gut is irrigated with hot saline solution, the tube being gradually pushed in to its full length. This washing may take considerable time, and is most advantageously performed when the operation is being done under local anæsthesia, when the relief attending the clearing out of the distended bowel is so great that the patient gives little heed to the other details of the operation. Whenever there is any suspicion of lost vitality in the affected coil of intestine, either primary resection or exposure in the wound for observation is indicated, and the artificial anus is an emergency procedure to be resorted to only in collapse or extensive perihernial inflammation. When gangrene is known to be present, primary resection under local anæsthesia is the operation indicated.

Experimental Studies in the Heredity of Tuberculosis.—F. F. Friedmann, in a preliminary report, details the results of some experiments tending to show that direct tuberculous infection of the embryo may occur wholly from the paternal side and without any intervention on the part of the mother. The two ways in which transmission of the disease from the parents to the fœtus can take place are (1) through the placenta, *i.e.*, through the maternal blood stream, and (2) at the time of conception, through infectious sperm. That the first of these is possible has already been adequately shown in both animals and man, while to prove the possibility of the second mode of transmission it must be demonstrated that tuberculous semen may contain active tubercle bacilli and that these are capable, unaided by maternal factors, of entering the ovum. It has already been found that, even in the absence of genital localization, those affected with tuberculosis may have the bacilli in the semen, but proof of the second requirement has heretofore been entirely wanting. The author injected into the vaginas of rabbits, immediately after coitus, small amounts of diluted cultures of tubercle bacilli, and from six to eight days later prepared serial sections of the developing ova. In every instance it was found that the bacilli had penetrated into the interior of the ovum and were present in its cells, while in no case were any found in the mucous membrane of either uterus or vagina. This finding explains the fact that the offspring of a tuberculous father and a healthy mother may be infected, while the mother escapes unscathed, a striking analogy to what may take place in the transmission of paternal syphilis.

A New Test for Diacetic Acid in the Urine.—S. Lipliawsky has elaborated a test which is not open to the various objections that have been raised against the older reactions. Two solutions are required: a one-per-cent. solution of paramidoacetophenon and a one-per-cent. solution of potassium nitrite. A small amount of the first is mixed with one-half as much of the second, an equal volume of urine is added, and the whole well shaken with a few drops of ammonia. A few drops of the mixture are poured into a tube half full of concentrated hydrochloric acid, with a small amount of chloroform, and two to four drops of ferric chloride. The tube is now to be gently agitated, so

that no emulsification of the chloroform is produced; after one-half to one minute, the appearance of a violet tinge of the chloroform on settling will indicate the presence of diacetic acid. The reaction is extremely delicate, and the coloration produced remains permanent even after weeks of exposure to light, while it is uninfluenced by any drugs the patient may be taking.

The Disinfection of Typhoid Urine with Urotropin.—Schumburg says that previous investigators have found that under the use of this drug the cloudy urines full of typhoid bacilli, sometimes observed during convalescence, clear up and yield negative results to culture tests. In order to determine whether this was due to a real extermination of the bacteria or depended simply on an inhibition of their growth, he allowed threads infected with typhoid bacilli to lie in nutrient media, to which urotropin urine, obtained from a healthy individual, had been added. No growth took place, even after days of observation, but if one of the threads was removed and added to plain bouillon, immediate and vigorous growth occurred. The conclusion is that the urotropin disinfection is an unreliable safeguard and is not to be depended on.

An Inexplicable Ascultatory Phenomenon in an Infant.—Konrad Gregor describes the case of a child of three weeks, presenting a loud blowing systolic murmur over the whole of the right side of the thorax, anteriorly and posteriorly. The heart sounds were clear, and at autopsy a cheesy bronchopneumonia of the left lower lobe, with beginning degeneration, was found, together with miliary tuberculous infiltration of the rest of the lung, liver, and spleen. The heart was normal, and no cause for the murmur could be demonstrated.

The Identification of Human Blood by Means of an "Anti-Serum."—R. Stern publishes some further observations which tend to invalidate somewhat the specificity of the blood test recently described in the same journal by Uhlenhuth. The author corroborates the experiments of the earlier writer, but in addition has found that the blood of certain monkeys, and also albuminous human urine, give the same reaction.

Further Observations on the Value of Arloing and Courmont's Serum Reaction in Tuberculosis.—M. Beck and L. Rabinowitsch, after a further series of investigations, reiterate their former conclusion that this serum reaction has no specific value in tuberculosis, since it may be obtained both in healthy and tuberculous animals, and also in those affected with other diseases.

The Treatment of Pathological Fixations of the Uterus.—By Steffeck. To be concluded.

Investigations on the Suppurations of Typhoid.—By A. Prochaska.

The Radical Operation for Children's Hernias.—By H. Mass.

The Organism of Vaccinia and Variola.—By M. Funck.

A Thread Scoliosognost.—By Kurt Tautz.

Journal of Laryngology, March, 1901.

Atresia Auris Congenita.—Hunter Tod reports three cases, giving their histories in detail. In addition to the fifty-three cases mentioned in Ruedi's "Thesis" (1899) he has been able to collect fifty-four additional cases besides his own. A full reference table is given of these additional examples. He sums up our knowledge of the condition as follows: (1) The deformity is not hereditary and the cause is not known. (2) It occurs rather more often in females and is more often unilateral than bilateral. (3) One may get accompanying deformities, chiefly due to mal-development of the parts in connection with the first and second branchial arches. (4) The labyrinth is rarely affected. The hearing varies, but is present to some extent, though slight. Hearing-tests give practically the same results as those given in an uncomplicated middle-ear affection, but more marked. (5) Embryological, pathological, and clinical observations prove operation to be useless. (6) Something more perhaps can be done by careful non-operative treatment and by early and assiduous instruction in speaking and lip-reading.

The Question of Retaining the Skin of the Posterior Meatal Wall in the Radical Mastoid Operation.—Richard Lake commends the suggestion of Moll, that the meatal wall should be removed to facilitate healing and to save trouble. To this Lake assents, but finds a more logical reason in the following explanation: Very frequently patients return in a year or two after the radical operation, complaining of deafness, and the whole post-operation cavity is seen to be filled with wax. The explanation is simple: the ceruminous glands lie almost entirely in the posterior wall of the meatus. By any of the flaps in use in the operation these glands are transplanted from their normal situation to a position from which the exuded cerumen is unable to escape and from which it is no longer passed outward by the natural means. The delayed appearance of deafness is due in part to the large cavity there is to fill, and in part to the suspension of the glandular activity for some time subsequent to the operation.

Ear, Nose, and Throat Journals.

The Pneumatic Sinuses in the Sphenoid Wings.—Beaman Douglass has examined the relations of the pneumatic cavities of the sphenoid in two hundred cases and has found the following varieties to exist: (1) The great sphenoidal cavity may occupy only the body of the sphenoid, without extending into the small wing. This was found in thirty-one cases. (2) The greater sphenoidal cavity may occupy the body of the sphenoid, and other pneumatic cells, with a nasal communication, and lined with mucous membrane, may develop in the small sphenoidal wings. This was found in seven cases, and represents the frequency of the occurrence of a true sinus of the smaller sphenoidal wings. (3) The great sphenoidal sinus may develop in such a way that it occupies one-half the sphenoid body and, extending into the sphenoidal wing, may occupy it entirely or partially. This condition was found one hundred and sixty-nine times. (4) The great sphenoidal cavity may occupy the body and extend partly into the wing, in which case the whole or a part of the posterior ethmoidal cell may extend backward into the small wing of the sphenoid. The sinus of the small wing of the sphenoid in these cases is not developed. This condition was found forty times. (5) The greater sphenoidal sinus develops in the body of the sphenoid. The sinus in the small wings is also present. These sinuses of the smaller wings communicated on one side with the posterior ethmoid cell, and on the other side with the recessus spheno-ethmoidalis. It seems, then, that in 15.5 per cent. of all cavities examined the great sphenoidal sinus did not extend to the wings of the sphenoid, but was confined entirely to the body. In all of these cases the sphenoidal wings contained pneumatic cells, made so either by the development of a true sinus of the sphenoidal wing or else by the projection backward of a posterior ethmoidal cell into the small wing.—*Laryngoscope*, February, 1901.

The Use of the Tuning-Fork as a Test for Disease of the Maxillary Antrum.—D. A. Kuyk regards the tuning-fork as a possible test for determining the presence of pus in the antrum, especially in those cases in which the usual diagnostic methods fail to give definite results. The stem of the fork should be applied (after vibration is set up), over the first or second molar tooth. If the antra are free and clear, the tuning-fork will be heard with equal clearness on both sides and for a like duration. If one antrum contains fluid, the fork will not be heard so distinctly, perhaps very faintly, perhaps not at all—as occurred in one case—but if the opposite antrum is free the patient replies quickly and positively in the affirmative. Given another case in which the symptoms are obscure, but in which transillumination gives a shadow on the left side and none on the right, with subjective symptoms inclining one to suspect disease of the left side, the tuning-fork, placed on the left side will be heard louder and longer than on the right; the natural deduction will be that the left antral wall is thicker than the right, favoring thereby the better sound transmission, and thus almost conclusively eliminating this cavity as the offending structure. Such proved to be the case.—*Laryngoscope*, February, 1901.

Pseudo-Hæmoptysis of Naso-Pharyngeal Origin.—Ricardo Botey concludes an article on this subject as follows: Special literature does not sufficiently insist upon the occurrence of this form of hæmoptysis. Hemorrhages from the larynx, base of the tongue, and pharynx are relatively infrequent compared to nasopharyngeal bleeding. The source of the blood seen on the pharyngeal wall can be determined if one will clean the wall with a cotton carrier and then apply a fresh carrier behind the soft palate, when it will become at once covered with fresh blood. Bleeding in the vault is favored by the close attachment of the mucosa to the parts beneath and the comparatively poor protection of the epithelial layer. The use of the cotton as above described, together with the employment of the mirror, renders diagnosis easy. These methods of examination should never be omitted in cases of hæmoptysis when the chest reveals nothing abnormal.—*Annales des Maladies de l'Oreille*, etc., January, 1901.

Serous Cyst of the Auricle.—A case of this rare condition is reported by Richard Lake in the person of a man aged thirty-five years, who some four weeks before coming under observation had noticed a small, freely movable tumor in the region of the fossa of the antihelix of the left ear. In the course of the month it grew rapidly, measuring when first seen about one and a quarter inches by three-quarters of an inch. It was dusky in hue, not very tense, perfectly translucent, and not very definite at the edges. The exploratory needle withdrew a yellow fluid without suspicion of clot or blood in any form.—*Journal of Laryngology*, February, 1901.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEBACLE OF THE WATER COMPANIES, REVOLT OF THE RATE PAYER—ENTERECTOMY IN DIABETES—INTESTINAL SAND—PAINLESS PYONEPHROSIS—GYNÆCOLOGICAL SOCIETY—BIRMINGHAM INSTITUTE—DEATHS OF DR. FLEMING AND COL. MAITLAND.

LONDON, March 8, 1901.

At last the London rate payers have roused themselves from their apathy. Alarmed by the proposed extortion of the water companies they have returned an overwhelming majority to the county council of the party pledged against monopolies.

The "moderates" fought the election on political lines and had all the advantages of the conservative party which is in the majority in the metropolis. But it was useless—the "progressists" were against monopolies and in favor of pure municipal government—their cry was "progress, not politics," and they swept the field. The conservatives say it was the pocket being touched that defeated them. Perhaps so, but the lesson was needed. It shows that even the London rate payers' apathy may be overcome.

After all, the water companies have done London a good turn by bringing forward their scheme at the psychological moment to advance the cause of good municipal government. If the majority fulfil their pledges, we may yet have pure water, clean streets, and other factors of a healthy city. The new metropolitan boroughs did good work in opposing the water companies, but it has been a costly business for them. Mr. Long made a blunder in ordering an inquiry into the proposed scheme, when he should simply have vetoed it. He has inflicted an injury on the rate payers, who are not likely to forget it—especially as he shows no disposition to safeguard their interests in future. He seems to think they ought to pay for the opposition they made to the companies. The election should open his eyes, unless he is to run the risk of wrecking the government, or at least making his new position untenable.

Intestinal sand has not attracted so much attention in this country as on the Continent. Whether it is less frequently looked for here, or does not occur so often, is not easy to say, but I am disposed, from all I hear, to think the former is the reason. Howbeit, a case was related at the last meeting of the Medico-Chirurgical Society by Sir D. Duckworth and Dr. Archibald Garrod. It occurred in a married woman aged thirty-three years, living in healthy surroundings, and was accompanied by intractable diarrhœa to the extent of six or eight loose motions daily. The colon and its sigmoid flexure were too palpable when empty, as if from thickened walls. The sand looked like a deposit of uric acid, was of a reddish-brown color, and fairly gritty—insoluble in cold and boiling liquor potassæ, readily soluble in boiling nitric acid. Under a low power of the microscope particles of various sizes and shapes were seen, of a brilliant reddish-brown hue, and translucent. Washed and dried in the air they looked like fine sand. The case was unusual, as there were none of the severe colicky attacks that have been generally met with in other instances.

Dr. Crombie thought the symptom less common here than in India, where intense colic was generally met with, the severity being in proportion to the amount of sand passed. Dr. Bokenham had met with a case accompanied by attacks of colic and diarrhœa.

The society's attention was then directed to surgery, in connection with two cases of enterectomy reported by Mr. Barker. They were brought forward as bearing on the limitations of operation, for both patients were glycosurics. One was a married woman aged fifty-eight years, the other a feeble old woman aged seventy-six years. In the latter case five and a half feet of small intestine were removed for gangrene; in the former, four and a half inches. Both patients recovered, showing that even in diabetics, when operation presents the only alternative to speedy death, the surgeon need not despair of a successful result. And yet how often have slight injuries in diabetics proved fatal!

Commenting on his cases, Mr. Barker said the first recalled what had been brought before the society concerning diabetic gangrene, in which condition good results had been obtained in spite of extensive arterial thickening. As to extensive excision of the bowel, he suggested that in younger persons who survived the operation a compensatory hypertrophy might occur to make up for the loss. Further, it seemed that resection was better tolerated the lower down in the intestine it was done.

The president (Dr. Pavy) said it was important to distinguish alimentary from other forms of glycosuria. In the former the condition could be removed by diet; in the latter, dangerous bodies, such as acetone, diacetic and oxybutyric acids, were present in the blood, along with sugar. These contraindicated all but imperative operations.

Sir Thomas Smith related a case in which a man, not previously known to be diabetic, accidentally scratched his finger, and within a week died of septicæmia with gangrene of all four extremities. Sir D. Duckworth remarked that in spite of antiseptics, surgeons must still be very cautious about operating on diabetics. Mr. Barker, in reply, said that in one case the glycosuria continued during the most important period of repair—a point of great interest.

At the Medical Society, Mr. A. Doran related a case of painless, calculous pyonephrosis, without fever. The patient was a woman aged thirty-eight years, whose husband had been subject to stricture and cystitis and who probably infected her. There was no history of rigors, colic, hæmaturia, or feverishness. The woman went about her domestic duties apparently in good health, although one kidney was converted into a bag of pus. She had noticed a swelling in the left side, and it ached when she had stays on but was comfortable when she was undressed. The lump was diagnosed as movable kidney and was not tender. On operation this kidney proved to be a cyst containing about a pint of pus. There was no trace of tubercle. The lowest calyces were blocked by a small rough calculus in the infundibulum. In one dilated calyx a piece of mulberry calculus lay loose. Mr. Doran thought it fortunate that the operation had not been delayed until adjoining structures had become involved, and he agreed with Noble, of Philadelphia, that removal of a suppurating kidney enabled its fellow to work better. The president (Mr. Morgan) thought the case almost unique in its absence of pain and fever, and asked about Mr. Doran's experience with boric acid in urinary sepsis. Mr. Butler-Smythe asked why the ureter had not been dropped back into the peritoneal cavity. Mr. Doran said in suppurative conditions he preferred to bring the ureter out of the lower end of the wound, as he had known a lumbar abscess to follow dropping the ureter back. It was different in non-suppurative conditions. He had seen boric acid followed by an improvement in the urine, but whether *post* or *propter hoc* he could not say. The next paper was by Dr. Lewers on fibroids of the cervix. He related four cases illustrating the differences between them and fibroids of the body of the uterus, and described the operations he performed. He is accustomed to adapt his operation to each individual case. Mr. Doran and several other speakers approved the measures which had been employed and congratulated Dr. Lewers.

At the Gynæcological Society, Dr. Mansell Moullin has been installed as president, and delivered an inaugural address in which he reviewed some operations as performed now and at the foundation of the society, seventeen years ago.

A "drawing-room meeting" was held on Friday at Stafford House (Duke of Sutherland's) which was practically the fourth annual meeting of the "Nurses' Total Abstinence League." Among the speakers who addressed the assembled nurses was Mr. Pearce Gould. He gave three reasons why nurses should be teetotallers: (1) Their work was hard, (2) they should always be ready for an emergency, (3) their work involved great nervous strain. All his experience convinced him that for hard work and to meet emergencies total abstinence was best, and the pernicious effects of alcohol were most of all marked in lessening the powers of men and women to bear nervous strain.

Mr. Treves has an article in the *Nineteenth Century and After* on the South African hospitals. He admires the patience and judgment of the commission, but he is not satisfied that their recommendations go far enough. He insists, as many have done, on the insufficiency of pay and allowances, the undermanning of the service, the amount of non-professional work thrown upon the surgeons, and the discouragement of ability and energy. He would have promotion by merit rather than by seniority.

Dr. Irvine, the consultant of the Birmingham Institute, has decided to vacate his invidious position instead of braving the Medical Council.

Among recent deaths are those of Dr. Fleming, of Glasgow, for a considerable period surgeon to the Royal Infirmary. He was only fifty-two, and had for some time been an invalid.

Lieutenant-Colonel Maitland, P.M.O., of the Somaliland expedition, was killed in action on February 16th. He had served in Egypt, India, and Burmah with distinction and received several medals. He was only forty-one years old.

SUPRARENAL EXTRACT IN HÆMOPTYSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of March 16, 1901, there appears an article, namely, "The Use of the Suprarenal Capsule in Hæmoptysis," by William B. Kenworthey, M.D., in which he states that very little or no mention on the use of the

suprarenal capsule in hæmoptysis had been previously made

If the doctor will review the pages of your journal for November 17, 1900, pages 774 to 775, he will find an article by me, namely, "The Use of the Suprarenal Capsule in the Lower Air Passages," in which I mention the use of the suprarenal powder in sixteen cases of hæmoptysis, from various causes, without a failure.

SAMUEL FLOERSHEIM, M.D.

Reviews and Notices.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS, for Students and Physicians. By JOHN H. MUSSER, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Fourth Edition, Revised and Enlarged. Illustrated with two hundred and fifty woodcuts and forty-nine colored plates. Philadelphia and New York: Lea Brothers & Co. 1900.

THIS book is certainly the outcome of a mass of practical work, the result of many years of bedside study. It is a pleasure to be able to say that nothing that the author states in his preface is overdrawn, and that this volume will meet with favor. To any one desiring modern views and methods of diagnosis, we commend this work. Consisting of over one thousand pages, it gives ample detail regarding the minutest points necessary in making a modern diagnosis. To the older physician and to the "rusty" physician, such books will be welcome. Rarely have we seen better illustrations, especially those bacteriological drawings.

SAUNDERS' MEDICAL FORMULARY. By WILLIAM M. POWELL, M.D., Author of "Essentials of Diseases of Children," Member of the Philadelphia Pathological Society, etc. Philadelphia: W. B. Saunders & Co. 1900.

THIS formulary has been before the medical profession for a number of years and is now entering upon its sixth edition, having been thoroughly revised and had added to it formulæ employing some of the more important recently discovered drugs.

The author in collecting these formulæ has drawn liberally from some of the most eminent authorities and specialists of this and other countries. A book of this character naturally has its limitations, and if literally followed, would undoubtedly be of little permanent value to any medical man of scientific aspirations. Its true purpose seems to be to furnish a working basis for the young physician just beginning the practice of medicine, who will realize the importance of making such variations in his prescriptions as each individual case shall demand. The book is well edited and handsomely bound in morocco.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By RICHARD C. CABOT, M.D. With one hundred and forty-two illustrations. New York: William Wood & Company. 1900.

THE author states that his book is intended for the use of students. It consists of over three hundred pages and is superbly illustrated. To one desiring accurate and detailed knowledge of the modern methods used for percussing, auscultating, and inspecting the thorax, nothing better could be advised.

A few points, such as the author styles well-worn myths, are prominently brought out. Thus are disposed of the errors in believing that the aortic second sound is normally louder than the pulmonic second, also that aortic regurgitant murmurs are usually best heard in the second right interspace, and that a hypertrophied left auricle can produce dulness and pulsation near the left sternal border, that systolic retraction at the cardiac apex means adherent pericardium, that epigastric pulsation denotes hypertrophy of the right ventricle, etc.

Other important points are muscle sounds, atelectasis pulmonum, and adherent pericardium. The radiographs are excellent. Thus we must say that this book is well adapted to instruct, and may also serve to refresh those in the profession seeking modern technique.

PORTRAITS OF THE NOTED PHYSICIANS OF NEW YORK, 1750–1900, with a Few Facts in the Life of Each, Collected and Arranged by WALTER GRAEME ELIOT, LL.D., Ph.D. Vol. I. 8vo, pp. 200. New York: American Biological Society. 1900.

To look upon the faces of friends, present and gone, is always interesting and instructive. This work may be viewed as a biographical album in which the subjects are well selected and very fairly treated as to respective merits. The result is not only due to the indefatigable efforts of the editor to be just and impartial to all, but also to the fact that eight of the most distinguished living surgeons have aided him in his selections. It is a pity, however, that this valuable contribution to the literature of its class is mainly intended for private distribution and public libraries. For purposes of reference it will be invaluable as a contribution to the medical history of New York during the period named. A page portrait is devoted to each individual, with a short account of his life and work. The most interesting sketches are those of the older masters in medicine and surgery who have long since passed away, and whose work was mainly done in the earlier years of the past century. In this class may be mentioned those of Wright Post, Samuel Burrowe, John Kearney Rodgers, Francis U. Johnston, John Jones, Samuel L. Mitchill, Samuel Bard, Alexander H. Stevens, David Hosack, John W. Francis, Augustus G. Eliot (the father of the author), Valentine Mott, and John C. Cheesman. Following these, in their chronological order, are the portraits of and sketches of Willard Parker, Gurdon Buck, W. H. Van Buren, Frank H. Hamilton, E. R. Peaslee, Alonzo Clark, George A. Peters, Henry B. Sands, J. Marion Sims, James R. Wood, and Alfred L. Loomis. Of the living men who form a becoming part of this distinguished company, there is scarcely one who does not deserve his place. Altogether the collection is the best and most representative of its kind that we have yet seen, and we heartily congratulate the author accordingly.

MODERN MEDICINE. By JULIUS L. SALINGER, M.D., Demonstrator of Clinical Medicine, Jefferson Medical College; Chief of the Medical Clinic, Jefferson Medical College Hospital; Attending Physician to the Philadelphia Hospital, and FREDERICK J. KALTEYER, M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hæmatologist to the Jefferson College Hospital, Pathologist to the Lying-in Charity Hospital, Philadelphia; Assistant Pathologist to the Philadelphia Hospital. Illustrated; pp. 801. Philadelphia and London: W. B. Saunders & Co. 1900.

THE object of the authors in issuing this work is to combine in one volume the different specialties which are ordinarily scattered throughout separate books on bacteriology, urinary analysis, hæmatology, etc. In addition to the careful exposition of the technique in laboratory examinations, the main features of the etiology, pathology, symptomatology, diagnosis, etc., of disease are succinctly described. The introduction deals specially with symptomatology and semeiology in general, physical diagnosis, clinical bacteriology and laboratory methods, the last subject including the modern methods of examining the sputum, the stomach contents, the blood, the urine, and the fæces. The main bulk of the volume is taken up by articles on the infectious diseases, circulatory, respiratory, and digestive diseases, affections of the kidneys, blood, ductless glands, nervous system and the muscles, constitutional diseases, intoxications, sunstroke, and diseases due to animal parasites. The articles are well balanced, concise, conservative, yet thoroughly modern, and the practical points in differential diagnosis particularly good. The illustrations are useful and aptly chosen, some of them being in colors. The list of diseases is quite complete, including many of the most uncommon varieties.

TRAITÉ DE MÉDECINE. Deuxième Édition. Publiée sous la Direction de MM. BOUCHARD, Professeur à la Faculté de Médecine de Paris, Membre de l'Institut, et BRISSAUD, Professeur à la Faculté de Médecine de Paris, Médecin de l'Hôpital Saint-Antoine. Tomes VI. et VII. Paris: Masson et Cie. 1901.

IN these two volumes are discussed the diseases of the respiratory system, the authors being A. Ruault, E. Brissaud, P. le Gendre, A. B. Marfan, and Netter. The articles are: diseases of the nose and pharynx by Ruault, asthma by Brissaud, whooping-cough by Le Gendre, antepulmonary diseases and diseases of the pleura by Netter, and diseases of the bronchi, disorders of the pulmonary circulation, chronic pulmonary diseases, phthisis, and diseases of the mediastinum by Marfan. The articles are all worthy of their authors and are of the high grade which characterizes most of the contributions to this exceedingly valuable system of medicine. A comparison of certain of the treatises with those in the first edition shows that the revision has been very carefully done.

RHINOLOGY, LARYNGOLOGY, AND OTOLOGY IN GENERAL MEDICINE. By E. P. FRIEDRICH, M.D., Leipsic. Translated from the German. Edited by H. HOLBROOK CURTIS, M.D. Pp. 348. Philadelphia: W. B. Saunders & Co. 1900.

THE author's object has been to point out the "interdependence between diseases of the entire organism and affections of the nose, pharynx, larynx, and ears." His

purpose has been well accomplished. The correlation of diseases of these special organs with general systemic diseases is well brought out and clearly and admirably stated. The author has drawn the material for his excellent work from an extensive personal experience and from a masterly survey of the recent literature. A critical analysis of the special chapters is hardly within the scope of this notice, but the reviewer endorses the opinion of the editor that no specialist in this line can well afford to neglect a careful study of the work, nor any general practitioner dispense with reading a book so pregnant with data bearing upon the proper interpretation of the symptoms of general systemic disease.

JOURNAL OF THE BOSTON SOCIETY OF MEDICAL SCIENCES. Vol. V., No. 5. Edited by HAROLD C. ERNST, A.M., M.D. 319 pages.

THE present issue of the *Journal* contains a study of the bacteriology and pathology of two hundred and twenty fatal cases of diphtheria, by Drs. W. T. Councilman, F. B. Mallory, and R. M. Pearce. The study closes with an elaborate bibliography and with a series of finely executed plates. It is a creditable publication of a progressive society.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, etc. Illustrated. Fourth edition; thoroughly revised; pp. 1,292. Philadelphia and London: W. B. Saunders & Co. 1900.

ALTHOUGH the preceding issue of this work appeared but little more than a year ago, the demand has compelled the publishers to bring out a fourth edition, which is in all respects a book adapted to the use of the general practitioner and student. It is eminently helpful in all its suggestions regarding diagnosis and treatment, and shows that the author is fully conversant with the difficulties which lie in the path of the family doctor. The articles are thorough, without falling apart from the weight of unimportant details which so often serve to confuse rather than instruct. This edition differs from the third in additions to and rearrangement of the text, while a few articles have been entirely rewritten. A thoroughly up-to-date and practical working volume like this cannot fail to appeal to the profession and gain a well-earned popularity.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE: a Contribution to the Pathology of High Blood Pressure, Headache, Epilepsy, Mental Diseases, Paroxysmal Hæmoglobinuria and Anæmia, Bright's Disease, Diabetes, Gout, Rheumatism and other disorders. By ALEXANDER HAIG, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women; late Casualty Physician to St. Bartholomew's Hospital. Fifth edition; with 75 illustrations; pp. 846. Philadelphia: P. Blakiston's Son & Co. 1900.

THIS well-known work, the fourth edition of which was issued about three years ago, again appears in an enlarged and enriched form. The author treats of the formation and excretion of uric acid, and deals with the problems with which this poison is associated, especially that of circulation. Headache, epilepsy, hysteria, asthma and bronchitis, alimentary gout, Raynaud's disease, anæmia, diabetes, heart disease, etc., are all studied carefully. He claims that the circulation is undoubtedly a truthful index of the amount of uric acid in the blood, and that by treating the patient with certain dietaries he can control almost perfectly the circulation and the conditions depending thereon. The book has numerous illustrations showing pulse tracings, the variations in the excretion of uric acid, etc., which make the text more readily understood.

A PRACTICAL TREATISE OF MATERIA MEDICA AND THERAPEUTICS, with Special Reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia. Fifth edition. Philadelphia: F. A. Davis Company. 1900.

DR. SHOEMAKER has made a new departure in this revision of his well-known treatise on materia medica by issuing two distinct books, one the students' edition, which is the one before us, the other to be called the physicians' edition, which will appear shortly. In the students' edition only the drugs and preparations which are official in the British or the United States Pharmacopœia are treated of, except incidentally as they may be derived from one of the standard preparations, the consideration of the newer, and as yet unofficial remedies being reserved for the physicians' edition. The system of weights and measures employed is very properly the metric, though the equivalents in the old system are also given in parentheses. The work is one of the best of its kind, and it improves with each revision.

FRENCH METHOD. By FRANÇOIS BERGER. New York: 1900.

THIS little book of almost two hundred pages is designed to give elementary instruction in the French language, and contains some illustrations.

GESUNDHEITSPFLEGE IM KINDESALTER. Von DR. JOSEPH TRUMPP, Privatdozent für Kinderheilkunde an der Universität in München.

THIS is a practical guide, adapted for the mothers and nurses of infants. It deals with the hygienic and dietetic management of the same. It also speaks of school hygiene and gymnastic exercises. The author's experience will add to the value of this interesting volume.

TERAPIA DELLE MALATTIE DELL' INFANZIA. By PROF. C. CATTANEO. Milano: Ulrico Hoepli. 1901.

THIS pocket edition consisting of five hundred pages has just appeared. It deals with the treatment of infantile disease and the exanthemata. It is arranged alphabetically, thus: acne comes first, and vulvo-vaginitis and zona end the little book.

EYE, EAR, NOSE, AND THROAT. By WILLIAM LINCOLN BALLENGER, M.D., and A. G. WIPPERN, M.D. Series edited by Bern. B. Gallaudet, M.D. Philadelphia and New York: Lea Brothers & Co.

To the practitioner desiring details in the management of the commoner diseases of the eye, ear, nose, and throat, this book can well be recommended. It is superbly illustrated. Great care has been given to anatomical illustrations.

THE MEDICAL NEWS 1901 VISITING LIST.

THE list received is arranged for thirty patients per week. A thumb index makes it easy to turn to daily records, memoranda, obstetric engagements, operations, vaccinations, deaths, addresses, and cash accounts. The usual tables of doses, antidotes, etc., appear. The binding is in imitation alligator leather.

FOOD AND DIETETICS. By ROBERT HUTCHINSON, M.D. New York: William Wood & Company. 1901.

THIS book embodies a series of lectures given at the London Hospital, to which the author has added many practical points.

Although it is especially designed for students and practitioners of medicine, it is well adapted to serve as a guide to any one desiring an insight into foods and food products.

A great many practical points in the chemistry and physiology of foods are carefully considered. The illustrations, especially the tables and the numerous recipes (for example, those for both subcutaneous and rectal feedings) will be found especially valuable.

This book is very neatly printed on good paper, and the illustrations are excellent.

THE PRACTICE OF MEDICINE: A Text-Book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By JAMES TYSON, M.D., Professor of Medicine in the University of Pennsylvania, and Physician to the Hospital of the University; Physician to the Philadelphia Hospital. Second edition, thoroughly revised and in parts rewritten. Pp. 1222, with 127 illustrations, including colored plates. Philadelphia: P. Blakiston's Son & Co. 1900.

THE author has taken the opportunity afforded by the demand of a second edition thoroughly to revise and enlarge his work. Like its predecessor, this edition shows the same clearness in description, the same good sense in treatment, for which Dr. Tyson is famous. The outcome of a long and busy career as a practitioner, laboratory worker, and teacher, this work cannot fail to please and beget the confidence of the reader.

As a working volume it meets all demands, being complete enough for practical purposes and yet not too exhaustive for the busy doctor. This issue shows additions in the articles on infectious diseases, nervous diseases, and diseases of the blood and vascular systems, which bring the work thoroughly up to date.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Sixty-second Regular Meeting, Held on Friday, March 1, 1901.

A. ALEXANDER SMITH, M.D., PRESIDENT, IN THE CHAIR.

A Case of Raynaud's Disease with Some Unusual Features.—DR. WALTER B. JAMES presented this patient, a boy eighteen years old, a grocer's clerk, who had always enjoyed good health and whose family history was good, with the exception that his father suffered from asthma. Last December the boy accidentally shot himself in the right temporal region. The bullet was supposed to have passed through the brain and was extracted in the opposite left parietal region by a trephining operation. The patient made a good recovery and five weeks after the accident he left the hospital, apparently in perfect health. About a week later he began to suffer from very severe pains in both feet. He then noticed that his toe nails were falling off, and in a comparatively short time—two or three weeks—he had lost them all. The pains grew worse, and superficial ulcerations developed in the anterior third of both feet. These healed very readily, but at the same time he showed the typical symptoms of erythromelalgia involving both feet. On walking, or when the feet were held in a dependent position, they became flushed and he suffered from intense burning, boring pains which quite disabled him; the flushing and pains disappeared entirely when he resumed the recumbent position. Dr. James said he was inclined to regard the case as one of Raynaud's disease, with unusual manifestations. Although the bullet in its course through the brain passed near if not through the supposed centres for the feet and legs, the speaker said he could see no direct connection between the accident and the subsequent symptoms involving the lower extremities.

DR. HENRY F. WALKER said the case presented by Dr. James was certainly interesting and the symptoms described were rather unusual. Whether they bore any relation to the injury of the brain which had been sustained just before their development he had no experience by which to judge.

DR. ROBERT ABBE said that in the record of this case he thought it important that the track of the bullet should be carefully noted, although it was difficult now to see any connection between the injury itself and the subsequent manifestations. Possibly they resulted from some injury to the terminal fibres of particular nerve tissues or to parts of the lateral ventricles. The symptoms were strikingly like those of syringomyelia, which represented a lesion of the central canal of the cord which was practically a continuation of the lateral ventricles.

DR. F. P. KINNICUTT said that it was difficult to trace any connection between the bullet wound of the brain and the development of the subsequent symptoms. The pathology of erythromelalgia was still obscure. The speaker said that about eight or nine years ago he had an attack of erythromelalgia, following influenza. The symptoms, which were quite typical, were confined principally to one leg. When the leg was held in a dependent position it became red and exquisitely painful. Dr. M. Allen Starr pronounced the case one of erythromelalgia. The symptoms persisted about three weeks and then disappeared entirely.

DR. JAMES, in closing, said the only explanation he had to offer for the occurrence of the symptoms after the accident was that the phenomena which we called erythromelalgia and Raynaud's disease and angioneurotic œdema were more or less closely allied, and it was quite reasonable to assume that, in the particular case under discussion, the shock of the injury was the determining factor in their production. In Dr. Kinnicutt's case the erythromelalgia followed an attack of grippe, which we knew left in its train various nervous phenomena. In another case of very pronounced erythromelalgia under the speaker's observation, the patient was a woman who, after her confinement, suffered from milk leg and subsequently underwent an operation for hemorrhoids. While recovering from this, she heard bad news from one of her children in the country, and soon afterward she began to suffer from erythromelalgia. The rational explanation in her case was that the combination of circumstances—the thrombotic leg, the operation for hemorrhoids, and the mental shock following it—were the causative factors in the production of the erythromelalgia.

A Case of Retained (?) Intubation Tube.—DR. J. E. TRAUB presented, by invitation, a girl who was intubated on February 25, 1900, for the relief of acute laryngeal obstruction of diphtheritic origin. Nine days later the tube was removed, but it was necessary to reintroduce it at once on account of a recurrence of the dyspnœa. Two weeks later an unsuccessful attempt was made to remove the tube, and on April 10th Dr. Barker, of the Willard Parker Hospital, tried to extubate and failed. Further attempts at extubation were deemed unwise, on account of the nervous condition of the child and an intercurrent attack of bronchopneumonia. About three and one-half months after the primary intubation, the child was able to articulate fairly well, but her voice was still somewhat impaired. She was croupy at times and had a somewhat metallic cough. In order to decide the question whether the tube was still in the larynx, the child was submitted to the *x*-ray a few days ago. The resulting negative failed to show the presence of any foreign body in the larynx. In reply to a question, Dr. Traub said the girl had no trouble in swallowing.

DR. ROBERT ABBE, after examining the negative, said there could now be no doubt that the tube was not in the larynx. He thought it had probably been swallowed and passed per rectum.

Some Fallacies in Therapeutics.—By DR. GEORGE L. PEABODY (see page 481).

DR. KINNICUTT said that Dr. Peabody's paper was both interesting and timely. Many physicians, no doubt, were in the habit of using drugs the efficacy of which was entirely *nil* and based upon insufficient knowledge or upon experimental investigations regarding them.

DR. BEVERLEY ROBINSON said that while he had a certain amount of scepticism regarding the value of many drugs, he was not entirely in accord with the statements made by Dr. Peabody. The value of a certain drug could not always be accurately and positively gauged by laboratory research or animal experimentation. The facts stated by Dr. Peabody regarding certain drugs were no doubt based upon scientific research, but while science was one thing, art was another, and in the practice of medicine nothing could take the place of practical bedside observation. For example, Dr. Robinson said, he had great faith in the efficacy of oxygen inhalations in respiratory troubles and in anæmia, and as for creosote he knew of no single remedy which was more beneficial in catarrhal and other conditions of the respiratory passages. Of course, much depended upon the way in which drugs were given; the preparation and method of administering drugs should receive just as careful attention as the preparation and taking of our food. As regarded ergot, Dr. Robinson said that in spite of all that had

been said to the contrary, he still believed that the drug had a certain effect in arresting pulmonary hemorrhage.

Dr. Joseph D. Bryant recalled two recent cases in which gas was freely employed, one of œdema of the lungs, the other in which no form of pulmonary obstruction was present. The first case was that of a physician who was fully conscious while the inhalations were given, and who repeatedly made the statement that they comforted him and relieved his dyspnœa. In the second case the patient was unconscious and unable to express any approval, but several observers who were watching the administration of the gas, one of whom was a physician, were very certain that it exerted a salutary effect on the breathing. Personally, Dr. Bryant said, he had not been able to detect any beneficial effect on the pulse, respiration, or circulation from the use of the oxygen, in either one of these cases, although he had no doubt of the fact in the former. The anxiety on the part of all concerned to realize benefit from its use, no doubt prompted in many instances the ill-founded belief in its efficacy in unsuitable cases. Dr. Bryant said he had read somewhere that ergot was not effectual for the purpose of checking pulmonary hemorrhage, for the reason that the arterioles in the lungs were without nerve filaments.

Dr. Andrew H. Smith suggested that the reputation gained by the bitter tonics as appetizers perhaps rested upon the fact that people who took them before meals ate in order to get the bitter taste out of the mouth. With reference to ergot, the speaker said that Dr. Peabody had not overthrown the old belief that ergot stimulated the circular fibres of the arterioles and produced in that way a certain degree of anæmia of the capillaries. It would seem, therefore, that the drug ought to prove beneficial for the purpose of controlling capillary hemorrhage. In hemorrhages from arteries centrally located—as for example an intestinal hemorrhage in typhoid fever—ergot could only make matters worse by constricting the arterioles beyond the point of lesion. Dr. Smith said he agreed entirely with Dr. Peabody regarding the value of oxygen. When the quantity of atmospheric air which could reach the air vesicles was less than the amount required, oxygen was indicated, and would almost certainly give relief. That the gas possessed no great power in itself to produce superoxygenation, the speaker said he once demonstrated to his own satisfaction by the following experiment: Four mice were confined for four days in an atmosphere of pure oxygen, and in order that there should be no accumulation of the expiratory elements, a continuous stream of oxygen played into the vessel in which they were confined. During the period of their confinement they apparently suffered no discomfort, eating and sleeping naturally and behaving as usual, and when they were removed they were apparently in the same condition as when they were put in. This experiment, Dr. Smith said, illustrated the impossibility of making the blood take up an excess of oxygen by the mere fact of affording an excessive supply to the lungs. This was also shown in cases of poisoning from illuminating-gas; in such cases the inhalation of oxygen had no effect whatever.

Dr. Kinnicutt said that he had the impression that potassium iodide was beneficial in certain cases of asthma. We were apt to be led astray, however, regarding the value of a certain drug, by our polypharmacal tendencies.

Dr. Walker said that while it had been claimed as proved many times that mercury exerted no effect on the liver, still in cases in which there was inaction of the liver he had customarily used the milder preparations of mercury, and with decided apparent benefit. It certainly seemed to increase the flow of bile, whether by irritation of the upper intestines or by direct influence upon the liver tissue itself he did not know. With regard to potassium iodide, the speaker said he believed he had seen cases of asthma and emphysema with asthmatic elements, which were benefited by its use; otherwise, excepting in syphilis and as a diuretic, he had not found it of particular service. He had never seen any effect from it when given for the purpose of absorbing old inflammations or in meningitis. As a rule, the physician, as he practised longer, was more inclined to limit the number of drugs he used, and his chief guide was his personal experience. Dr. Walker said that a number of years ago, while travelling in California with a party of friends, the only medicine he had with him was an ounce of the tincture of opium, and he made this answer for all ailments which came up, including pneumonia and cholera morbus.

Dr. Charles Stedman Bull said he was entirely in accord with what Dr. Peabody had said regarding lithium and creosote. He was perfectly convinced, from personal experience, that lithium, in any of its various combinations, was of very little use in gout. Creosote in pulmonary tuberculosis was beneficial only in so far as it improved the patient's appetite and allayed gastric irritation.

Dr. Abbe said he did not agree with Dr. Peabody's statement that surgeons had entirely discarded boric acid. Personally, he used it more than ever as an antiseptic of a mild type, and its value was proved in this regard in purulent ophthalmia, in which its effect could be noted. It was equally good as an antiseptic in surgical work in the nasal cavity and mouth. Dr. Abbe said that while serving as a hospital interne he was instructed to get the effect of tannic acid as a hæmostatic in menorrhagia, by administering it in the shape of gallic acid (into which the former is supposed to be converted in the body). The drug was given in capsules, in gr. xx. doses every two hours, and in many cases it apparently proved effective. Ergot undoubtedly exerted a decided action upon the arterioles. This fact the speaker said he had seen beautifully illustrated by its effect upon the circulation of a cock's comb, which under the influence of the drug was seen to change in color very rapidly, shrinking in size and wilting down under its arterial contraction. Hence it would seem to be a rational drug to administer in capillary hemorrhage. Some forms of bronchorrhagia were of this type, hence the drug might have occasionally proved efficacious, and obtained a slight ground for popularity, though it would be useless in severer arterial bleeding in pulmonary cavities.

Dr. William M. Polk said that a few years ago, when oxygen was quite extensively employed in combination with ether as an anæsthetic, he noticed that it seemed to interfere somewhat with the coagulability of the blood. It apparently had a tendency to promote bleeding; at any rate, the hemorrhage could not be otherwise accounted for. In connection with the effect of drugs in general, Dr. Polk said that at one time, when he had the honor to teach materia medica and therapeutics, he had derived much comfort from a suggestion made by Dr. Smith that in the giving of drugs each individual must be judged by a separate physiological standard. This was undoubtedly true regarding many drugs. It was particularly true in the case of calomel. Some persons, especially those who were suffering from chronic malarial poisoning, could not get along without an occasional dose of this drug.

Dr. Andrew H. Smith asked whether Dr. Peabody would not admit that the circulation of the liver might be influenced by the use of mercurials, without admitting their property as cholagogues. If there was anything in medicine that we were fairly certain about, it

was that the hemorrhoidal veins were relieved in a measure by a good dose of blue mass. This seemed to indicate that the drug exerted some influence upon the liver, by acting upon its circulation if not by stimulating its function.

Dr. Peabody, in closing, asked Dr. Robinson whether his faith in oxygen as a remedy in anæmia was well founded. We knew that anæmia might be benefited without oxygen, by a great variety of drugs and conditions: by iron, by arsenic, by exercise, by rest, by diet, by intestinal antiseptics, etc. The oxygen was, of course, harmless, but its great expense should always be borne in mind. There could be no question as to its value in œdema of the lungs. There we had to deal with an obstructive condition. The speaker said he had seen immense benefit follow inhalations of oxygen in miliary tuberculosis, with its intense bronchitis; he had seen a patient blue and cyanotic from carbonic-acid-gas poisoning immediately relieved by it. In short, it was of enormous value in obstructive conditions. These included certain cases of pneumonia, emphysema, and cardiac trouble. As to the value of creosote in pulmonary tuberculosis, Dr. Peabody said he wished to limit his remarks to the internal administration of the drug. As to what it did by inhalation, he was not prepared to say; it might have some local effect on the pulmonary tissues, just as turpentine inhalations unquestionably exerted a beneficial effect in gangrene of the lung. As to whether creosote could have an antibacillary effect when taken internally was hardly worthy of discussion. It had to be in the strength of 1:4,000 in the blood in order to inhibit the growth of bacilli, and we could not give it in any such quantities. What it actually did was to improve the digestion of the patients; they could take food and cod-liver oil better and suffered less from indigestion. As to ergot, Dr. Peabody said his criticisms regarding its use had been confined to cases of pulmonary hemorrhage only. He freely admitted that it controlled capillary hemorrhage, in the intestines and uterus particularly, but it was absolutely useless in pulmonary hemorrhage. The capillary vessels in the lungs had no nerves and did not contract under the influence of the drug, and arterial pressure being raised by it, arterial bleeding was likely to be aggravated. Dr. Peabody said his remarks regarding potassium iodide had been misunderstood. He had said that this drug was decidedly beneficial in the treatment of asthma, but that it was of no use in emphysema, excepting when there was high arterial tension, when the potassium element might do good and possibly might relieve the bronchial spasm; but in old cases, without undue arterial tension, it was more likely to do harm. The drug, therefore, should not be given indiscriminately in emphysema. As regarded mercury and its effect on the liver, Dr. Peabody said that all he claimed was that the mild mercurials were really hepatic sedatives and did not increase the amount of bile formed in the liver; but they were of value in biliousness for the purpose of removing bile from the body, because they hastened peristalsis and caused the discharge of a large amount of bile per anum, much of which would otherwise he reabsorbed and go back to the liver. They probably did not regulate the circulation of the liver; in fact, we knew of nothing that would do that without influencing the circulation in general. Mercurials diminished the amount of bile secreted by the liver and hastened its elimination by the bowels.

Therapeutic Suggestion succeeds in night terrors, somnambulism, nocturnal incontinence of urine, and other pathological states of sleep. It also acts unless the subject is already under strong auto-suggestions, is hysterical or hypochondriacal.—Froemner.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 21, 1901.

Robert F. Weir, M.D., President.

The Modern Treatment of Gonorrhœa and its Complications and Sequelæ.—This was the subject for the evening's discussion.

Acute Gonorrhœa.—Dr. G. K. Swinburne took up the subject of acute gonorrhœa. He insisted strenuously upon the necessity for individualizing the treatment of this disease. The day had gone by when all urethral discharges were treated empirically; the differential diagnosis should be made with the microscope. An easy method of staining the gonococci was with methylene blue. A saturated solution of methylene blue in absolute alcohol should be kept as a stock solution. A few drops of this added to an ounce of water would be sufficient for making many stains. In a few cases coming very early under observation he had found no gonococci, and had, therefore, been led to make a diagnosis of a non-specific urethritis. A few days later the microscope had shown a pure culture of gonococci. A single injection of protargol would often cause a disappearance of the gonococci for twenty-four hours. Acute gonorrhœa was a self-limited disease, but by improper treatment or lack of constitutional vigor the disease was apt to last for an indefinite period. Some patients would recover under inefficient treatment, or even under no treatment; but, as a general rule, the earlier the diagnosis of gonorrhœa could be made, and efficient treatment instituted, the sooner would a satisfactory cure be effected. There was a vast difference between a first attack and the subsequent ones, in their reaction to treatment. Hot irrigations had been found to be soothing to the urethral canal, and he made use of a 1:4,000 solution of permanganate of potassium. The temperature should be between 105° and 110° F., and gradually increased to 120°. The test of the irrigation was its effect on the patient; it should be non-irritating. Protargol should be used in the strength of one-half to two per cent., the strength being graded according to the effect on the patient. It should not be irritating, and it was often useful for the first few days to employ a mixture of protargol and cocaine solution. For the first three or four days the injections should be given twice a day; then the treatment should be given once a day for a week, and after this at increasing intervals, until by the fourth or fifth week there was only one treatment a week. The patient was then instructed to drink beer freely for several days, to determine whether it would set up a fresh urethral discharge. Dr. Swinburne personally preferred to begin local treatment at once, no matter what the stage of the disease. The utmost gentleness of manipulation and great patience were requisite in the successful treatment of gonorrhœa. As soon as the posterior urethra had become invaded it was his practice to treat that part locally, giving a daily treatment. When the catheter could be used without discomfort to the patient it was useful, but when it caused irritation its introduction often caused more harm than did the disease. Instead of forcing the fluid past the compressor muscle, the patient should be instructed how to relax this muscle at the right moment. Some cases of posterior urethritis could be best treated by the deep instillation of protargol solution.

Chronic Gonorrhœa.—Dr. John Van der Poel discussed this subject. The treatment, he said, was practically that of the acute disease, except that greater liberty could be permitted in diet and exercise. In anæmic and poorly nourished individuals general tonics and alcoholic stimulants, with proper exercise in the open air, would often be more beneficial

than local applications. Alkalies and diluents for the scalding urination were indicated, and later the oleoresins. One should avoid unnecessary instrumentation, and should secure sufficient rest between the treatments. The local procedures should be directed against the gonococci or other micro-organisms that might be present, and also against the results of the attack of these organisms. The best remedy for the destruction of gonococci was protargol. The ordinary urethral syringe was not sufficient for a thorough washing. Much to be preferred was the system of irrigations with a fountain syringe. If the posterior urethra was involved, the irrigation must reach the bladder, and to overcome the spasm of the compressor muscle it was well to use a solution of cocaine. When there was much scalding, it was well to avoid instrumentation. For anterior urethritis the protargol should have a strength of 0.5 to 1.5 per cent., and the quantity should be 500 to 1,000 gm.; for posterior urethritis the strength should be one-half to one per cent., and the quantity 200 to 500 gm. This treatment should be given daily. The strength of the solution should be gradually diminished, and the interval lengthened. When secondary infection was present, he employed dilute solutions of bichloride of mercury. When all micro-organisms had disappeared, weak astringent solutions of acetate of zinc, acetate of lead, or sulphate of zinc were beneficial. When there were patches of inflammation in the urethra, the application of nitrate of silver in the strength of one-half to five per cent., or of sulphate of copper of the same strength, was to be recommended. From two to ten minims should be used, one, two, or three times a week. The sphere of the endoscope was limited, but not so limited as many would have us believe. Generally speaking, this instrument should not be used until other methods had failed, or there were special indications for its use. At times, instrumental dilatation and injections should be combined, either special dilators or the ordinary urethral sounds being used. The best astringents were bichloride of mercury, silver, and Ultzmann's solution. A sudden increase of discharge containing gonococci probably indicated that a new focus had been broken open. In general, the dilating sounds should not be used while micro-organisms were present. Chronic inflammation of the posterior urethra rarely remained superficial. Involvement of the prostate was of very frequent occurrence. Here prostatic massage and irrigations should be employed.

Complications of Posterior Urethritis.—Dr. J. Pedersen discussed this topic. He said that the underlying principle of treatment was to avoid whatever would directly or indirectly cause hyperæmia of the genital apparatus. By this it was meant that one should endeavor to secure recumbency, an antiseptic state of the urine, the use of a milk diet, abstinence from alcohol, tobacco, and coffee, and avoidance of instrumentation or irrigation. In the treatment of urethrocystitis the urine should be made as bland as possible, and this implied the use of a milk diet, the free ingestion of water, and the internal administration of urinary antiseptics. The best of the last was salol, given in full doses. Hyoscyamus or morphine might be required. A fair proportion of the patients did well without any local treatment, while others would be improved by hot irrigations with a double-current irrigator. In the more severe cases a catheter should be very gently introduced, and a drachm or two of a solution of nitrate of silver, of the strength of one-half to one grain to the ounce, should be instilled. This usually gave great relief, but if it did not, a one-per-cent. solution of protargol should be substituted. Irrigation of the bladder from the meatus, with a warm solution of boric acid or other mild antiseptic, could sometimes be performed without causing much discomfort; but ordinarily this procedure was painful and irritating, and should then be avoided. Irrigation of the bladder from the meatus, it should be remembered, was dangerous under these conditions, because of the danger of driving some of the fluid into the ureters, thereby exposing them to infection either by contact or by the induced hyperæmia. Acute general cystitis was an infrequent complication of posterior urethritis. If possible, instillations should not be employed in the early stages. Forcible irrigation of the bladder should be condemned. The treatment of ureteropyelitis consisted in the application of fomentations, cupping, diaphoresis, and catharsis. Resolution was the rule in recent cases. Gonorrhœal inflammation of the spermatic cord was also a common complication. The treatment usually consisted in suspension of all direct treatment of the urethra, recumbency, the application of an ice bag or of an evaporating lotion, and the administration of a mercurial purge. In the subacute and chronic cases, whether or not suppuration had occurred, moist heat would favor resolution. If the patient would at once go to bed as soon as there was aching in the groin, and would have an ice bag applied to the part, he might be spared an epididymitis. In the first twenty-four hours an ice bag was indicated, but if the case was not seen until later, or if the ice bag failed to give relief, warm applications should be substituted. In the later stages, mercury and iodide of potassium should be employed. Suppuration was not common. The ordinary suspensory bandage was not sufficient for these cases; the scrotum should be reflected up over the pubis, and by means of a sling attached to a band around the waist the testicles should be given thorough support. In acute prostatitis, relief would often be afforded by frequent irrigations with hot decinormal saline solution. The indications for the treatment for acute seminal vesiculitis were the same as for acute prostatitis, with the addition of measures to relieve the annoying and persistent priapism. Gonorrhœal rheumatism might occur at any time in the course of an anterior or posterior urethritis. Internal medication was directed chiefly against the constitutional disturbance. Oil of gaultheria would seem to be the most reliable of the antirheumatics. The local treatment was important. Immobilization by splints, counterirritation, and cold were indicated in the early stages; later, poultices and compression were in order if effusion had occurred. Still later, massage and passive motion should be employed. In the severest cases of suppuration, arthrotomy, irrigation, and drainage might become necessary. The treatment of the urethritis should be active, though conservative. Instrumentation in acute urethritis seemed often to precipitate an attack of gonorrhœal rheumatism in a predisposed individual.

Gonorrhœal Conjunctivitis.—Dr. W. A. Holden read this paper. He said that in from one to four days after infection the first signs manifested themselves—swelling of the eyelids and a watery discharge. A day or two later a thick, creamy, purulent discharge filled the conjunctival sac and poured out of the aperture of the lid. In this early stage the conjunctiva sometimes sloughed very rapidly. When a patient with suspected gonorrhœal conjunctivitis was first seen, the discharge should be examined microscopically, thus perhaps saving much needless anxiety. At the very beginning a single application of a two-per-cent. solution of nitrate of silver or of a fifty-per-cent. solution of protargol might cut short the attack. The most essential portion of the treatment was the almost constant use of ice cloths and the very frequent washing out of the eye with a saturated solution of boric acid. The cornea should be inspected at least once a day, and at the very first sign of haziness the cold applica-

tions should be decreased or hot applications substituted. Protargol might be employed from the beginning of the disease, being applied to the everted lids. When ulcers of the cornea developed, they should be touched with tincture of iodine, carbolic acid, or the actual cautery. Such cases were most successfully treated in hospitals.

Gonorrhœal Stricture of the Urethra.—Dr. J. R. Hayden took up this topic. He said that the best routine treatment for recent or fairly recent cases of gonorrhœal stricture was gradual dilatation with proper irrigations. If such treatment, after having been given a faithful trial, should fail, then cutting operations would be demanded. Stricture of the meatus, or near this point, did not generally yield to dilatation, and must, therefore, be cut under cocaine anæsthesia. The incision should be made downward in the median line, and the urethra should then be irrigated and dilated. If a stricture in the pendulous urethra was soft and yielding, it should be treated with soft bougies at intervals of a few days, until a No. 18 bougie could be introduced, when steel sounds should be employed. If such treatment failed, internal urethrotomy should be done. The important point to remember was that the cutting instrument should be held firmly in the median line and the urethra kept on the stretch during the division of the stricture. The stricture should be cut until a calibre of No. 25 or 30 had been secured. If after the operation there were any signs of urethral fever, all of the urine should be drawn with sterilized catheters and the urethra washed out with a warm antiseptic solution, while urinary antiseptics should be given internally. For obstinate and tough strictures of the deep urethra, external urethrotomy should be done. The patient should be prepared for the operation by a few days' rest in bed on a light and non-stimulating diet. If possible, a tunnelled sound or a filiform bougie should be introduced as a guide, and the incision into the urethra made upon this guide from without. All strictured tissue should be excised, and a full-sized sound introduced into the bladder at the close of the operation. A perineal drainage tube should be inserted. This was ordinarily removed permanently on the fourth or fifth day. Usually at the end of a week most of the urine would pass through the meatus. A sound should be introduced every second or third day, and a sound should be passed on such a person at intervals of from six to twelve months for the rest of his life. If the stricture would admit of the passage of a filiform bougie, it might be used as a guide for the passage of a number of instruments. This was known as rapid dilatation—a method which was never free from risk. Continuous dilatation was occasionally useful in selected cases. Electrolysis was useful in only a few soft, dilatable strictures, and was mentioned here only to be condemned.

Dr. Robert W. Taylor said he thought the tendency of to-day in medicine was to forget many useful things well known to our forefathers. He was not one of those who was impressed with the necessity for aborting or jugulating gonorrhœa. The treatment of gonorrhœa should not be too active in the first stage. Genito-urinary surgeons had passed through a very heated term some years ago concerning the bichloride-of-mercury treatment, and very few of the former advocates of that treatment would be willing at the present day to stand by the statements they then made. The early use of copious injections of permanganate of potassium did harm by their mechanical action. In the speaker's opinion, it was much better in the first week to soak the penis frequently in hot boric-acid solution. The diet and bowels should be regulated and alkalies prescribed. As soon as the inflammatory symptoms had subsided, it was well to use warm lead water, and to remember that, no matter how little we knew of the rationale of their action, antiblennorrhagics were useful when substituted for the alkalies. He was inclined to hold that strong solutions of protargol would not be used so much if nitrate of silver was employed in an efficient manner. He had no fondness for these bastard and emasculated preparations of silver. He would begin with a solution of nitrate of silver 1:32,000, and using one or two ounces, would irrigate the urethra once or twice a day. If the patient suffered no special discomfort, and the discharge diminished, one might be sure that the treatment was well adapted to the case. The strength of the solution should be gradually increased until at the end of five or six weeks instillations of 1:500 solution of nitrate of silver might be used. Long-standing cases required solutions of acetate of lead, sulphate of zinc, or sulphate of copper. Here these were invaluable, but in general the rules laid down, he knew from a long experience, would prove most satisfactory.

Dr. B. Lapowski said that protargol could never reach the gonococci situated deeply in the tissues. The different results of treatment of gonorrhœa in the urethra and gonorrhœal inflammations of the conjunctiva were dwelt upon, and this was attributed to the greater ease with which the gonococci could be reached in the conjunctiva. The aim of the physician should be to locate the deeply lying foci of gonococci in the urethra. The speaker laid stress upon the point that the microscope did not always demonstrate the presence of gonococci. Certain of these organisms, he said, did not take the Gram stain, and they appeared under the microscope as involution forms. To determine absolutely whether or not a gonorrhœa had been cured, and that it was permissible for the individual to marry, culture tests must be made.

Dr. Ramon Guiteras said that not infrequently fresh infections of gonorrhœa arose from hidden foci, usually in the posterior urethra, though sometimes in the anterior urethra. This explained some cases in which the patient was positive that there had been no exposure to new infection, and was sure that this trouble was due to a "strain." Some years ago he had seen many cases cured, or apparently cured, by copaiba and sandal-wood oil. Zinc, lead, opium, and other astringents would always find a useful place in the treatment of gonorrhœa. Of the lately introduced so-called specifics, he looked upon protargol as by far the best. It was the best remedy for introduction in solution into the urethra. As a rule, all solutions containing silver salts were much better than other solutions. With permanganate-of-potassium injections he believed gonorrhœa could be more effectively treated than by any other means. The hydrostatic pressure should be carefully and intelligently regulated, and if this was done, it would be possible after two or three trials to irrigate the bladder as well as the urethra without undue shock to the compressor muscle. Since these permanganate injections had come into vogue, urethral strictures had been very much fewer, yet seminal vesiculitis was certainly more common.

Dr. Charles Chetwood asserted that there was no routine treatment equally suitable to all cases of gonorrhœa. The two treatments directed against the microbic factor of the disease embraced (1) an abstinence from all local measures for several weeks, with the object of allowing the micro-organisms to become attenuated, and (2) the antiseptic method. He had become a convert to the latter because he had learned that, when properly employed, it decidedly curtailed the duration of the disease, and rendered it less likely to be followed by complications than was any other method in vogue. The purpose was not to destroy the gonococci after one or two applications, but to destroy the free gonococci in the urethra and render the urethra a poor

culture medium for the micro-organisms. Clinical experience had proved that it did really accomplish this. He objected strongly to forced irrigation without a catheter in acute urethritis. The treatment should be confined entirely to the anterior urethra in the first five or six days of the disease. At the end of the first week, even though the disease had not reached the posterior urethra, it would be so close to this part that treatment of the posterior urethra would be justifiable as a prophylactic measure.

Prophylaxis of Gonorrhœa.—Dr. Bischoff spoke of the prophylactic treatment of gonorrhœa. The chief source of infection, he said, was the prostitute, and, although prostitution was difficult to control completely, one should not hesitate to do what was practicable in this important field. From a study of the measures employed in Berlin, he had been led to think that the failure there was because it was entirely a police measure, and also because medical supervision and treatment did not go hand-in-hand. He thought a good deal more could be accomplished here by placing this matter in the hands of our sanitary authorities. The subject of personal prophylaxis of gonorrhœa had received attention only in recent years, and that abroad. Frank, in a series of experiments covering six cases, had been able to prove that it was possible to abort gonorrhœal infection. This he had done by inoculating six males with gonorrhœal pus, and using immediately afterward in three of them an injection consisting of a twenty-per-cent. glycerin solution of protargol. These three did not develop gonorrhœa, while the other three who had not been so treated, in order to serve as a control test, had developed the disease. The speaker said that he had employed a quick cure devised by Frank. It consisted in flushing the urethra with certain solutions. Frank had reported that in sixty cases a cure had been effected in three days. The treatment was still experimental, and could be employed only in selected cases.

Use of Picric Acid.—Dr. Hill said that nothing had been said about the use of picric acid in chronic gonorrhœa. He had used it in a considerable number of cases during the last year, and had found that when the mucoid stage was present, and it was very difficult to clear it up—in other words, when the posterior urethra was involved and there was a peculiar fibre floating in the urine, and floating readily in this fluid—picric acid should be used in the strength of 1:1,000 or 1:2,000. About ℥ lx. should be used for each instillation.

Dr. Ferd. C. Valentine expressed the opinion that there were various forms of the gonococcus, and the reason why certain preparations acted so brilliantly in particular cases was because each of these preparations was a specially potent destroyer of a particular form of the gonococcus. He objected to the use of cocaine preliminarily to either instrumentation or injections into the urethra. It might relieve pain temporarily, but most persons in whom it was employed experienced more prolonged pain afterward than those in whom cocaine was not used. Far better than the use of such anæsthetics was the uniform employment of extreme gentleness in all manipulations in the urethra.

SECTION ON SURGERY.

Stated Meeting, March 11, 1901.

John B. Walker, M.D., Chairman.

Acute Appendicitis in the Presence of Tuberculous Peritonitis.—Dr. Howard Collins presented this case. The patient was a man who had come under observation in hospital, about the middle of February. On making an incision at the outer edge of the rectus muscle and opening the abdomen, the speaker had been struck with the absence of fluid. Closer inspection had shown the coils of intestine to be covered with miliary tubercles. The appendix contained five fecal concretions but no tubercles. The patient had made a good recovery from the operation on the appendix, and his general condition had improved, though there was a slight daily febrile movement.

Tuberculosis of the Vas Deferens and Seminal Vesicle.—Dr. Victor C. Pedersen presented a man forty-seven years of age, who had been admitted to the hospital on December 7, 1899, and had been operated upon by Dr. Weir. Three weeks before admission an abscess had formed, and had broken into the scrotum. Examination had shown the testicle and epididymis to be enlarged and nodular. The sinus left by the abscess admitted a small probe. The vas deferens was nodular in the scrotum, canal, and pelvis. The urine did not contain tubercle bacilli. On December 12, 1899, Dr. Weir had done a castration and an ablation of the diseased area. The diseased testicle and the stump of the vas deferens had been enucleated. Certain sinuses had been left after the operation, and when the patient had been next seen, on June, 1900, these were still leaking a little urine and fæces. The urine was still cloudy and clear by turns, the three-glass test showing quite turbid urine and shreds in the first, a little less turbidity in the second, while the urine in the third glass was almost invariably perfectly clear.

A Case of Double Penis Combined with Exstrophy of the Bladder.—Dr. Carl Beck presented a small infant suffering with this rare condition. He said that only a very few similar cases had been reported.

Fissure of the Upper End of the Humerus.—Dr. Beck also presented this case, occurring in an elderly woman, who had fallen about five weeks ago, striking the right elbow on the pavement. There had been ecchymosis at the elbow at the time, suggesting a fracture there, but no fracture had been found at this point. When examined by Dr. Beck, four days later, there had been absolutely no objective symptoms of fracture, except a slightly abnormal mobility in the region of the head of the humerus. The pain here was intense. There was, however, no swelling or deformity. A skiagraph of the case was presented, showing a fissure line running downward and inward from the tubercles to about the surgical neck of the humerus. A skiagraph taken two weeks later, and viewing the bone from the back, showed a line which might lead one to look upon the case as one of fracture of the anatomical neck. The second skiagraph showed also chips of bone—a condition which he had not infrequently met with in other cases supposed to be only examples of contusion. When such chips of bone could be made out, the massage treatment for sprains would be manifestly inappropriate.

Osseous Cyst of the Tibia.—Dr. Beck also presented a case of osseous cyst of the tibia. He said that such cysts unfortunately resembled very closely osteosarcoma, though they were themselves benign growths. The proper treatment was incision and evacuation of the cyst, not amputation as in the case of osteosarcoma. The history of the two conditions was also not dissimilar. The diagnosis was sometimes made by an exploratory incision, but his own studies had led him to believe that it would be possible, after a more extensive experience, to make the diagnosis by the aid of the *x*-rays. The cortex of an osseous cyst would be found distended, but not irregular, as in the case of an osteosarcoma. The case presented was that of a young boy, who seven months ago had fallen into a street excavation. In two days he had been able to walk around. Shortly afterward he

had fallen again, and had then been confined in bed for some time. A few months after this, he had fallen for the third time, and had been confined to bed for six weeks. A surgeon had seen the boy at this time, and had told the mother that there was a malignant growth present. Certainly that was the appearance of the case, but after an examination with the *x*-rays Dr. Beck said he had felt justified in advising an exploratory operation. On incision, viscid bloody serum had been evacuated, and after curettage the bony walls had been so thin that they could be easily brought together by pressure with the hands, thus obliterating the cavity. Healing was now nearly complete.

Dr. John F. Erdmann said that from his examination of the case of exstrophy of the bladder he had been led to suspect the presence of a third ureteral orifice, and he would like to hear a subsequent report on this point.

Indications for Ligation of the Jugular Vein in Sinus Thrombosis.—Dr. Fred Whiting read this paper, and presented illustrative cases. The author divided sinus thrombosis into three stages, viz., a first stage in which there was a parietal thrombosis, partial or complete; a second stage in which the thrombosis had undergone disintegration, with septic absorption; and a third or still more advanced stage of pyæmia. The second stage was essentially a condition of septicopyæmia. The very high temperature indicated the degree of pyæmia present. The nearly vertical lines of elevation and remission on the temperature chart in the stage of septicopyæmia constituted a most characteristic picture. These rapid fluctuations in temperature, associated with rigors and followed by colliquative sweats, were characteristic of the second stage. Sometimes the sweating continued almost uninterruptedly during the second stage, and this incessant drain rapidly weakened the individual. Neither the pulse nor the respirations presented anything especially characteristic. Vertigo and vomiting were present in a moderate proportion of cases which were uncomplicated, but were much more common in cases complicated with meningitis. They were present at times only when the patient was in the erect posture, while at other times they were observed while he was in the recumbent position. Consciousness might be lost very early, or it might be retained up to death. A mild form of delirium did not necessarily imply greatly increased gravity, but if prolonged and increasing in severity, the prognosis was bad. Septic pneumonia and enteritis, with albuminuria and affections of the pericardium and pleura, were occasionally encountered, and usually indicated a rapidly approaching fatal termination. Engorgement of the veins tributary to the dura mater, and tenderness in the upper portion of the posterior cervical triangle, he had found uniformly present, and looked upon them as important signs. They usually meant that thrombosis had already extended into the upper part of the jugular. The so-called Griesinger symptom consisted in an œdema of the occipital region, extending downward and implicating the nape of the neck. It should not be confounded with the ordinary œdema of the mastoid region, occurring in uncomplicated cases of mastoiditis. When the finger was laid across the external jugular with sufficient pressure to obstruct the flow of blood in the vein, it would be noticed that the jugular on the affected side would not show the prominence that it did on the well side. This sign was best elicited by pressure made just above the clavicle. Tenderness along the course of the internal jugular vein in the neck was a symptom developing late in the second stage, or at the beginning of the third stage. When peripheral thromboses were present, the diagnosis became distressingly clear, and correspondingly hopeless, unless prompt resection of the jugular was done. The speaker said he believed that ligation of the internal jugular should be practised much more frequently than had usually been done by general surgeons and even by otologists. He asserted that it was the duty of the operator to qualify himself for such work, and not to hesitate to do these extensive and radical operations in most cases of the class under consideration. Intravenous infusion had greatly diminished the danger of shock, and his own experience had led him to believe that the infusion of a very hot saline solution (135° F.) was especially useful as a means of stimulating a flagging heart. His own opinion was that ligation of the jugular should be practised whenever a clot in the sinus had invaded the bulb, irrespective of recognizable purulent disintegration. When a clot formed farther back, it was easy to assure one's self that all septic products had been eliminated, but this was not the case when the bulb had been invaded. Ligation of the jugular was indicated also in the presence of a clot, irrespective of its situation, if pronounced symptoms of septicopyæmia were already present. It should, of course, be performed when the thrombus had undergone purulent disintegration, even though the bulb were apparently free from involvement. Ligation of the jugular was also indicated when the thrombus was situated far back toward the torcular, and there were visible respiratory movements of the parietal thrombus wall. The presence of embolic metastases, and the appearance of circumscribed infiltration along the course of the internal jugular, were pathognomonic signs of pyæmic sinus thrombosis, and jugular ligation should be at once performed as a judicious prophylactic measure.

Dr. Percy R. Bolton said that it had always seemed to him that if the internal jugular was to be tied at all, it should be done as the first step of the operation, and that the vein should be resected as well as ligated.

Dr. J. A. Blake took the same ground regarding the advisability of breaking the continuity of the jugular vein, and doing this at the beginning of the operation. He thought there must be great danger of detaching infected particles during the operation, and if the vein had not been already ligated this should lead to metastases. He understood that there had been a higher percentage of recoveries from operations in which the vein had been ligated.

Dr. Francis J. Quinlan was of the opinion that in cases of acute mastoiditis, the inspection should embrace the antrum and cells.

Dr. Whiting said that, in the use of the term jugular ligation, he assumed that every one would understand that at the present day this included jugular resection. He thought that the symptoms of sinus thrombosis would have to be clear and unequivocal to justify resection of the jugular as a preliminary to operating upon the skull. If this rule were not followed, one might have the unfortunate experience of obliterating and removing the jugular, only to find on entering the skull that there was no sinus thrombosis there.

Benefit of Operation.—The president related the case of a patient with some obscure form of abdominal disease. The abdomen was opened, and on examination it was found that the whole of the visceral and parietal peritoneum was studded with little masses like grains of sago. The patient made a rapid recovery from the laparotomy, and got completely well. The explanation given by the pathologists was that the tubercle bacilli being anaerobic, the exposure of the peritoneum to light and air had the effect of destroying the organisms.—Royal Academy of Medicine of Ireland.

Therapeutic Hints.

Chloroform has been found a valuable vermicide in doses of four grams—thirteen cases.—LEICHTENSTEIN.

Diuretic and Anti-Uricæmic Pills.

℞ Ext. stigmat maidis,
Ext. convallariæ maialis,
Sodii benzoat.,
Lithii carbonat.....āā 3 gm.
M. ft. pil. No. lx. S. Give from four to ten daily.
—HUCHARD.

Bronchitis (subacute).—

℞ Strych. sulphat..... gr. ss.
Codeinæ..... gr. ij.
Terpin. hydrat..... gr. xxiv.
Guaiacol carbon..... gr. xl.
M. ft. caps. No. xii. S. One every three hours.
—*Clinical Excerpts.*

Agoraphobia is best cured by hypnotic suggestion. Two instances in which there were nervous symptoms when the patients entered churches, theatres, shops, etc., with depression, anxiety, etc., are reported cured. —TUCKEY.

Chloralamid may be given as a hypnotic in insomnia of neurasthenia or of mild insanity, in the following combination:

℞ Chloralamid..... 3 ij.
Spts. frumenti,
Syrupi rubæ idæi.....āā ℥ i.
M. S. One-half teaspoonful at a dose. Two or three times this sized dose can be given if necessary.
—CLEVENGER.

Wax in the Ear.—Instead of the slower procedures with oil, glycerin, and soapsuds, use for about five minutes before syringing a half-strength peroxide-of-hydrogen solution.

Eczema.—

℞ Pulv. calaminæ..... 3 i.
Ung. zinci.....ad ℥ i.
—STELLWAGON.

When much itching is present:

℞ Vini opii..... 3 i.
Liq. plumbi subacet..... ♏ xxxvi.
Aquæ rosæ.....ad ℥ viij.
M. S. Apply.
—SMITH.

Follicular Pharyngitis.—

℞ Iodi,
Potass. iodidi.....āā gr. iij.
Acid. trichloracetic..... ♏ vij.
Glycerini,
Aquæ.....āā 3 iv.
M. S. Apply locally, varying the strength according to conditions present.

Creosote Wine.—

℞ Creosot..... 3 ss.
Tinct. gentian..... 3 i.
Spir. vini rect..... 3 viij.
Vini xerici.....q.s ad O ij.
To be used several times a day unless much fever be present.
—*Nouveaux Remèdes.*

Pruritus Ani.—

℞ Sodii hyposulphit..... 30
Acidi carbolici..... 5
Glycerini..... 50
Aquæ..... 450
M. S. Apply frequently by means of wet compresses.
—*Practitioner.*

Phthisis.—It seems to me that there is an analogy between cases of tuberculous peritonitis cured by operation and exposure to air and light, and lung cases, and if it is agreed that these organisms are anaerobic, and are destroyed by the influence of pure air, we must recognize that the open-air treatment is a distinct and specific treatment. We must remember, as Sir J. W. Moore has pointed out, that in addition to open air there must be sunshine, and that the air must be pure and must be still.—SIR CHRISTOPHER J. NIXON.

Fetid Breath.—

℞ Thymol..... gr. viij.
Spir. vini rect..... ℥ i.
Glycerini..... ℥ ss.
Formol..... gtt. viij.
Aquæ.....q s. ad ℥ viij.
M. S. Use as mouth wash, especially when fetor is due to decaying teeth.

Orchitis.—

℞ Lanolin..... 40 parts.
Guaiacol..... 5 "
Methyl salicylate..... 20 "
M. S. Apply.

Hypnotism is highly recommended in chronic constipation in women, which is curiously very favorably influenced by suggestion.—FROEMNER, *Soc. Méd. de Hambourg.*

Primary Tuberculosis of Larynx.—

℞ Acid. phenic..... 1. gm.
Iodi..... 0.05–0.10 "
Potass. iodidi..... 0.10–0.25 "
Tinct. opii..... 1.–2. "
Glycerini..... 45.–120. "
M. S. Use a teaspoonful in a glass of tepid water morning and night.
—SENESSE.

Pernicious Anæmia.—

℞ Fowler's solution..... 3 iss.
Acid phosphate..... 3 iij.
Bone-marrow extract..... ℥ viij.
M. S. Dessertspoonful after each meal.

Malaria, Fever, Bronchopneumonia, Pertussis.—

℞ Quininæ hydrochloro-sulphat..... 2.50 gm.
Aq. destil..... 10. "
M. S. Inject 1 to 2 c.c.
—GRIMAUX.

Or—

℞ Quininæ sulphat. (neutral)..... 10 gm.
Aq. destil..... 120 "
M. S. Inject 5 to 10 c.c.
—MAURANGE.

Or—

℞ Quininæ sulphovinat..... 2.50 gm.
Aq. steril..... 10. "
M. S. Inject 1 to 2 c.c.
—HUCHARD.

Fetid Bronchitis and Pulmonary Gangrene.—

℞ Myrtol..... 10
Ol. olivæ steril..... 100
M. S. Inject hypodermically 10 c.c.
—MAURANGE.

Neurasthenia.—

℞ Sodii phosphat..... 1
Aq. laurocerasi..... 50
M. S. Inject 0.10 to 1 gm. daily.
—CROCQ.

Sialagogue and Sudorific.—

℞ Pilocarpin. hydrochl..... 0.05
Aq. sterilis..... 10.
M. S. 0.005 to 0.015 daily by injection.
—*Rev. de Thérapeutique*, Jan. 1, 1901.

Sclerosis *en plaques.*—Potassium iodide in moderate doses (Raymond). Nitrate of silver (Charcot). Arsenic subcutaneously (Erb). Chloride of gold in association with freshly prepared tincture of hyoscyamus; the first in dose of 5 cgm. three times a day, the second in 1 to 2 gm. doses at meal time (Hammond). For the trembling, strychnine and solanine, the latter in daily dose of 10 cgm. As external measures, "firing" along the vertebral column, hydrotherapy, and electricity.—PAUL SAINTON.

Surgical Suggestions.

Abscess Cavities are best treated by application of carbolic acid in full strength, together with after-drainage.—SENECA POWELL.

In Slowly Healing Surfaces cover with the inner membrane of the shell of a freshly laid hen's egg, and over this place a sterile leaf of tin foil.—AMAT.

Spinal Anæsthesia.—The chief danger of the method, in my opinion, is the danger of an imperfect asepsis; hence, I believe that it is a method to be used not by everybody, but only by competent, skilled, and careful surgeons. Nor do I believe it will ever replace chloroform or ether as a routine anæsthetic.—W. W. KEEN.

Hemorrhage in Fibroid Tumors of the Uterus.—Thorough curetting of the cavity of the uterus is the most certain method of controlling the hemorrhage. By this procedure the diseased endometrium is removed, and the bleeding is usually very decidedly diminished for several months afterward.—CHARLES B. PENROSE.

Three Cardinal Signs of Appendicitis.—1. Sudden acute pain in one previously well. 2. Unnatural rigidity of the abdominal wall. 3. Hardness over the site of the appendix at McBurney's point.—DEAVER.

Appendicitis.—Tenderness is increased in 1, early pus formation; 2, gangrenous change; 3, perforation. Tenderness is decreased in 1, discharge of fecal concretion; 2, after free evacuation; 3, in late pus cases with enough septic absorption to paralyze nerve filaments.—CHARLES B. PARKER.

Preparing for Operation.—The patient having undergone a preliminary course of treatment for a few days by the administration of medicine, careful dietary, and the use of cleansing baths, on the morning of operation, or the previous evening, has the surface of the part to be operated upon, and surrounding parts, carefully prepared by washing and shaving, then washing with an alcoholic and ethereal solution of sterilized green soap and hot water. All the soap is washed away with the sterilized hot water; the skin is then dried with a sterilized towel, after which it is wiped over with ether to remove any grease remaining. It is then sponged over with an alcoholic solution of mercury biniodide 1:500, which may be allowed to dry by spontaneous evaporation; a dressing of sterilized dry wool or gauze is then applied, which is covered with waterproof material and bandaged on. This dressing is not removed until the moment before the operation commences, when the skin may again be moistened with the alcoholic solution of biniodide.—C. Y. PEARSON.

To Shorten the Round Ligament.—Make an incision nearly three inches in length, open the inguinal canal from, and including, the external ring to the internal ring, lift up and isolate the round ligament, dilate the internal ring, incise the peritoneum and enter the peritoneal cavity through this opening for the purpose of breaking up adhesions or removing diseased appendages. The redundancy of the ligament is then cut away, the peritoneum closed, and several layers of buried sutures are used to close the various structures and fasten the stump of the ligament. The operation is likened to Bassini's operation for hernia.—A. GOLDSPOHN.

It is only in rare instances that the shortening of the ligaments is the operation alone indicated. My records show that in the thirty cases in which I have performed the operation the following supplementary operations have also been made: Curettage, twenty-three; perineorrhaphy, eleven; trachelorrhaphy, nine; posterior colporrhaphy, one; excision of hemorrhoids, three; excision of urethral caruncle, one; abdominal section for appendicitis, one, and for adhesion, one. Twenty-five were free from adhesions or disease of the tubes or ovaries. Ovarian prolapse was present in several of these. My own operation consists, briefly, of the following steps: An incision an inch in length to the depth of skin and fat only, situated about midway between the spine of the pubis and the anterior superior spinous process of the ilium, and parallel with, and just above, Poupart's ligament; separation of the cellular tissue overlying the tendon of the external oblique muscle by blunt hooks and retracting it, with the other tissues, with eye retractors; puncturing the aponeurosis with the scalpel just above Poupart's ligament; introduction through this quarter of an inch incision, of the blunt hook, and the withdrawal of the ligament; severing the fibrous attachments of the ligament to the tissue within the inguinal canal, and drawing the ligament through the internal ring; piercing the aponeurosis in two places and drawing the loop of ligament through them, and after folding this back on itself, making it fast by one buried suture; closing of the wound by superficial, fine catgut sutures and sealing with iodoform collodion, re-enforced with gauze.—HOWARD W. LONGYEAR, *The Physician and Surgeon*, January.

Retroplacental Hemorrhage is most severe after the placenta is "squeezed off." If left to come off of itself there is very little bleeding as a rule.—A. V. MACAN, president obstetric section, Royal Academy of Ireland.

Metacarpal Fracture.—Various experiments have proved that the metacarpal fragments are invariably held in place by elastic pressure. For this purpose two rubber drainage tubes of moderate size are chosen, which are lightly pressed into the adjoining interosseous spaces, so that they fill them to a certain extent. They are kept *in situ* by adhesive plaster strips passed around the hand. Thus, the recurrence of the displacement is prevented. The whole is surrounded then by a moss splint, a material which, after being dipped in cold water, adapts itself to the contours of the hand like a plaster-of-Paris splint, over which it possesses the great advantages of being absorbent and much lighter. The Roentgen rays should be consulted before one is satisfied as to the question of impeccable union.—CARL BECK.

Tuberculous Peritonitis.—The efficacy of simple incision is well shown in a case recorded by Abbé, of a woman who, for marked tuberculous peritonitis, was operated on by simple incision, and made a complete recovery. Two and a half years after she was operated on for a small ventral hernia; during this process the abdomen was inspected, and no trace of tubercle was discovered. In the ascitic form, five methods of laparotomy have been adopted: 1. Simple incision, with free evacuation of the fluid and closure of abdominal wound. 2. Incision, with subsequent flushing of the abdominal cavity with sterile water, saline solution, or some mild antiseptic solution, and closure of the wound. 3. Incision, flushing, and thoroughly drying the abdominal cavity, closing the wound. 4. Incision and drainage. 5. Incision, drying the peritoneum, and treating it with some drug, as iodoform, camphorated naphthol, etc., closing the wound. Laparotomy, with or without manipulation, is of great benefit in a large percentage of cases.—WALLES.

Medical Items.

As to Quackery.—It is a curious characteristic of human nature, or of a great deal of human nature, that people who would grudge paying a cent to a regular medical practitioner will cheerfully pay a great deal of money to an irregular medical practitioner. Go where you will and you will find the quack prosperous. His rooms are full of patients, and his patients are full of faith. Men and women will buy wondrous remedies from travelling mountebanks who do not disdain to sing a comic song on the wagon from which they peddle their nostrums. Natural bonesetters, and long-haired "Indian doctors," and botanic doctors ignorant of botany, and faith healers of many kinds, abound; and the trade of most of them is good. The world likes to be healthy, but it loves to be humbugged. If a thousandth part of the blind, unhesitating faith that cleaves so readily to incompetent, and often illiterate, practitioners of fantastic means of healing were bestowed upon religion, there would be no complaints that the churches are not filled. But often those who are full enough of doubts of the supernatural so far as it relates to their souls are quick to believe in an almost or altogether supernatural gift of quack salves to cure the body. Legislation can do but little if anything to interfere with the gains of the medical pretenders or of the professors of visionary and semi-religious medical "science." You cannot legislate away a state of mind; and the state of mind of thousands, perhaps millions of persons, is one of crass credulity in humbug. Their delusions and illusions can be removed only by experience and a wider knowledge. They take their own lives and the lives of their families in their hands when they neglect the methods and the agents of modern medicine and surgery and resort to the moonshine of Christian "science," or to any other crank system, or to any individual quack. But you cannot prevent people from killing themselves if they have the will; and you will only stimulate faith in quackery by giving it a chance to yell "Persecution!" A private arrangement between patient and "healer" will nullify any provision of law forbidding the "healer" to heal for a consideration. A gift can take the place of a fee; and "gratuitous" treatment can be acknowledged with a gratuity. The best way to deal with a delusion is to let it alone. Common sense must win in the end.—*New York Sun.*

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 23, 1901:

	Cases.	Deaths.
Tuberculosis	278	165
Typhoid fever	23	5
Scarlet fever	607	40
Measles	319	4
Diphtheria and croup	300	59
Smallpox	41	6
Varicella	57	0
Cerebro-spinal meningitis	0	4

Influenza in Infants.—John Zahorsky gives the clinical forms of influenza in infants as follows: 1. Acute angina. 2. Acute coryza. 3. Acute laryngitis. 4. Acute bronchitis. 5. Bronchiolitis. 6. Croupous or broncho-pneumonia. 7. Myocarditis. 8. Leptomeningitis. 9. Acute gastritis. He declares that one or more of these types may be present in the same case. Acute myocarditis is characterized by cyanosis and coldness of the extremities, sighing respiration, and very feeble pulse. The temperature is usually subnormal. Infections of the fauces and lungs give rise to the most fever. Infections of the nasal cavities, larynx, and bronchi are not accompanied by much febrile movement. No prophylactic measures, except complete isolation from the family and visitors, are effective. In the case of feeble infants isolation should be ordered. It should be remembered that the act of coughing throws out a fine spray of mucous particles, which contain the bacilli. A coughing person is particularly dangerous in the nursery. Medicines have little or no effect on the course of the disease. The coal-tar antipyretics nearly always prolong the disease, and do harm. Quinine seems to do most good. Salicylates, benzoates, creosote, and salol have little or no effect. A cool bath at the height of the fever often lowers the temperature permanently. Stimulants are usually necessary. The diet must be careful. Hygienic and symptomatic treatment is all that can be instituted. No drug specially affects the disease favorably. —*St. Louis Medical Review*, February 23, 1901.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended March 23, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
District of Columbia, Washington	March 2d to 16th	10	
Florida, Jacksonville	March 9th to 16th	4	
Illinois, Chicago	March 9th to 16th	8	
Indiana, Terre Haute	February 4th to 11th	2	
Kansas, Wichita	March 8th to 16th	15	
Kentucky, Lexington	March 8th to 16th	1	
Louisiana, New Orleans	March 8th to 16th	14	4
Maryland, Baltimore	March 8th to 16th	1	
Michigan, Bay City	March 8th to 16th	2	
Detroit	March 8th to 16th	4	
West Bay City	March 1st to 16th	1	
Minnesota, Minneapolis	March 2d to 16th	11	
Winona	March 8th to 16th	26	
Nebraska, Omaha	March 2d to 9th	5	
N. Hampshire, Manchester	March 8th to 16th	3	
New York, Elmira	March 2d to 9th	1	
New York	March 8th to 16th	37	6
Ohio, Cleveland	March 8th to 16th	46	
Toledo	March 8th to 16th	3	
Pennsylvania, Erie	March 8th to 16th	1	
McKeesport	March 8th to 16th	3	
Pittsburg	March 8th to 16th	2	
Steelton	March 8th to 16th	5	
Tennessee, Memphis	March 8th to 16th	20	
Nashville	March 8th to 16th	14	
Utah, Salt Lake City	March 2d to 16th	97	
Porto Rico, Aguas Buenas	February 8th to March 5th	2	
Bayamon	February 8th to March 5th	2	
Caguas	February 8th to March 5th	2	
Ciales	February 8th to March 5th	2	
Morovis	February 8th to March 5th	2	
Ponce	February 8th to March 5th	98	1
Quebradillas	February 8th to March 5th	4	
Rio Piedras	February 8th to March 5th	1	
San Juan	February 8th to March 5th	7	
Philippines, Manila	January 29th to February 9th	11	
Smallpox—Foreign.			
Brazil, Pernambuco	January 17th to 31st	..	25
Rio de Janeiro	February 16th to 28th	..	36
Canada, Ontario, Bracebridge	March 2d	2	
Georgian Bay	March 2d	Prevalent.	
Orillia	March 2d	1	
Penetanguishine	March 2d	1	
Toronto	March 2d	4	
Egypt, Cairo	February 11th to 25th	..	3
France, Paris	February 8th to March 2d	..	21
Great Britain, London	February 23d to March 2d	1	
Glasgow	March 1st to 8th	46	18
India, Bombay	February 12th to 19th	..	7
Madras	February 9th to 15th	..	5
Mexico, Tuxpam	February 25th to March 4th	..	1
Russia, St. Petersburg	February 16th to 23d	3	
Moscow	February 16th to 23d	12	
Spain, Barcelona	January 1st to March 2d	..	253
Corunna	February 23d to March 2d	..	1
Valencia	February 6th to 24th	1	
Yellow Fever.			
Cuba, Havana	March 4th to 11th	1	
Cholera.			
India, Bombay	February 12th to 19th	..	3
Madras	February 9th to 16th	..	12
Straits Settlements, Singapore	January 26th to February 2d	..	10
Plague.			
Africa, Cape Town	February 16th to 26th	44	6
India, Bombay	February 12th to 19th	..	897
Philippines, Manila	January 19th to February 9th	7	4

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Original Articles.

THE RELATION OF THE PUBLIC TO THE MEDICAL PROFESSION.[1]

BY D. B. ST. JOHN ROOSA, M.D.,

NEW YORK.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY OF MEDICINE: In a great New York daily journal there recently appeared a leading article which objected to a proposed gift by the State to one of our colleges for the purpose of establishing a school of electrical engineering. Incidentally, in the argument against what was styled "paternalism in education," allusion was made to "medicine, landscape painting, pharmacy, and horseshoeing," as subjects which could with equal justice be placed under the endowment of the State, in favorable localities. This co-arrangement of schools for horseshoeing, landscape painting, and medicine was probably the playful satire of a journalist, and perhaps does not convey the deliberate view of a great newspaper as to the propriety of classing horseshoeing and the practice of medicine together, but it is in keeping with what may be often heard from the laity, as to the value of medical education and the proper position of the medical profession. Although I am not to make any argument, at this time, for State endowment of medical education, I wish to present some reasons why the medical profession deserves a great deal from the individual and from the public at large, whatever may be true with reference to the State.

The physicians and surgeons who practise their science and art in a given place, will mar or make the physical fortunes of the community. The most superficial view shows that every provision ought to be made in order that the education should be of the very highest order. It is not a mere matter of a trade that may be left to its own guild. The national government allows no illusions in regard to the value of medical education for its soldiers and sailors. Christian scientists, osteopathists, and imperfectly educated people of no pathy, but with a gift of healing, have no opportunity for exploiting themselves as medical officers of these two departments of the government. Like the State of New York, the United States is not content with a diploma of doctor of medicine and surgery for its medical officers, but the government insists on a separate, independent examination for general and technical qualifications before it allows a man to practise medicine and surgery among the soldiers of the United States army or the sailors and marines of the United States navy. But very few of our State governments are equally particular; while with many educated people of the public at large, any one who claims to be a practitioner of medicine may be safely tried, as one would try a well-recommended tradesman or mechanic.

In England and America the State relies on private means for the maintenance of hospitals and medical colleges. The time has come when these private means must be lavishly used, if we are to secure the proper medical colleges, for their plants have become very expensive. It requires the investment of a great deal of money to make a good doctor. This money is not only to be used personally by the student himself, but the apparatus and building, containing in these latter days a hospital and laboratory, are in themselves so costly that the expenses of the individual and the college combine together to make the course leading to the degree of M.D. a very dear one. During his four years the pupil must, foregoing almost all other occupations, devote his days and nights to study. Even the vacation is often spent as a substitute for one of the house staff in a hospital, so that the student cannot, as in an academic college or in a law school, use some of his time in earning the money he must pay for his tuition and living. Truly a man who devotes himself to medicine, in our State at least, must give his whole soul to his work.

There was a time when a medical school required simply a building large enough to contain an anatomical room, a chemical laboratory, and a lecture room. If added to this there was a small dispensary, it was deemed to be complete. But now, without a hospital with beds sufficient to allow the young man to be taught how "to do things"—in other words, how to diagnosticate disease and to apply remedies—the college is utterly unable to do the work which the advanced state of medicine and surgery requires. Then the laboratory, to which often the diagnosis must be referred for verification, or indeed for initiation, is also an expensive part of the plant.

As to the expense of a medical education to the individual, in former days in this country, a young man was often taken from the district school or, at the highest, from the village academy to begin the study of medicine; and if he spent two winters—or eight months in all—in a great city and filled up three years in very desultory work under the direction of a medical practitioner, he was doing all that was expected of him. Of course there was a certain proportion of men who had received thorough training before they entered on the study of medicine, and who devoted the whole of the three years to study, but this was not necessarily so, nor was it the case in the majority of instances. Now a preliminary examination is as important as the final one. It can be passed only by a graduate of a high school or of a college. This is true of our own State and of a few other States of the Union. It is easy to calculate the increased personal expense from the preliminary course and the four years in the medical school. If we add to this the fact that a considerable proportion of these students, after graduation, enter a hospital and spend eighteen months to two years without remuneration (except their board and lodging for a part of the term), we may have some idea of the expense of the study of medicine. What was formerly required only of men who wished to enter the army or the navy as medical officers, is now required of every man who wishes to practise in the State of New York. Christian scientists and osteopathists desire to be excepted, but thus far they have not obtained permission to practise without the professional

[1] Read before the New York Academy of Medicine, April 4, 1901.

qualifications which are required of those who seriously take up the study of medicine.

But the anxieties of the individual are not over when he leaves the medical college or the hospital. The young teacher or the young lawyer may expect a salary during the first year after his qualification, but the medical graduate must, unless under exceptional circumstances—for example, as assistant of an established physician—work his way alone, and, as a rule, he will have reached the manly age of thirty before he begins to earn a moderate living. Rich men, for obvious reasons, do not often make practitioners of medicine of their sons, but the working class of the community, with great self-denial and care, educate those who are to be the future guardians of public and private health or they educate themselves.

The benefit of this thorough preparation of the medical student comes to the community at large. These young men, as soon as they go out into the great and smaller cities, begin to work without salaries in the dispensaries and hospitals; and the community receives from them a very large service in gratuitous treatment. As to the country doctor he attends all calls without reference to the fees he may or may not receive. The doctor must seek his reward in professional renown, which pretty certainly leads in middle life to a competence for his yearly expenses, but which, in the vast majority of instances, leaves very little for the surviving family when the working hand is gone. It should not be thought for an instant that this hospital and dispensary service does not benefit the community at large, both directly and indirectly. It directly saves the taxpayers many burdens that they would otherwise bear, in preserving the laborers of the community from the results of disease and accident so that they may promptly recover and continue their work. Then the well-to-do citizen and his family get a large service indirectly from this experience thus gained; for the best physicians and surgeons, it is almost needless to say—although it seems sometimes to be denied in some quarters—are the men of the largest experience. A two-years' hospital experience is as valuable to a young man as would be ten years in active private practice. A man who has seen a hundred cases of a certain form of disease or of a certain kind of injury, and assisted in their management in a dispensary, will be much better adapted to treat similar cases when he encounters them for the first time in a private family.

There may have been once an idea, entertained by some few people who had given very little attention to the subject, that patients are cruelly treated in in the large hospitals. This may be true of hospitals where medicine is not taught, but it cannot well be when a hospital is a medical school, and thus under the supervision of the students and doctors who are watching every step of the treatment. It might be conceived to be true of hospitals to which students and practitioners have not full access, or where attendants, from the lowest to the highest, are created by political appointment; but in the private hospital of our day, with its experienced physicians and surgeons, with its band of trained nurses and its students or practitioners following with eager eyes the details of the management of cases and the results of treatment, experimentation, in the popular sense, cruelty or bad management cannot often, if ever, obtain. The more complete is medical control, the less likely are abuses to occur. The medical profession in the management of its hospitals in the army and navy of this country has never been justly complained of as to its medical, humane, or financial supervision except in rare instances, and has evoked the highest praise at home and abroad. The safety of the patient is greatly enhanced by the publicity which is given to all teaching hospitals.

The obstacles that were once placed in the way of medical education were not confined to hospitals. It is a remarkable fact that the boards of aldermen in this city, and the legislature of the State, in times gone by have not appreciated the necessity of anatomical study with sufficient understanding. They have endeavored to prevent doctors of medicine from learning what the law requires them to know. Not longer ago than half a century, Massachusetts and New York —probably other States—put everything possible in the way, by legislation to prevent the dissection of dead bodies. It is very creditable to our profession that the zeal for professional information and the desire to mitigate the suffering of the human race have enabled us, under very little encouragement, to force upon the community legislation which is for its own benefit—so slow has the public been to learn that the good health of the public is of the greatest service to the individual, and that educated and experienced physicians and surgeons are the best men to promote it.

What has the medical profession already achieved to deserve the confidence of the public?

The record of the last century, as detailed in one of our great newspapers by Osler and Keen, is sufficient justification for my claim that the public and the State owe so much to medical science, that they ought to cherish and maintain the medical profession at the highest point of perfection.

The close of the eighteenth century gave a brilliant forecast of what might be expected from its successor. Edward Jenner, by his discovery of the preventive power of vaccination, minified to such a degree what until his time had been one of the greatest scourges of the world that it is now a disease whose spread is easily stopped. Much of the beauty of the fair faces that now adorn our planet would have no existence but for the prevention of the spread of smallpox by the medical profession, and it alone.

In the nineteenth century the catalogue of achievement is long. The advances that have been made in medical science have not been the work of great syndicates with tremendous financial backing, and all the paraphernalia and money of great corporations in the full glare of the world, but oftentimes of private individuals, unaided by public funds, public institutions, or private gifts—alone in the laboratory or the consulting-room, or the wards of the hospital, or over the patient in the cottage of the hamlet or the tenement house of the crowded city. These great deeds have been self-inspired by the physicians and surgeons who have wrought them out. Mighty problems they have been.

The century began with Laennec with his discovery of the importance of using the ear in diagnosticating diseases of the heart and lungs. A simple discovery, but how important in its results! Osler says that it laid the foundations of modern clinical medicine. Then came Pasteur with his Alpine investigations which overthrew the theory of spontaneous generation. From this as a starting-point, a discovery of only forty years ago—or at least it is only forty years since it was made known—springs all modern bacteriology, whose verification and expansion are still going on. Many of its conclusions are as yet unsettled, but we know that the knowledge of the distinct forms of disease and the triumphs of modern surgery are based upon it. Thus the causes of pneumonia, diphtheria, tetanus, conjunctivitis, typhoid fever, suppuration in general, have been made plainer. Our surgery has become a safe and exact science and art.

During this century the cholera has been confined to its home in the valley of the Ganges; the bubonic plague is kept from ravaging our population, even if it set foot on our shores; the cause of yellow fever is being thoroughly investigated, and probably a decade

will not pass before it is understood as well as that of typhoid fever; the whole subject of the combating of toxins in the body by antitoxins is undergoing practical investigation, and some authorities think in the treatment of diphtheria that we have made an immense advance by the serum therapy, although some observers do not as yet admit this. We understand perfectly how to guard against typhoid fever, although what we know is not as yet fully used. It is not the fault of the medical profession that health boards and municipal authorities do not see the importance of thorough investigation of the milk and the water supply. The expense of providing such investigation would be infinitely less than what the fatal consequences of this disease now cost the State.

Tuberculosis of the lungs, or consumption, is being studied and treated with an intelligence that was never known before. In this State, private sanatoriums have already been firmly established, which diminish very much the dangers of the disease, and public hospitals are in prospect. There are also treatments based on an exact knowledge of the origin and course of tuberculosis, which promise very much to lessen the mortality from this dread destroyer.

One of the recent advances of medical science has resulted from the investigation of the cause of malarial fever. The first step toward the light was the discovery of the small bodies proved to be the specific germ of the disease. Some time after this, it was found that the parasite is carried by certain varieties of the mosquito to the human race; and the course of treatment became plain. Crucial experiments in the marshes of Italy, verified in England, prove this. Whether the mosquito is the sole carrier of the germ remains to be demonstrated. It is impossible to overestimate the importance of this discovery when we recall the extent and malignity of what we still call malaria.

In spite of the careful watching of the symptoms and progress of disease unaffected by drugs, by here and there a practitioner in advance of his times, the middle of the century found the profession everywhere engaged in overactivity in the treatment of disease. The delusion of homœopathy finally led to a more careful study of scarlet fever and many other affections, until the *vis medicatrix naturæ* really was allowed to exert itself without restraint.

In spite of the attractions of coal-tar preparations and other new and refined remedies constantly held out to us by pharmacists, there is a more decided scepticism as to the value of drugs, and while they are relied upon more implicitly when proved to be antidotes to poisons, they are much less indiscriminately and more exactly given.

No outline of the progress that has been made in our science in this century would be complete without an understanding of the great advance in the general establishment of hospitals and nursing-methods in large and small towns. As to the latter, the president of this academy and his contemporaries have lived to see the nursing in great hospitals changed from the care of untrained servants, who were not always clean and often were intemperate, to the careful nursing of well-brought-up and scrupulously neat young women and young men, without whose work the surgeon or the physician would be very far from carrying out his ideals.

The method of teaching medicine, as has been intimated in the beginning of this address, has been in general greatly improved. The long lecture without clinical illustration gives place to demonstrations. Men are taught to do things in the anatomical room, in the dispensary, and at the bedside. It has become the training that the artist gets in his studio, the engineer in the machine shop, the chemist in the laboratory, and the primary student of any well-taught science, and not entirely by what they are told or what they read, but also by what their own hands do and assist in doing.

One of the greatest discoveries of the nineteenth century is that of the production of general anæsthesia. The credit for this, as we all know, belongs to a Boston medical student who was practising dentistry for the purpose of enabling himself to carry on his studies and experiments—an example of what I have alluded to, that many of the investigations which led to medical progress were often made by private individuals, without the association of even their own medical colleagues. The ability to perform surgical operations was infinitely increased by the ability to perform them without pain, and when the practice of general anæsthesia by ether, and afterward also by chloroform, was well established in the profession, in due course from the wards of the Edinburgh Infirmary came the discovery of the chief origin of the infection of wounds. Indeed, this discovery was that it was an infection and not an inflammation.

Many years later came local anæsthetics, chief of which and first of which is cocaine, whose properties were discovered and promulgated by Dr. Koller, of this city, then a hospital physician in Vienna. This discovery is only a little inferior in importance in its application in one department of our surgery to that of general anæsthesia.

Within the last decade, the suggestions and experiments of one of our fellows, Corning, have enlarged the field of usefulness of cocaine as an anæsthetic, in providing a new method of producing general anæsthesia by injections into the membranes of the spinal cord.

Before this audience it is not for me to dwell on the importance of antisepsis in surgery. Lord Lister has lived to see the results of his own work, and so Morton saw thousands of painless operations before his untimely death occurred.

In the relatively small department of diseases of the ear, in the present century there has been a great development. Acute aural disease is thoroughly understood and efficiently treated, while the consequences of neglected disease are also thoroughly comprehended; and following in the footsteps of the great Irish pioneer, Sir William Wilde, modern investigators have made aural surgery no longer a *terra incognita* but a well-understood and fruitful field for the saving of human life.

Time would fail me to speak of the ophthalmoscope, the laryngoscope, the hypodermic syringe, the clinical thermometer, and innumerable instruments which belong to the progress of the nineteenth century. I may conclude what I have to say of the progress of medical science in our day by calling to your minds the discovery of the Roentgen ray, by a professor in the University of Wurzburg, who so lately showed to an astonished world that he could see the skeleton inside the body, through the flesh.

In the judgment of the present speaker the individual, the public at large, and State governments ought to take a positive interest in medical science. There is not a field for investment on this wide earth that will repay the individual, the public, and the State better than is to be found in the most generous treatment of the medical profession. Its wants should be provided for, its demands heeded, legislation pertaining to the public health should be directed by it alone; until the time shall come, even on this planet, when that millennium of happiness shall have been reached which the prophet Isaiah had in mind when he said, "The inhabitant shall not say I am sick." It is perfectly possible for us to conceive with truth of the period when human ingenuity and human skill and human foresight and care, shall be so efficiently used

that no accidents shall occur, and infectious or contagious epidemics shall not prevail, and the individual shall not die prematurely, but when his days are fully numbered. When this day comes, or when its approximation shall be reached, it will be due entirely to the scientific and humane labors of that profession which this academy represents, and to which we have the honor to belong.

THE IMPORTANCE OF ASEPTIC VACCINATION, WITH REMARKS ON VACCINATION IN GENERAL.*

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THE recent outbreak of smallpox in New York has brought the subject of vaccination very prominently before the medical profession. My object in presenting this paper is to report two hundred and twenty-four carefully studied personal cases which I have observed in my private practice within the past four months; to call attention to the many complications and dangers which follow vaccination; to show by statistics the necessity for vaccination, and finally to emphasize the importance—since vaccination is inevitable—of purity of virus, of proper method of operation, and especially of post-operative control of the patient, which necessarily entails methodical after-treatment.

I shall first devote a few words to the necessity of vaccination. While the vast majority of scientists are agreed as to the protective power of cowpox inoculation, every death following this operation is certain to give rise to agitation hostile to compulsory vaccination. It is not a question as to whether or not these deaths are actually to be attributed to vaccination; but as long as deaths follow this operation, even if ever so rarely, we are not warranted in making the slightest technical error, from the moment of the performance of the operation up to the time of complete healing.

The chief argument for the necessity of vaccination is, of course, based upon the protective power of cowpox inoculation, as shown by voluminous statistics. In order to show that the protection is of the same character to-day as it was early in the century, my statistics are given indiscriminately. The figures here quoted are taken from Hardaway's[1] work entitled "Essentials of Vaccination," from Brouardel's[2] article in the "Twentieth Century Practice," and finally from the current report of the surgeon-general of the United States army.[3] If further evidence were necessary, it could readily be produced, but the following figures should suffice to convince any unprejudiced person.

"In 1802,[1] about four years after Jenner had made public his discovery, a committee of the House of Commons thoroughly investigated the subject, with a view of determining his claims to a national reward, and succeeded in finding only two cases in which smallpox had occurred after properly performed vaccination. . . . Even as late as thirteen years after the practice had been introduced, no fatal case of post-vaccinal smallpox had been recorded.

"In Copenhagen, with over one hundred thousand inhabitants, where vaccination was universally practised, not a single death from smallpox was recorded during the thirteen years 1811–23. In Anspach, Bavaria, with a population of about three hundred thousand, no death from smallpox took place in the nine years 1810–18. Of more than two and a half millions of people vaccinated in France between the years 1804 and 1812, only seven were known to have contracted variola. . . .

"Universal and extended experience furnishes an overwhelming argument for the practice of vaccination, and the farther back we extend our inquiries the more convincing are the proofs. For example, in Sweden, before the introduction of vaccination, the annual death rate from smallpox was 2,050 out of every million of population, while during the forty years 1810–50, it was but 158; in Westphalia, where the death rate from smallpox was formerly 2,643 per million, between the years 1816–50 it fell to 114; in Bohemia, Moravia, and Austrian Silesia it was reduced from 4,000 to 200; in Copenhagen from 3,128 to 286; and in Berlin, from 3,422 to 176. During Mr. Marson's term of thirty years in the London Smallpox Hospital, 15,000 cases of variola were under his charge, and his statistics prove that the unvaccinated died at the rate of thirty-five per cent., while the presumably vaccinated died at the rate of six and one-half per cent.

"When smallpox prevails in a community where some are protected and others unprotected, the influence of vaccination is most strikingly shown. Thus in the Island of Bombay, for the years 1848–53, the smallpox deaths among the general population, the majority of which was unprotected, were 5.8 per cent. of the mortality from all causes, but among the European residents, mostly protected by vaccination, the smallpox deaths were, for the same periods, but one per cent. of the deaths from all causes. In observations made for twenty-one years on four millions of people in Bohemia, it was discovered that the death rate among vaccinated persons who contracted smallpox was $5\frac{1}{16}$ per cent., while on the other hand, the mortality among the unvaccinated who contracted smallpox was $29\frac{1}{2}$ per cent.

"Dr. Buchanan, medical officer of the local government board (England), in 1881 prepared a table of comparative smallpox death rates among Londoners, vaccinated and unvaccinated respectively, for the fifty-two weeks ending May 29, 1881, calculating that the vaccinated persons of all ages living in London, in the twelve months concerned, were 3,620,000, and the unvaccinated of all ages, 190,000 in number. This table reads:

Death rate of people of subjoined ages.	Per million of each age of the vaccinated class.	Per million of each age of the unvaccinated class.
All ages	90	3,350
Under twenty years	61	4,520
Under five years	40½	5,950

"Nothing more clearly exhibits the efficacy of proper vaccination and revaccination than the medical history of the Franco-Prussian war. At that time, according to Dr. Welch, smallpox prevailed to an alarming extent, and both armies were fully exposed to the contagion; but the German mortality was only 263 men, while the French loss was 23,468, although the latter army was at no time more than half the size of the former. The explanation of the marked difference in the smallpox mortality of the two armies lies in the fact, as pointed out by Dr. Welch, that in no country is vaccination carried on with greater care and thoroughness than in Germany."

"Husson and Bousquet[2] were the first to recommend revaccination. . . . It was in Prussia that revaccination was first practised in a way that brought conviction of its value. In that country all soldiers were revaccinated. During the period from 1834 to 1848, out of 425,000 cases of revaccination, positive results were obtained in 198,000, or 46.58 per cent. In these fourteen years there were but 77 cases of

* Read before the Medical Society of the County of New York, March 25, 1901.

variola and varioloid in the army, and among them not a single death. In 1843 smallpox was epidemic in Prussia, but in the entire army there were but 12 cases.

"In Prussia the mortality from smallpox in the year 1835 was 27 per 100,000; in 1872 it was 262. In 1874 vaccination and revaccination became obligatory, and the mortality fell at once to 3.60, and in 1886 it was only 0.39 per 100,000. In 1886 there were 197 deaths from variola in the entire German Empire; in 1887 there were 168, in 1888 there were 112, in 1889, 200, and 58 in 1890, while in 1891 there were but 40 deaths. The number of deaths from this disease in France was 56 times greater, in Austria 60 times greater, and in Italy 97 times greater."

"In 1898,[3] 92 cases of smallpox were reported in the United States army, with 23 deaths, and in 1899, 347 cases, with 84 deaths, a total of 439 cases, with 107 deaths during the two years. Of these cases, 342, with 99 deaths, occurred in the Philippines, the fatal cases constituting 29 per cent. of the total number. Seventy-two cases, with 3 deaths, occurred in the United States, the fatal cases constituting only 4.17 per cent. of the total number.

"That the regular troops were better protected from the infection of smallpox than the volunteers, is shown by the relative prevalence of the disease among the troops in the Philippines in 1899, where large mixed commands operated during the whole year in a dangerously infected country. Among a mean strength of 22,922 regulars there occurred 110 cases, of which 23 proved fatal, while among the volunteers, with a mean strength of 16,358, there occurred 157 cases, 55 of which were fatal. The rate of admission per thousand of strength among the regulars was 4.80, among the volunteers 9.60; and while the death rate among the regulars was only one per thousand men, among the volunteers this rate was 3.36 per thousand."

In addition, I may mention that Brouardel[3] states views similar to mine, of the protective power of vaccination, when he expresses the opinion that a community, in which every individual has been vaccinated and revaccinated, is absolutely protected from an epidemic of smallpox.

It will be seen that the subject matter of my paper deals almost exclusively with vaccination with bovine virus, this limitation being due to the fact that humanized virus has long been a thing of the past in the United States, and its introduction could possess only a historical interest.

So much for the protective power of vaccination, which can be positively proved only by repeated revaccination up to the point of absolute immunity against variola.

The causes of the various untoward results incidental to vaccination may be enumerated as follows: 1. Impure virus. 2. Abnormal or paradoxical course of the cowpox itself. 3. Improper performance of the act of vaccination. This class may be subdivided as follows: (*a*) unclean instruments and hands of operator; (*b*) improperly prepared surface for vaccination; (*c*) imperfect dressing, which will allow secondary infection. 4. Neglect on the part of the vaccinator to exercise supervision and control of the patient until the time of complete healing. 5. Coincident diseases: scarlatina, measles, etc.

1. Impure Virus: The science of bacteriology teaches us that, in theory at least, vaccine lymph is by nature septic—that is, it contains numerous forms of germ life which, however harmless they may be in most instances, are pathogenic under certain circumstances, to say nothing of manifestly pathogenic germs which may be present exceptionally. Until the introduction of glycerinated lymph, bovine virus could not have been aseptic, but as a matter of fact an astonishingly small number of accidents is traceable to impure calf lymph; while, on the other hand, even since the introduction of so-called sterile vaccine, impurities have sometimes crept into the lymph through some neglect on the part of the manufacturers.

I may mention under the head of accidents from impure lymph, in comparatively recent times, the epidemics at Elberfeld[4] and Strasbourg[5]—the latter in 1899—in which the virus was prepared in well-known institutes. In the Elberfeld episode the complication produced was impetigo contagiosa of severe type, even including some fatalities, while the cases which occurred in the vicinity of Strasbourg were of a septic character. In both these episodes, official investigation held the manufacturer of the lymph responsible for the bad results.

As a matter of passing interest I may mention the fact that the parasite of ringworm (tinea tricophytina) has undoubtedly been known to contaminate bovine virus and communicate the disease to the vaccinated person.

"In 1896[6] a German commission, Dr. Koch with others, investigated the best means of preserving lymph, and in that report they state that fresh lymph contains numerous microbes, whose number decreases on the addition of glycerin; thus the commission found the streptococcus destroyed in eleven days, and the diphtheria bacilli in twenty days by this means. They further found that the mixture of glycerin with distilled water could be employed to the extent of fifteen to twenty times the weight of vesicle pulp collected, without interfering with its value for vaccinating purposes. Copeman and Blaxall[6] further found that vaccine could in this way be freed from pathogenic bacteria, as those of tubercle and erysipelas, even when added in considerable quantities."

I cannot help agreeing with other observers, such as Copeman[6] and Henry Wallace,[7] that the glycerinated lymph is preferable to any other.

Through the kindness of Dr. Huddleston, who has charge of the laboratory of the New York board of health, I was enabled to visit the laboratory and learn the manner in which their vaccine virus is prepared for use, which, briefly stated, is as follows: a healthy calf is taken, the posterior abdomen and inside of the thighs are washed with hot water and shaved and washed again, then scarified with superficial linear incisions made with a knife, and over this surface vaccine (cowpox) virus is carefully smeared with an ivory or metal instrument. On the sixth day the area covered with vesicles is most carefully cleansed; the vesicles, technically called "pulp," are picked off with a curette, deposited in a small cup and weighed, then ground up, and mixed with two parts of glycerin and one part of sterilized water. The calf is killed and necropsy made by a veterinary surgeon. After it has been shown, through frequent tests by the bacteriologist, that the lymph is free from pathogenic germs, and the veterinary surgeon has reported the calf to have been healthy, the virus is put up and dispensed. (For further details see *Scientific American*, January 19, 1901.) I do not doubt that other manufacturers are just as careful in the preparation of the virus.

2. Abnormal and Paradoxical Course of Vaccination. In order to gain a correct idea of what is meant by this term, we must carefully consider the normal course of the cowpox in man. Vaccinia is, of course, an acute infectious disorder which ordinarily runs a mild and uneventful course; but from various causes —either an undue concentration of virus, unfavorable weather conditions, such as extreme heat or sudden changes in the temperature, extreme youth, delicacy or ill health of the person vaccinated, and, finally, undue specific susceptibility to the vaccine virus, or so-called idiosyncrasy—we may see the cowpox run a severe

course in itself, or again—the course being normal as far as the vaccinia is concerned—we may see some latent or unsuspected disease roused into activity. Dr. Bissel[8] holds the opinion that the bacilli of tetanus may lie dormant in the system until stirred up by some stimulus, such as an accidental cut, when the disease will manifest itself. This theory may be a most important one for consideration.

A very interesting communication was recently made to me by Dr. F. Schwyzer, who had vaccinated eight patients suffering from diabetes mellitus, and observed in several instances gangrene of the skin following the operation. In a number of gouty subjects he has seen deep ulcers as a complication.

The above accidents must be carefully distinguished from all others, since they can hardly be prevented. Under ordinary circumstances we may avoid some by selecting the proper moment and declining to vaccinate certain persons until conditions are favorable. But during epidemics this selection cannot be exercised so carefully.

What is a normal or typical primary vaccination? At the end of the third or fourth day after the traumatic reaction, which usually lasts about thirty-six hours, a red papule appears. On the seventh or eighth day the vesicle is shown on an indurated surface surrounded by an areola, and often diffuse redness. After this the contents of the vesicle become turbid, and the lesion resembles a pustule of rounded or elliptical shape, projecting at the sides and flattened at its centre. The inflammatory areola increases in size, and a transient, diffuse erythema may involve the arm or leg. After that the skin becomes less swollen and the umbilication disappears. Then the scab forms, quite frequently preceded by a rupture of the pustule. Often near the site of vaccination, papules or vesicles are observed, which usually heal without developing further. The vaccine virus may also be carried through the lymphatics or veins to distant parts of the body, and there produce normal vaccinia, although the result at the site of vaccination may be negative. During the course of vaccinia a number of symptoms may manifest themselves, such as considerable induration, extensive redness, enlarged and painful contiguous lymphatic glands, pain and itching, constitutional disturbances, as rise of temperature, malaise, pain in different parts of the body, headache, etc., and, quite frequently, vaccine eruptions. "Albuminuria is present in a considerable number of cases" (Peiper[9]). All these will disappear usually without treatment.

Mere delay in the appearance of the vesicle is occasionally observed. I have recently seen two cases; but the course under such circumstances is otherwise normal.

Peiper enumerates the abnormalities of vaccination as follows: Intensification of local reaction. Axillary lymphangitis. Delayed healing. Defective crust formation.

Ulcerated vaccinia, due to injury, poor care, or secondary infection. The edges are thickened, the margins steep, the granulations spongy and bleeding readily, the cubital and axillary glands swell. The child is restless, often feverish. With further neglect, phlegmon or erysipelas may set in. Rarely ulceration is associated with gangrene.

Hemorrhagic vaccinia, analogous to hemorrhagic variola, is not necessarily a sign of hemorrhagic diathesis.

Hæmophilia: As in any wound in this diathesis, profuse hemorrhage may set in. Vaccination has been known to give the first evidence of an existing hæmophilia.

Keloid: As in any wound or ulcer, keloid may develop; it has no connection with the vaccine.

Protracted fever: A febrile process may accompany the evolution of vaccinia, although Peiper regards this as a pure coincidence due to concurrent bronchitis, bowel troubles, etc.

Vaccinolæ: By this term Peiper characterizes the secondary vesicles which appear about the primary pustule at the height. Sometimes they may be due to auto-inoculation by scratching.

Generalized vaccinia: A disseminated papulovesicular eruption, which is not proved to be analogous to variola. It is said to occur by preference in children with eczematous affections.

Ophthalmic vaccinia: Vaccinolæ appear in the eyelids, the conjunctiva, and even the cornea. The eruption is due to auto-inoculation or inoculation from without.

Accidental vaccination: The members of the vaccinated child's family may inoculate themselves from the vaccination.

Post-vaccinal eruptions: Vaccination simply acts as a general irritant in skins predisposed to dermatoses. There are many varieties, some being rashes such as are caused by certain medicines; in other cases diseases like eczema, psoriasis, and pemphigus appear.

Peiper explains the prevalence of these eruptions by reflex irritation, the poisonous or specific quality of the vaccine, and the absorption of some unknown substance from the pustule.

These vaccinal eruptions have been very ably described during the past year by two physicians, Allen[10] and Sobel,[11] of this city. The cases are illustrated by numerous photographs.

In this connection it is well to emphasize a fact not generally taught, that generalized or secondary vaccinia differs radically from any other post-vaccinal rash or dermatosis in being inoculable in the same manner as a primary vaccination, the product being an ordinary vaccine vesicle.

Before proceeding with the report of certain cases of death and complications in general, which were ascribed to the action of the vaccine itself—it being understood that the virus in such cases was pure, and the course of the vaccination not necessarily atypical—I shall detail the method employed in collecting information as to fatalities and untoward results of all kinds, following vaccination.

I sent a letter of inquiry as to fatal results and complications to the health boards of all the principal cities in the United States, Canada, Cuba, Mexico, and some of the Central American states. As a general rule, the health officers praise the results obtained under their jurisdiction, and take pains to insist that they know of no complications or untoward results worth mentioning. My experience in this respect agrees with that of the royal British vaccination commission,[12] which addressed a letter of inquiry, similar to mine, to all of the European governments and many states or colonies throughout the remainder of the habitable world. The health boards of the various countries reported almost uniformly negatively with respect to bad results or serious complications following vaccination. The few who mention any ill effects explain them by some coincident circumstance having little or no relation to the act of vaccination, quality of virus, or method of performance.

Nothing could be further from my intention than to reflect in any way upon the good faith of these health officers; but it is none the less a fact that the public vaccinators do not have the opportunity to follow up their vaccinations, bad results usually coming first under the observation of private practitioners, dispensaries, or hospitals.

I have also sent similar letters to a hundred (in round numbers) of the leading practitioners in New York City, Philadelphia, Baltimore, and other cities. I must here take the opportunity to thank all these

gentlemen for the uniform courtesy and sympathy with which they have replied to my letters, and for the valuable information contained in their answers. Of course my gratitude also extends to the public officials as well. I have likewise extensively consulted all the literature of vaccination since the date of introduction of bovine virus, and have spent considerable time upon the report of the royal British vaccination commission.[12] A few words upon this latter work may be of interest in this connection.

Collective investigation of the accidents following vaccination has been attempted on a colossal scale by the British government. The work and reports extend over a number of years and are still unfinished. In the absence of any index, synopsis or final summary and conclusions, this vast monument of conscientious effort is almost unavailable for reference or quotation. Some of the data in this work consist of the entire testimony brought out in coroners' inquests, the records of innumerable witnesses examined by the commission in regard to personal knowledge of vaccination, details of fatal cases, accidents, etc., obtained by filling out elaborate blank forms, etc.

Several hours spent in looking over these reports show that the arm-to-arm method is still the prevailing mode of vaccination in Great Britain. Not more than one person in ten, discussed in these reports, appears to have been vaccinated with animal lymph. In a table of two hundred and five fatal cases of vaccination which occurred in the thirty-eight months ending December 31, 1891, we find that but twenty-three persons were vaccinated directly with calf lymph.

In this series of fatal cases the victims, independent of the mode of vaccination, were all very young infants, many but a few weeks of age. Nearly all were children of the poor, with more or less unfavorable surroundings. With scarcely any exception the fatality was due to late infection. The phenomena which followed and led to death consisted of phagedena, purulent infection, erysipelas, and sepsis. We find little or no mention of any rare accidents, occasionally recorded after vaccination, such as nephritis, choleriform diarrhœa, otitis media, tetanus, etc.

Returning now to the notes of severe complications and fatalities which I have collected, I must state that very many private practitioners who replied to my circular letter had experienced or heard of one or more of these unfortunate sequelæ. Many of my lay friends also knew of similar results which had occurred either to themselves or others. At the same time I have found that many cases of this character exploited by the daily papers are untrustworthy, and it has happened more than once that an autopsy has revealed that death following vaccination could, by no possibility, have been due to that operation, even in the most indirect manner. In one of these cases the post-mortem revealed a tumor of the brain, which was responsible for the grave cerebral symptoms that followed vaccination (Huber[13]).

In this connection an account of the following episode, which occurred in Denver, may be of interest. A death was reported as due to "septicæmia following vaccination." The health department upon receiving this report stopped the funeral proceedings and ordered an autopsy. It was learned that the child had been vaccinated three years before its death. Autopsy revealed a clean, healthy vaccination scar, and developed the fact that death was due to empyema from neglected pneumonia, the child having been under the treatment of Christian or divine scientists.

I shall now consider some of the details of untoward results of vaccination. Following the classification of accidents, etc., which I have proposed, I have already discussed the first two causes, viz.: impure virus and abnormal course of the vaccinia. But since it is often impossible in practice to explain the precise rationale of these accidents, I prefer to present the facts that I have collected in the manner in which they were secured. I shall therefore take up the causes of bad results in connection with the individual cases, and shall review, in the order named, cases from the literature, correspondence, and my own practice.

Cases from the Literature.—*Boston Medical and Surgical Journal.*[14] Several years ago the editor of this periodical called attention to the large number of severe complications of vaccination which occurred in a certain locality, presumably in New England. All the physicians in this territory reported cases of lymphangitis, cellulitis, fever, and other evidences of sepsis. There were no fatalities, but in one case death was threatened. The lymph was at first blamed, as it had all come from one institute. It was finally, however, decided that, owing to the interval which had elapsed after vaccination (twelve days and upward), the cases were to be ascribed to secondary erysipelas from scratch inoculation.

Chambard-Henon.[15] A case in which the vaccine pustule became hemorrhagic on the seventh day, with a scarlet (purpuric?) eruption on the arm. On the fifteenth day, albuminuria developed, followed by nephritis. The patient was anæmic.

Dauchez.[16] A child two years old, who had formerly suffered from diarrhœa and marasmus, but had apparently recovered, developed, on the fifth day after vaccination, fever, vomiting, pains in the limbs, etc. On the seventh day the vaccine pustule, hitherto normal, became inflamed, with axillary adenitis. On the eighth day a choleriform condition fully developed, with cyanosis and algidity. Death occurred on the tenth day.

Davis.[17] A child aged seven and one-half months; its mother subject to erysipelas. The vaccination was normal up to the seventh day when erysipelas developed on the site of the pustule and over the surface of the body. The erysipelatous affection did not progress further, but double lobar pneumonia set in, followed by death on the ninth day after the appearance of the erysipelas.

Dimon.[18] (1) A boy aged nine years. Tetanus was found fully developed twenty-one days after vaccination. The site of vaccination was then occupied by a large ulcer covered with prominent granulations and thick pus. The arm was swollen, with ascending patches of erythematous inflammation and axillary adenopathy. The case ended fatally. No other injury was present. (2) A case of fatal septicæmia following vaccination. No particulars are given.

Drury.[19] A discussion by a local medical society in Cincinnati. The members reported cases of abscesses, ulceration, gangrene, erysipelas, and otitis media following vaccination.

Engelmann.[20] (1) A nursing baby with marasmus developed phlebitis and pyæmia with fatal results. The autopsy revealed thrombosis of the cephalic vein near the site of vaccination; also multiple subcutaneous abscesses. (2) A case of nephritis, uræmia, and death following vaccination.

Ensign.[21] A pregnant woman, nearly at term, was vaccinated; pain and inflammation soon developed with a large axillary abscess which discharged pus. Death occurred in two months, the child having been delivered two days before. The upper arm was said to have been in a state of necrosis at death.

Epstein.[22] Two cases of acute hemorrhagic diathesis (purpura) developing about the fourth day after vaccination, which in itself was normal. Both patients recovered.

Farrar.[23] A child aged five months, not well developed. Vaccination appeared normal, but the scab did not separate, and the pus burrowed beneath. A rupial

crust formed, with resulting deep ulceration, but no further local reaction followed. While the ulcer was healing kindly, death took place without apparent cause, seven weeks after vaccination.

Fox.[24] He has seen three cases of lupus develop in vaccination scars, and cites two similar cases reported respectively by Besnier and Lennander.

Gaucher.[25] A child vaccinated when nineteen days old. The pustule was normal, but on the ninth day generalized vaccinia developed; the temperature was 40.5° C.; vomiting, cyanosis, and death from asphyxia followed. The autopsy revealed appearances usually seen in death from acute infectious diseases.

Hawes.[26] Death of a three-year-old girl from sepsis about three weeks after vaccination.

Holt.[27] A previously healthy child developed, two weeks after vaccination, a pustular eruption, double axillary adenopathy and suppuration of the glands in the opposite axilla, soon followed by acute bronchopneumonia, which proved fatal. The vaccination site had an unhealthy look.

Hutchinson.[28] Two cases (one originally reported by C. Lucas); late gangrenous ulcerations of the arm occurred, with fatal terminations.

Luce.[29] Two fatal cases of early erysipelas followed by gangrene.

Mazzoni.[30] In a series of eight cases of vaccination, redness appeared within two hours, followed by erysipelas, phlegmon, and suppuration. One child died three weeks later, the rest recovering after severe illness; the vaccination did not take.

Perl.[31] A case of acute parenchymatous nephritis following vaccination, on the fifth day. The child recovered. The urine contained one-half per cent. albumin, casts, blood, etc.

Peters.[32] A case of late erysipelas followed by gangrene and death. In the discussion of this paper, Emery related a case of formation of a deep ulcer at site of vaccination, with abscesses in the axilla and up and down the arm. The child was known to have scratched the vesicle with its nails. A sudden change to cold weather occurred at the same time. The child recovered.

Pooley.[33] A case of a young man with severe local and general symptoms following vaccination. He was laid up in bed for a month, and upon getting up found his arm was paralyzed (motor and sensory). He had pains referred to the arm. His hand sweated profusely. This patient recovered in time.

Schaeffer.[34] In a child aged three and one-half years, inflammation of the arm, fever, and diarrhœa set in on the eleventh day after vaccination. At a later period, sloughing occurred at the site of vaccination, leaving a large ulcer, which slowly healed. Schaeffer knows of a fatal case in the practice of a colleague; no details are given.

Simmons.[35] On the ninth day after vaccination a child became feverish, and developed adenopathy of the arm-pit and neck and a general measly eruption. The arm appeared to be paralyzed, was swollen and dotted with ecchymoses. The scab was dark red. The parotid and submaxillary glands were enlarged, along with the lymphatics, with threatened suppuration. Convulsions appeared, and the child died on the third day of the attack and the twelfth day after vaccination.

Toms.[36] A child aged five and one-half years, scrofulous (suppurating adenitis and strumous keratitis). The after-treatment was neglected and several chances were given for late infection. On the eighteenth day the vaccination site ulcerated to the size of a half a dollar, with a fetid and sanious discharge. No swelling of the arm or axillary glands occurred. There were fever with a temperature of 100.5° F., and malaise. The ulcer began to improve under treatment, but on the twenty-fourth day after vaccination, tetanus set in; it was of a mild type and might have ended in recovery had not fatal œdema of the lungs set in. No tetanus bacilli were found in the pus of the ulcer. The child had already developed an aphthous sore mouth after vaccination; this may have been the source of the tetanus.

Cory.[37] Two cases of generalized vaccinia ending in a multiple gangrene, one of which terminated fatally. The arm-to-arm method was used in the fatal, and probably in the other case.

Bieser.[38] A child aged three and one-half years died from acute septicæmia, on the eighth day after vaccination.

Sturmdorf.[39] A girl thirteen years of age had acute primary osteomyelitis of the femur, which required operation. Later investigation revealed the fact that the patient had been vaccinated on the diseased leg ten weeks previously, with subsequent cellulitis, which had disappeared when the writer saw her for the first time.

In addition to the preceding cases I append an interesting series of untoward results from the recently issued report of the surgeon-general of the United States army.[3]

1. Septicæmia following vaccination; recovery.

2. Abscess of left axilla and pectoral region, due to vaccination; resulting in contraction of muscles and fasciæ, impairing the use of the arm.

3. Death from tetanus, resulting from infection by vaccination.

4. Erysipelas following vaccination; recovery.

5. Neuritis of the left arm following vaccination; later, false ankylosis of the left elbow from the same cause. The patient was able to return to military duty for a few weeks, but then lost both power and sensation in the arm. He was discharged from service for paralysis of arm and forearm.

6. A patient was admitted to the hospital, suffering from vaccinia. Two days later synovitis of the right knee developed. Later synovitis of the left knee appeared, which became chronic. He was discharged from service. The fact is mentioned of an axillary abscess following (a second) vaccination. The abscess was incised and curetted, but fatal septicæmia developed.

7. Fatal septicæmia following vaccination.

8. Vaccination followed by abscess of the left axilla. Fatal septicæmia followed.

9, 10, 11. Three cases of fatal septicæmia sequent to vaccination.

12. A colored soldier vaccinated with all aseptic precautions. Seventeen days later he was reported sick with first symptoms of tetanus, and died two days later.

It should be stated that these eight deaths in the army, from vaccination, are all that are reported in a total of perhaps 350,000 cases.

It is not claimed that the preceding cases from the literature exhaust the number which have been placed upon record. Others could readily be found in such standard works as those of Hardaway,[1] Peiper,[2] Nothnagel,[40] Brouardel[3] (in "Twentieth Century Practice"), etc. It must further be borne in mind that many cases of accidents following vaccination have been reported, in which the reporter fails to state whether the virus used was animal or human. These cases have been disregarded in my paper. Several cases of tetanus might otherwise be added—one reported by Dr. Berkeley,[41] and two in the Island of Cuba. Dr. Berkeley's case was in a man aged forty. A deep indurated ulcer appeared in the site of vaccination. Tetanus developed in three weeks from the operation and resulted fatally. With regard to the tetanus cases collected I find that nearly all occurred in the United States.

The fact should again be emphasized that this paper

has been limited to vaccination with animal lymph, because the use of this substance has become established in this and many other countries, and to speak of accidents in the past which have followed the use of human lymph is to introduce an element of uncertainty which has now been eliminated. At the same time it is just to admit that very many severe complications and fatalities of a past age probably occurred independently of the kind of virus used, having been due to improper vaccination, neglected after-treatment, etc., at a time when asepsis was not dreamed of. It is obvious, however, that we cannot make use of these cases, for vaccinators of a past generation have stated that erysipelas was much more common when humanized virus was used.

Cases Obtained by Correspondence.—Notes of a few cases have been sent to me by public officials. I may here state that a number of health officers of cities make praiseworthy efforts to follow up their cases of vaccination, and thus guard against the possibility of secondary infection; these men attribute the excellence of their records to this and other aseptic precautions.

Three fatal cases of tetanus and one fatality from gangrene and septicæmia have been reported to me by health officers. The latter case was probably in a patient vaccinated on shipboard. A case of meningitis, which developed two weeks after vaccination, was also reported to me by the health officer of a western city. This patient recovered.

The cases communicated to me by private practitioners were, in all but a few instances, of patients vaccinated by some person other than the one reporting the case.

Numerous reports have been received of cases of erysipelas, lymphangitis, phlegmon, gangrene, and other manifestations of local sepsis, while there were others of general septicæmia, meningitis, tetanus, and pneumonia, a number of which ended fatally. These cases are recapitulated briefly with the initial of the observer's surname.

B——. Death from sepsis following vaccination.

S——. Death from septicæmia a few weeks after the opening of an abscess of the axilla, following vaccination. A second abscess had formed meanwhile. The patient was aged fourteen months. An abscess formed ten days after vaccination.

O——. Death from general infection following vaccination.

von G——. Three cases of septicæmia in dispensary patients, one complicated by extensive gangrene of arm. No fatalities followed.

K——. Death from septicæmia in a child aged six weeks. Pyæmia in a child aged six weeks. Pyæmic abscesses in the joints and kidneys (pyuria). The pock had begun to suppurate profusely in the second week, and the arm had thereupon been tightly bandaged.

G——. Before 1885 he saw many cases in dispensary practice—erysipelas, axillary abscesses which required incision and drainage, and other complications.

A——. Several cases of streptococcus pneumonia, one with a fatal termination. Also cases of erysipelas and pseudo-erysipelas; glandular abscesses in the axilla, neck, and groin (the latter after vaccination on the leg).

J——. Before the days of aseptic vaccination he saw many cases of erysipelas, ulceration, and occasionally diphtheritic infection of the vaccine pustule.

M——. He saw cases of erysipelas after vaccination, some so severe as to involve the entire surface; no fatalities followed.

M——. Death from general erysipelas followed by convulsions and meningitis. A child eight months old; erysipelas appeared nine days after vaccination.

H——. Severe erysipelas in a baby ten months old. The infection began at the site of the vaccination (on the calf), and extended over both lower extremities. Recovery occurred in three weeks.

C——. Death from tetanus. A child aged five years, with tuberculous antecedents. Tetanus appeared three weeks after vaccination. All instructions regarding the care of the vaccine pustule had been disregarded. A handkerchief had been bound around the arm and left *in situ* three weeks, causing a foul wound.

F——. He saw an ulcer of the arm as large as a silver dollar, due to vaccination seven weeks previous.

J——. A case of gangrene in the site of vaccination, with severe pain in the brachial plexus.

Z——. A case of suppurating axillary glands requiring removal, also a chain of glands beneath the pectoral muscles, and later, otitis media. The patient has not yet recovered.

S——. A case of severe lymphangitis following vaccination on the thigh, in the third week. The parents of the child had been very indiscreet in the after-care of the pustule.

M——. A case of extensive phlegmon of the entire arm, terminating in a large deep-seated abscess of the lower cubital glands. Several cases of suppurating axillary glands.

M——. A case of phlegmonous cellulitis of the arm, involving the axillary glands; it required incision and drainage. Also two cases of general furunculosis following vaccination, involving the trunk, neck, and occiput.

C——. A case of generalized vaccinia of severe type; recovery occurred in about six weeks.

G——. A case of severe universal papular eruption, following a vaccination, with severe local reaction, dermatitis and lymphangitis, rise of temperature; the general behavior was that of an intoxication. Recovery followed.

S——. A case of acute osteomyelitis in a child aged two years, of scrofulous stock. Three days after vaccination the child became very ill, with severe constitutional disturbance, fever, the arm swollen, the axillary glands enlarged, and a stiff neck. He was ill for ten days, and the vaccination pustule healed in three weeks. Twenty-three days after inoculation, osteomyelitis began at the lower extremity of the right fibula; followed by intermuscular abscesses and suppuration of the ankle-joint. Streptococci were found in the pus. The child was operated on and recovered.

O——. A ten-months-old baby with a scrofulous history, three and one-half weeks after vaccination developed septicæmia, followed by septic pneumonia and death. The scab had been torn partly off. O—— also had three cases of erysipelas through secondary infection, one quite a severe case, but all ended in recovery.

K——. He saw a man twenty-four years of age, who had been vaccinated by his mother (not a physician). About ten days later a large abscess developed in the axilla, which required operation. The patient recovered in about six weeks.

S——. He saw two cases of suppurative lymphadenitis, both occurring within five and seven days from the period of the first inoculation. Another girl, seven years of age, on the eleventh day after vaccination had a deep excavation at the site of the inoculation, with pus and axillary adenitis; her temperature was 104.5° F. The next day, otitis media purulenta acuta developed and three days later, streptococcus pneumonia. Recovery followed.

The general literature, as well as the notes of my correspondents, contains accounts of many anomalies of vaccination which have not thus far been mentioned, because they were not of a serious character. Some of them may be briefly alluded to. The most interesting is the so-called "raspberry vaccination," a vas-

cular fungoid excrescence which sometimes results from imperfect vaccination or failure to take. It is believed to be due to the use of degenerated lymph.

My friend Dr. W—— has sent me notes of two cases which were recently seen by him. Both patients were vaccinated at the same time with ivory points, all aseptic precautions having been taken. Three days later several small, bright-red, separate papules appeared at the site of vaccination, and gradually increased in size, without the formation of an areola. One week after the first vaccination, both patients were revaccinated with board-of-health (glycerinated) lymph, on the same arm as before, and each vaccination took in the normal way. The raspberry vaccination continued to increase in size, so that, in one case, the papules coalesced into one large, elevated, bright-red mass resembling keloid, and itching severely. The normal vaccination healed, while the raspberry vaccination was still active, although the latter finally shrank (in one case only after seven weeks), crusted, and scabbed off.

Dr. Morrow[42] once published a classical account of these raspberry vaccinations.

A troublesome sequel of vaccination, which is fortunately of rare occurrence, is the formation of keloid scars. According to Hutchinson,[43] this accident may be associated with a prolonged healing-process.

Many of my correspondents have sent me interesting reports of various dermatoses which they have encountered after vaccination, but as these sequelæ cannot be regarded as of a serious nature, I shall omit enumerating them. I take this occasion to thank these gentlemen for their courtesy in sending me this material, which plays so important a part in my consideration of the anomalies of vaccination.

In this connection I may mention an experience, notes of which were sent to me by my friend, Dr. B——. An infant aged three months, with hereditary syphilis, was vaccinated on the arm. One week later a syphilitic psoriasis appeared on the palms and soles, with mucous patches of the anus. After the vaccine pustule, which ran a normal course, had finished scabbing, its base assumed the appearance of an indurated chancre. In this case an inoculation with syphilis might have been attributed to the vaccination, had it not been for the complete history of the case. Similar cases of spurious vaccination syphilis have often been reported, and are undoubtedly the means of causing hostility to vaccination among the uninformed.

Before proceeding with my own cases, I may mention some facts which came to my knowledge through a patient, who feared to let me vaccinate her on the leg because of unfavorable results that she had seen among her acquaintances, while others among the latter, vaccinated on the arms at the same time, experienced no trouble. In one instance, a young woman was vaccinated on the calf by a member of the family, who was not a physician, and who used an ivory point. Absolutely no precautions were taken. The leg became so sore that the woman had to maintain a recumbent position for two or three weeks. In a second case a young woman was vaccinated just below the hollow of the knee, by a prominent physician who also used an ivory point. Some aseptic precautions were taken, but no protection was used. Great soreness followed, with the formation of a deep ulcer. The patient was laid up for an entire winter. One year later the woman became an epileptic (no heredity), with attacks of the nocturnal type. The scar on the leg was excised, without relief. In the third of these cases, a girl of eight years was vaccinated above and back of the knee, by a physician. Some aseptic precautions were taken. A severe local reaction followed, with malaise and a general eruption. The patient was confined to the bed, with ice to the leg; profuse suppuration followed, with an ulcer at the point of vaccination. Healing was not completed until two months had elapsed, and the child, originally robust, has been delicate ever since.

Personal Observations.—I shall close my citation of individual cases, with an account of the complications of which I have personal knowledge. Only one of these individuals was vaccinated by myself. I am not now including my two hundred and twenty-four vaccinations of the last four months, which I shall discuss separately.

M. B——, a girl of thirteen years, came to the German Dispensary last January, with an abscess of the under surface of the arm, about two inches below the level of her vaccination. By pressing upon the swelling, pus escaped freely from the site of the inoculation, which had an unhealthy look. She stated that she had been vaccinated as a baby (two scars were still visible), and again four weeks previously. The arm was not prepared beforehand, and no protection whatsoever was employed. The arm having become sore, she was obliged to go to a physician, and afterward to the dispensary, where she came under my observation. Incision of the abscess and drainage brought about rapid recovery.

W. D——, aged twenty-three years, was vaccinated in 1891. No dressing was used, and the scab adhered to the shirt sleeve. Whenever he dressed and undressed, the scab was detached. His arm did not heal until about four months had expired.

H——, aged thirty-five years, was vaccinated in 1884 on the left arm, with negative result, but ten days later generalized vaccinia of the whole body occurred. He recovered within sixteen days. This patient was under the impression that he had passed through an attack of smallpox.

J. R——, aged thirteen years. When seven months old he had typhoid fever; at two and one-half years scarlatina, and six weeks later, measles. An attack of nephritis with hæmaturia followed the scarlatina. The kidney trouble lasted a year and ended in recovery. The patient had the mumps when three years old, and a second attack of measles at the age of four years. From that time he was well until vaccinated. This operation took place in 1897, when the patient was ten years of age. The arm was not prepared, and a felt shield with uncovered perforation was used. I saw him first nine days later, when an abscess developed at the site of vaccination, with pain and redness of the arm as far as the elbow. Pain, redness, and swelling then developed at the upper end of the lower third of the left tibia, at the site of a fracture which had occurred three years previously. All these symptoms disappeared in about three weeks. Eight months later, osteomyelitis developed in both tibiæ. He recovered in about a month, without operation.

Mrs. L——, aged thirty-one years, had been vaccinated in 1870. In 1893 her baby, aged about one year, was vaccinated on the left arm. While the mother held her child against her left breast, the infant, whose vaccination was not protected, scratched her below the left ear, and produced a normal vaccination. A large scar resulted, and is still noticeable.

J. F——, aged thirteen years. This is the only individual in the present series of six cases who was vaccinated by myself, the operation having been performed December 5, 1897. The arm was carefully cleansed and a felt-and-wire shield applied. On the seventh day a perfect vesicle and areola were present. Three days later erysipelas appeared. The boy stated that in the course of some rough play at school he had received a knock over the site of the vaccination, which displaced the shield. Infection most likely resulted at that time, as the shield was not aseptic. This patient recovered readily. Since that time I have used aseptic gauze and adhesive plaster for dressing, and have had no unfavorable results.

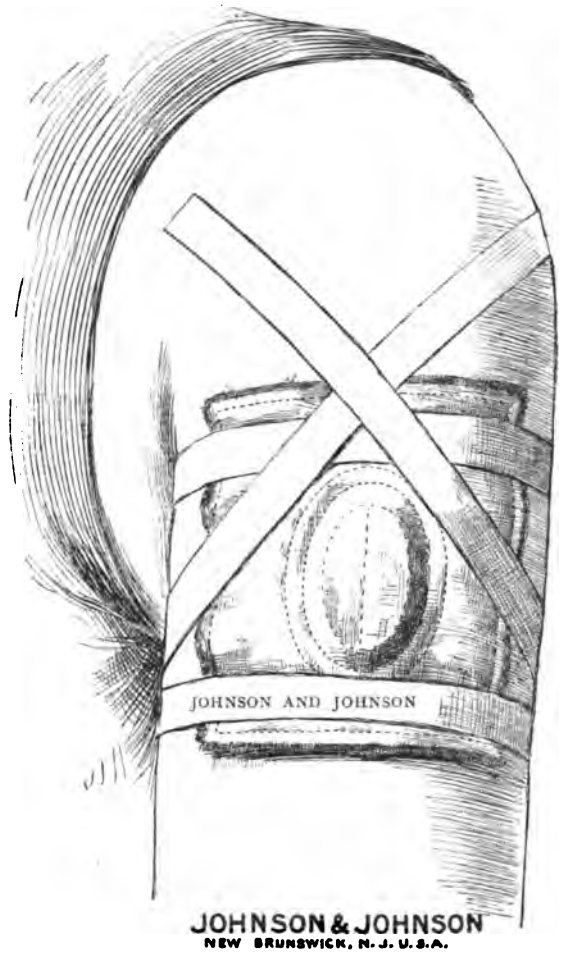
In all my cases, with the exception of three, I have employed the lymph supplied by the New York board of health.

I now come to the most important part of my paper; namely, the operation of vaccination itself, and a consideration of how to make it aseptic. Not only the laity, but the physicians as well, are prone to underrate the importance of this procedure. It is absolutely essential to the completeness of a vaccination that the patient return for inspection at the expiration of the first week following the operation. This has a twofold advantage. First, the physician has an opportunity to determine whether or not the vaccination has been successful; for the laity are no judges of a positive result. This matter is of vital importance to the patient and the community, for if the result has been negative, the patient, who perhaps may have had some sort of local reaction, with a sore arm, may fancy himself protected, and therefore expose himself carelessly to the smallpox. Second, this inspection of the vaccination will likewise give the physician an opportunity to recognize complications at an early stage. Of course, if the first inspection proves the result to be negative, the patient should be seen a second time, to make sure that the case is not one of delayed vaccination; and the physician should make it a rule to keep the patient under observation until the wound has entirely healed. He should watch these cases with the same care and sense of responsibility as any of his major operations. It is self-evident that no one but a physician should be allowed to vaccinate.

I am well aware that there is nothing new in these suggestions, which have been made in all standard works on vaccination, such as those of Peiper,[9] Hardaway,[1] Immerman[10] (in Nothnagel's "Handbuch"), Brouardel[3] (in "Twentieth Century Practice"), and others; and which have also been faithfully carried out by many practitioners. But it is none the less evident that the occurrence of unfavorable results justifies the repetition of these suggestions.

The technique which I employ is as follows: the skin is made as nearly aseptic as possible by scrubbing it with soap and water, using an ordinary surgical brush. Recently I have used synol soap, which I find to be powerfully cleansing and convenient, while at the same time it does not interfere with the success of the inoculation. I next treat the skin with alcohol, then with ether, again with sterilized water, and finally dry the surface with sterilized gauze or cotton. I scratch the skin superficially over an area of about one-quarter of an inch, making four or five parallel scarifications, and as many more across the first at a right angle, causing no bleeding if possible. The lymph is conveyed to the scarifications and thoroughly rubbed in with the spade which, as well as the needle, should be furnished sterile by the manufacturers. Before I devised my shield I allowed the exuded serum to dry exposed to the air. After drying, I cover the wound with an aseptic gauze compress, fastened with strips of adhesive plaster. I give the patient very strict instructions as to the importance of returning for inspection and possible after-treatment, and not to disturb the dressing. With very few exceptions my patients returned, and in no case did I see the compress adhering to the vesicle, nor did I observe any irritation of the skin from the plaster. Moreover, the dressing seldom became disturbed, although some strips of plaster may have become partially loosened. But after the pustule had formed, I have found in quite a number of cases that rupture took place. I believe that the membrane covering the pustule is much more delicate than that covering the vesicle; and for that reason rupture will more easily occur in the former. When the pustule ruptures, the contents are absorbed by the gauze, producing thereby a very characteristic and offensive odor. If this dressing remains unchanged, there is danger of secondary infection and dermatitis. In a few cases, adhesion of the gauze was noticed. In changing the dressing when adhesions formed, I did not disturb the scab, but cut around it and removed some of the layers of gauze, applying a fresh dressing over the remainder. With this method I obtained most gratifying results.

Notwithstanding the fact that my results have been excellent, I still think there may be room for improvement in several directions. The vaccine tube might be so weakened by a scratch with a file at either end that it would break more readily, and it might also be well to handle it, while breaking, with the fingers protected by aseptic gauze; otherwise the lymph might become contaminated by the fingers or nails.



Sinoe Hausmann[11] has shown that lymph blown from a tube may be contaminated with epithelial cells from the mouth, this possible source of infection should be obviated by using the small finger bulbs supplied by Mulford and others.

I shall now consider the possibility of germs from the air falling upon and infecting the site of vaccination during the drying of the serum and lymph upon the scarified and inoculated area. To avoid this source of danger, I have devised my aseptic shield, which can be immediately applied over the site of the inoculation, and retained up to the first day of inspection, when it may be loosened at the bottom and immediately fastened again with plaster. Should it be found soiled by the discharge from the pustule—which happens occasionally—a new shield must be substituted.

My shield consists of eight layers of gauze, each three and three-quarter inches long and three and one-quarter inches in width, having enclosed in the centre a wire net two inches long and one and one-half inches wide, with a height of one-half an inch. Five asep-

tic strips, each one six inches long and one-half an inch wide, accompany every shield, four of the strips to be used in the primary adjustment of the shield, and one for reserve to be used when inspection is made. This all reaches the physician in an aseptic condition. Under this device the scab will remain undisturbed by friction of clothing, and healing may go on to completion under a single shield.

This last innovation I can recommend the more highly because I have already employed it in quite a number of cases.

During November and December, 1900, and January, 1901, I vaccinated two hundred and twenty-four individuals, and kept a careful watch over my cases, making all necessary notes. This report I pass around for your inspection.

All twenty-six primary vaccinations took, and in addition, one hundred and eighty-three of revaccinated cases, making in all a total of two hundred and nine out of two hundred and twenty-four. There were ten cases with constitutional disturbances—generally about the seventh or eighth day—only two patients being confined to bed, one for three days. This last was a young lady of twenty-two, who was vaccinated first in 1879 with positive result, and not again until 1900. She had quite severe constitutional disturbances, which I first thought to be the grippe. Her temperature was 103.2° F. Her vaccination was upon the thigh, and she had enlarged and painful inguinal glands. As a child of five and seven years of age, she had enlarged cervical and inguinal glands on both sides.

The other, a little girl five years of age, vaccinated on the calf of the leg (primary vaccination), had considerable induration and redness after the eighth day, and constitutional disturbance lasting for several days; she was confined to bed for one day.

There were twenty-six cases of enlarged and painful axillary glands, and four cases in which the inguinal glands were similarly affected. The total number of thigh vaccinations was seventeen.

Out of twenty-four cases of vaccination on the calf, only one was followed by enlarged and painful inguinal glands.

There were eleven cases of considerable induration and redness; and four cases of considerable cellulitis, requiring moist dressings, these four having been the only cases requiring treatment of any sort, to which they responded promptly.

I had three cases in which deep ulcers developed, but as no other complications were present, healing was not greatly retarded.

There were two cases of auto-inoculation. A young lady of eighteen, who was vaccinated on the calf of the left leg, inoculated the end of her thumb and middle finger of the right hand and index finger of the left hand. Her sister, aged sixteen, vaccinated in the same way, inoculated the point of the thumb and middle finger of her right hand, the left side of the face a little below the lips, the inside of the left leg just above the ankle, and the index finger of the right hand near the knuckle. These young ladies disregarded my instructions by disturbing the dressings and scratching the skin at the site of vaccination, in the third week following the operation. Many cases of auto-inoculation on different parts of the body, as at the anus, vulva, etc., have been reported.

In all complications except the adenitis and auto-inoculation cases, it was noted that the vaccination was either primary, or a revaccination following an unsuccessful, or very remote successful vaccination.

In one case, a boy five years of age, suffering from eczema on his face and hand, was vaccinated by me for the first time in his life, in December, 1900. The vaccinia was normal, and afterward the eczema seemed to improve. He was vaccinated for the reason that his father's occupation exposed him to the smallpox contagion.

One patient had severe smallpox in 1871. He had been vaccinated in 1863, but I have some doubts as to whether the operation was successful. My result in this case was negative. In three other cases the patients had had smallpox after successful vaccination, but of a very mild type. One patient was a lady aged sixty years, vaccinated successfully in 1840, and again in 1888; in 1894 vaccination was negative, and in 1900 positive again. She had a mild attack of smallpox in 1888, six months after successful vaccination.

One young lady aged sixteen years was vaccinated with positive result in 1884; with negative results in 1894 and 1896; she was vaccinated by me in 1900 and 1901, on different parts of the body, with negative results. She had a mild case of smallpox in 1890.

One girl aged eleven years was first vaccinated in 1890 with positive result, in September, 1900, at school, with negative result, and by me, successfully, two months later. Quite a number of my cases took in patients who had also been successfully vaccinated within ten years, and even up to within four or three years.

I have recently written to the authorities in charge of the smallpox hospital of New York City, for information as to whether the cases of severe variola during the present epidemic had been vaccinated, and if so, when; but unfortunately it was impossible to obtain a report. My reasons for this inquiry lay in my belief that these patients had either not been vaccinated at all, or had not been revaccinated during long periods.

In conclusion I desire to suggest that a national law for compulsory vaccination and revaccination, such as exists in Germany, and similar to those adopted in many other countries, should be passed. I would also recommend that a knowledge of the importance of vaccination should be taught in the schools, so that when children become adults, it will not be so difficult to teach them the importance of revaccination. For, although I have cited so many fatal and severely complicated cases following vaccination, it must be remembered that they are collected from many millions of persons vaccinated, and are an insignificant percentage when compared with those unvaccinated persons who have died from the effects of smallpox.

I would also like to emphasize the necessity of giving special instruction in vaccination in all medical colleges.

Although the number of cases reported by me is comparatively small, the results seem to justify the conclusion that, if the above instructions are carefully adhered to, serious complications will be of rare occurrence, and the anti-vaccinationists may have even their last foothold removed from under them.

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112 WEST ONE HUNDRED AND TWENTIETH STREET.

THE FIELD FOR ETHYL CHLORIDE NARCOSIS.[1]

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THE strife that is still waging between the advocates of chloroform and ether, or combinations of both with still other adjuvants, will hardly be further complicated by the advent of ethyl chloride as a general narcotic; for it is not in its competition with the aforesaid anæsthetics in the field of major surgery that it has to win its honors. It is in the realm of minor surgery that its uses have thus far been exploited, with such signal success that I was impelled to give it an extended trial in two hundred instances, embracing most operations in the domain of minor surgery, and applied to individuals varying in age from infancy to old age. The history of this agent must needs be a preliminary to my personal experiences.

As a matter of passing interest I would state, on the authority of chemists, that in the dark ages mention is made of an alchemistic product known as "vinum salis," produced by the distillation of salt and dephlegmated alcohol, which had narcotic effects on imbibition. Again, it is a matter of record that about the middle of the eighteenth century a German chemist, Woulfe, made a product known as light hydrochloric ether, to distinguish it from the heavy hydrochloric ether, the so-called "Dutch liquid," which in the early part of the nineteenth century, at the time when chloroform and ether first came into use, was also employed as a general anæsthetic by English and German physicians, and spoken of as chloride of ethyl (chloric ether). But a careful study has convinced me that much uncertainty prevailed as to the exact composition of the chloride of ethyl used. Perhaps the English surgeon Snow (1852) did use a pure product, for he says: "The first quantity obtained from Mr. Mason of the 'Paris liquid' consisted chiefly of monochloruretted chloride of ethyl mixed with a certain portion of the bichloruretted and terchloride product, but I was able by distillation to separate so much of the monochloride product as to enable me to administer it to twenty-two patients." Snow died while writing this sentence, and this therefore closes his observations. Neither Langenbeck, nor Steffen, nor Liebreich used any products analogous to the modern ethyl chloride. They speak of ethylenchlorid, or ethylidenchlorid and ethidenchlorid. These are of entirely different origin chemically from the monochloride of ethyl (C_2H_5Cl).

The latter is the chemical title of the agent hitherto used for local anæsthesia, and is the subject under consideration. My experiences were obtained with ethyl chloride. It is a colorless, mobile liquid, having a peculiar, pleasant odor, and a sweetish, burning taste. It does not solidify at $-29°$ C., boils at 12.5° (Regnault), at 0° possesses a specific gravity of 0.9123 (Pierre), and its vapor density is 2.219 (Thenard). It is but slightly soluble in H_2O, though dissolving rapidly in alcohol.

In 1892 Dr. H. C. Wood, writing in the *Dental Cosmos*, says he could not induce anæsthesia with ethyl chloride by the ordinary methods. He then resorted to the administration of it in a concentrated form, with the tracheal cannula, but concludes that it is fugacious and so dangerous that he believes "it is probable that if it should come to be employed in practical medicine as an anæsthetic, there would be a record of sudden deaths through cardiac failure proportionately even more numerous than with chloroform." In 1894 Schleich, concerning his experiments, says: "We have proven that ethyl chloride, boiling at the room temperature, evaporating at once, acted more violently on animals than the other anæsthetics, and because of the higher boiling-point and slower evaporation of the latter, greater quantities of ethyl chloride entered the lungs." In Schleich's experiments the vapors were given under a bell jar. In like manner, Wood administered ethyl chloride in a concentrated form, and therefore animal experiments of either are not tenable for ethyl chloride as a narcotic in human beings. Subsequently, Schleich admits a more rapid recovery for the animal asphyxiated with ethyl chloride than with the other anæsthetics. Soullier (1895), of Lyons, was the first to administer the ethyl chloride under the most auspicious clinical conditions, and he tells us that in the hospitals at Lyons 8,417 cases were treated, without any direful consequences. Two different accounts leave some doubt whether his was a pure product, though in the first article he emphasizes this point. It was, however, the experiences at the clinic

[1] Read before the Surgical Section of the New York Academy of Medicine, January 14, 1901.

in Innsbruck, exploited by Lotheisen, Ludwig, and Wieser, that gave the real impetus to the use of ethyl chloride as a general narcotic. Cognizance herein is taken only of the experiences of surgeons as to the efficiency of this agent as a general anæsthetic, and up to the moment of writing, including the aforesaid cases of Soullier and 2,550 cases collected by Lotheisen, together with 40 cases recorded by Dr. Tuttle and 200 cases of my own, we have a total of 11,207 narcoses. Bearing on the fatalities, Lotheisen recently puts on record a death in his own experience, thus narrated: A male laborer, aged forty-one years, alcoholic, having an ulcer of the leg, was about to have the operation of Krause's transplantation performed. After three minutes, 10 gm. of ethyl chloride having been used, the patient suddenly became pulseless and stopped breathing. Autopsy: Excessive arteriosclerosis of the coronary artery, less marked in the aorta; venous blood bright red, as in coal-gas poisoning. There was no ecchymosis in pericardium or pleura. No œdema and the absence of ecchymosis speak against asphyxia as the cause of death. It was intended to give chloroform to this patient, and perhaps the same fatality might have resulted. Thus the *pium desiderium* of a narcotic without a possible lethal effect cannot be looked for in this agent any more than in the others. Lotheisen then reports two additional deaths, one personally communicated by Soullier and another incidentally mentioned in passing, by J. Spengler, from Kocher's clinic. Both of these cases, because of their insufficient data and the uncertainty of the product used, ought to be excluded from the total statistics. If, then, this restriction be accepted, the death rate is 1 in 11,207 cases. Considering the early stage of its application, the showing for ethyl chloride is a very commendable and encouraging one.

Method of administration: A certain degree of concentration of ethyl chloride in the gaseous state is necessary, and whatever mask be used its walls must in greater part be impervious to air. It has been recommended to spray ethyl chloride upon the under surface of an ordinary chloroform mask covered with oil silk. To administer it thus is awkward, wasteful, and very uncertain, so I early abandoned this for the modified mouth-piece of the nitrous-oxide apparatus, the inspiratory valve of which is replaced by a piece of gauze guarded on its distal side by a wire net to prevent aspiration of the gauze. The orifice of the gas-supply tube is occluded, and the sliding tube being removed, the ethyl chloride is sprayed through the air vent on to the gauze. A couple of cubic centimetres are sprayed at a time, and the effects watched. In place of this special mask, equally reliable is a tin or vulcanite funnel, given by a little pressure a shape to conform to the features of the face, with a notch to correspond to the bridge of the nose. Into the neck of the funnel, a piece of gauze is inserted, and a window may be cut into the wall of the funnel to act as an outlet. An improvement in the technique greatly furthering the economic use of ethyl chloride, which I have latterly used, consists in imitating the drop method of chloroformization by spraying ethyl chloride intermittently with short remissions. By this procedure the frosted breath will not accumulate on the gauze, like hoar frost, in such quantities as to interfere with the inhalation of ethyl chloride.

Effects of the drug: The inhalation of atomized ethyl chloride is pleasant, having a sweet taste, akin to that of chloroform, unattended by any choking, and never by any salivation. The intense cold produced by evaporation of ethyl chloride is not perceptible on inhalation, as a personal trial will soon convince. Marked excitation is encountered only in alcoholics and highly neurotic patients, wherefore the latter should be spared all excitement. On an average, when 10 c.c. have been used, and this after an interval of one or two minutes, the requisite anæsthesia is attained. The breathing is perfectly natural, and, in the narcotic stage, becomes somewhat stertorous; at times the usual attention has to be given to the falling back of the tongue. The pulse becomes somewhat accelerated and remains so throughout, but digitally no fall in the pressure is appreciable. There is constantly a profuse flushing, notably of the face, followed by free perspiration. There are slight jactitations followed by spastic state of the muscles, which relax considerably in degree as the narcosis is pushed. The muscles of the chest are not thus affected, for never was any interruption in respiration encountered from this cause. Observers are at variance as to the pupillary reaction, but I think very early in the administration of ethyl chloride the pupils begin to dilate; this preliminary dilatation is followed soon by a moderate contraction, which again passes into dilatation if the anæsthetic is pushed too far. The narcotic stage is judged to have set in when the pupils are becoming smaller, when the muscular contractions abate, and when the breathing is slightly stertorous. The extreme volatility of ethyl chloride makes it impossible to rely on any one symptom, as all are fugacious, yet the evolution of the various stages is like that of other anæsthetics but so rapid that, after the expiration of one to two minutes, narcosis sets in abruptly.

On the authority of Ludwig and Lotheisen, I quote that it has been kept up for forty minutes. The longest period it was given by me was to a child aged fifteen months, for castration of tuberculous testis, during fifty minutes. Regardless of the duration of its administration, the awakening is short of being instantaneous, and unless food has been ingested immediately before narcosis no vomiting whatsoever ensues, and moreover there are no unpleasant after-effects to record. I have to report a single instance of alarming symptoms. In a child afflicted with extensive adenoids, not recognized prior to the operation—incision for cellulitis—asphyctic phenomena set in, yet with care the drug's use was continued, and again applied on a subsequent occasion calling for more incisions.

Departures from the above phenomena will be the rule in alcoholics, neurotics, and children. Alcoholics show marked excitation and require larger quantities, and, if at all narcotized, remain very rigid. To offset these bad effects, Lotheisen claims to have good results accrue from a preliminary use of a hypodermic injection of heroin, to which he also resorts when a long operation is expected. As to neurotics, a little explanation and the quietest of surroundings will greatly facilitate the anæsthesia. In children the anæsthesia is at its best, and they have been the most fertile source of my experience. With them how little irritating the vapor is, may be judged from the freedom of respiration, the absence of any struggle, rapid sleep, and almost always complete relaxation of the muscles. At all other ages the slight muscular rigidity present must be a deterrent factor from the use of this agent for the more delicate work of major operations. The rigidity is not marked enough to interfere with the reduction of fractures. No bad effects on the kidneys or lungs after long operations have been recorded.

Physiologically viewed, ethyl chloride seems to act selectively on the sympathetic nerve, judging from the accelerated pulse, flushing, and a transient dilatation of the pupil; next it seems to act on the spinal cord, and lastly on the brain, but on all of these in very rapid sequence.

Chemically, being derived from the second series of hydrocarbons, it is in the direct line of relative safety of alcohol and ether, both derivatives of this group; but according to Benjamin W. Richardson, an anæsthetic is dangerous in proportion to the chlorine it contains,

and herein may lurk a possible danger in ethyl chloride, since it contains one molecule of chlorine.

With all of these pros and cons I hope, however, to have made out more than a fair case for ethyl chloride, and I would champion its use pre-eminently in minor surgery for the following reasons: It is as safe statistically as any of the others; it induces a very rapid narcosis and equally as quick an awakening, and is void of any after-effects. Against its chief competitor, nitrous oxide, be it said that it is cheaper, does away with any special apparatus, is portable, and its market is so wide-spread already as to place the drug at hand for the vast majority of physicians and surgeons.

Indications for its use arise in all minor work in which the exact limits of operative procedures can be predetermined. It has proved efficient for curettage and obstetrical anæsthesia (P. Mathes), expression of trachoma, reduction of fractures, and as a preliminary to narcosis with other agents. In the latter direction the experiences of Dr. J. P. Tuttle amply testify. Likewise, the beneficent effect of the mixture employed by Dr. Willy Meyer is in no small measure due to the ethyl chloride it contains. I am mindful of the fate of other anæsthetics, methylene bichloride and pental, whose use was very ephemeral, because of their great death rate right at the start; but this cannot be charged to ethyl chloride; therefore I think its future is secure, dependent largely on the liberal trial given it to ascertain its benefits as well as its limitations.

In conclusion, I wish to thank Drs. H. Streiffer and Dr. Celler, whose valuable assistance rendered possible the experiences herein narrated.

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ON THE DIAGNOSIS AND PROGNOSIS OF DIABETES MELLITUS.[1]

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It seems to be very generally assumed on the authority of the most enlightened medical minds that the diagnosis of this dread affection resolves itself, first, in the detection of glucose in the urine, and secondly, in the proper interpretation of certain deviations from the lines of good health. Unless these prerequisites are satisfied we are not on safe ground in making a diagnosis. While in most instances the diagnosis is readily made when the disease has reached an advanced stage, still there is a large percentage of cases which furnish little or no clinical data, and which are consequently not easy of recognition, unless the clinician be a keen observer and a good urinologist. Among the cases likely to escape detection are those in which the urine is of low specific gravity, or those in which the urine shows only a trace of glucose, or those in which other urinary constituents than glucose, such as glycuronic acid, indican, or creatinin, reduce the copper or the bismuth of the test solutions, or lastly, those cases in which, for reasons unknown, the sugar in the urine fails to reduce cupric oxide at all.

[1] Read before the section on general medicine, New York Academy of Medicine, March 19, 1901.

The first consideration then in diabetes is to establish the existence of the disease; this, in view of its unascertained pathology, is not so easy as would at first appear; for I know of no disease in which it is so difficult to determine where physiology ceases and where pathology begins. Neither acute nor chronic glycosuria *per se* is sufficient evidence to warrant a diagnosis; for we know that both forms may occur under conditions which are compatible with the enjoyment of good health. Thus we may find a glycosuria of a transient character following an overindulgence in carbohydrates, or as a sequence of muscular fatigue, or following an anæsthesia by ether or chloroform, or following the ingestion of certain drugs, or following shock or a trauma, or accompanying a lesion of the brain or of the spinal cord. And yet not one of these conditions could be pathologically labelled as diabetes. We are thus confronted at the outset with the inquiry, When can a person be said to be suffering from diabetes? The answer is, Only when there is a glycosuria —persistent, transitory, or recurrent—accompanied by one or more of the classical clinical features of this disease, such as a polydipsia, polyuria, either or both accompanied by a general deterioration of health; in other words, there must be a characteristic syndrome, plus glycosuria, as determined by several interval analyses of a twenty-four-hours' specimen of urine.

While I do not purpose to recapitulate in chronological order all the symptoms of the disease in question, I wish, however, to allude to certain signs and symptoms which are not usually mentioned as such in the more familiar text-books, and whose presence singly or in combination ought always to arouse suspicion of diabetes. Among these evidences of the affection the following are the more prominent: Periodic attacks of headache in obese subjects over thirty-five years of age, extreme and lasting fatigue after a short but violent exercise, and prolonged fatigue, say, of one or two days' duration following a slight exertion; slowly failing vision in the aged or quickly failing vision in the young, certain signs referable to the mouth, such as acid saliva, receding gums, fissured and extremely reddened tongue. This is a combination frequently encountered in middle-aged women. Two varieties of symptoms are referable to the heart and its functions—the one set simulating an attack of angina pectoris and a second set presenting the physical signs of arteriosclerosis, or of cardiac hypertrophy. This latter set of cases may be met with not infrequently in obese male subjects with florid countenances and with otherwise healthy appearances. Another train of symptoms is referable to the nervous system. There are present marked nervousness and psychical disturbances; the patient is usually an old man of an ungovernable temper, is easily irritated, and, besides, is impatient; has a morose expression and lacks cheerfulness. Still other symptoms, which should put the clinician on his guard, are premature grayness, premature sexual weakness, diminished patellar reflex, slow healing of wounds, cramps in the calves of the legs in the morning hours, accompanied by muscular weariness.

While on the question of diagnosis, I wish to allude to certain vagaries, or rather anomalous types, of the disease. There are two which present such unusual features that they may be justly styled unique. In the first set the diabetic dyscrasia is present, but glucose cannot be demonstrated in the urine. In the second set, glucose can be demonstrated in the urine at intervals, during which times the subject presents no clinical manifestations of the disease. These masked or suspicious types have been described by Külz, von Noorden, Naunyn, and others. In an article on the treatment of diabetes, read by me before this section in 1897, I alluded to this first set of cases, styling it

"a glycosuric diabetes." That they are types of the diabetic diathesis is not beyond the pale of belief. At that time I instanced a special case. In addition to this latter, I have several other parallel cases under observation. These patients merely possess to an unusual degree the power of assimilating carbohydrates; that is, their metabolic function for amylaceous food is plus the normal, so that sugars and starches are burnt up in their systems without giving rise to a glycosuria. This tolerance, as it were, for carbohydrates varies within wide limits in different individuals, and in the same individual under different conditions. Fortunately we have at our command, as von Noorden, Külz, and Pavy have shown, a method of ascertaining and, to some extent even of controlling, this tolerance for carbohydrates. These investigators made use of the so-called "carbohydrate test meal" to ascertain the degree and power of an individual to assimilate amylaceous food. Such a standard meal consists either of a known quantity of glucose itself, or of a specified amount of an article of diet rich in carbohydrates, as wheaten bread. The one or the other is administered in addition to a breakfast of proteid and fatty food. If no glucose appear in the urine of the next twenty-four hours, the quantity of glucose or starchy food, as the case may be, is proportionately increased the next morning, and another examination of the urine is made twenty-four hours after the test meal. This daily procedure continues until glucose can be demonstrated in the urine, when it is measured and compared with the amount of ingested carbohydrates, thus establishing the ability of the individual to assimilate carbohydrates, with almost scientific accuracy. This test meal, the details of which may be found described in the monographs of Külz or von Noorden, furnishes an excellent clew to establish a diagnosis of diabetes in certain doubtful or mild cases in which there is no palpable deviation from health.

As an aid to diagnosis, the science of bacteriology has been practically a dead letter. Although bacteria have held the centre of the stage during the last years of the past century, yet in diabetes they seem to have made no inroads. What a lucrative field for the bacteriological enthusiast to invade! True, there have been recorded a number of cases of bacterial origin, yet in no instance did the reporter submit satisfactory bacteriological proof to sustain his claim.

Nor have examinations of the blood, chemical or microscopical, been productive of the happiest results. Still, the blood-staining methods of Bremer and of Williamson give promise of great value; but these are still in an experimental stage. Bremer claims that by his method of staining diabetic blood a diagnosis can be made before glucose appears in the urine, and even after it has temporarily disappeared; whereas Williamson has found positive results in eleven cases of diabetes and negative results in one hundred cases of diseases other than diabetes. Bremer's test consists in heating to 135° C. a drop of the patient's blood upon a glass slide. A one-per-cent. Congo-red solution stains diabetic blood red permanently, but the color may be washed off from a control specimen of normal blood.

Williamson says that a drop of diabetic blood decolorizes a warm alkaline solution of methylene blue, when mixed in certain proportions, to a yellowish-green or yellow. This action he claims to be due to glucose. These blood tests are available for diagnostic purposes in post-mortem cases, and are, therefore, valuable in a medico-legal aspect.

The crucial diagnostic factor in diabetes is glycosuria. For the detection of sugar in the urine we have tests which are bewildering in their variety, and this very fact is the best evidence that most of them fall short of being absolutely reliable. Thus we have biological or fermentation tests; the optical or polariscope test; the gravimetrical tests, by reduction of an alkaline copper or bismuth solution; the volumetrical tests, by reduction of copper or mercury solution; the microscopical test of phenylhydrazin crystals. Each of these classes of tests depends upon a different property of grape sugar, and has a certain face value which depends upon whether the test is made for clinical purposes or for experimental purposes in a laboratory. Many of them are so theoretical in their application that they find no place outside of scientific books. Of all the carbohydrates, glucose is probably the only one of clinical interest; the others—lactose, maltose, dextrin, and levulose—occur in the urine under physiological conditions in such small amounts that their presence can be ignored. While each of these classes of tests possesses certain advantages over the others, there is no class free from sources of error, so that to-day we have no absolutely infallible test, the nearest approach to the ideal being the fermentation, for the reason that glucose is practically the only fermentable substance that pathological urine contains, and secondly, for the reason that the only constant and characteristic reaction of glucose is its property of fermentation in the presence of yeast and its conversion into alcohol and carbon dioxide.

The yeast-fermentation test, therefore, especially the differential-density test of Roberts, is one of the most trustworthy for office work. For the relative quantitative determination of sugar, Fehling's test still holds its own. We must, however, in employing this test bear in mind certain imperfections. First, other substances than glucose may be present in urine and reduce the cupric oxide, and secondly, other urinary constituents may retard or mask the copper reduction. Among the substances which may reduce copper and may thus be mistaken for sugar are the following: (*a*) Glycuronic acid; this constitutes the chief source of the pseudo-reaction; (*b*) certain drugs of the aromatic series, the fatty series, the coal-tar preparations, the alkaloids—examples are creosote, guaiacol carbonate, eucalyptol, cubebs, copaiba, tannin, chloral hydrate, salicylates, and sulphonal; (*c*) other urinary ingredients, as alkapton, indican, creatinin, nucleo-albumin, uric acid, and urates. Of substances which retard the reduction or mask it are albumin in excess, peptones, propeptones, and ammonia salts. The effects of these interfering agents may be minimized by chemical measures, such as free dilutions with water of the suspected fluid, or subjecting it once or twice to animal-charcoal filtration, which readily extracts uric acid, urates, creatinin, and coloring-matters. Another means of obviating these errors is to submit the suspected fluid to control tests, and this is the secret of success in determining the presence of sugar in urine; that is to say, not any test should be considered decisive unless supplemented with positive results by another variety.

The reduction tests by copper and by bismuth have then a certain negative value, by which I mean that it can be assumed that urine which does not reduce these solutions is free from sugar, but, conversely, reduction does not conclusively establish its presence. All the tests differ in sensitiveness and reliability, and it does not follow that the most sensitive is the most reliable; for instance, Trommer's copper test is more sensitive than most other tests, but it is by no means as reliable, inasmuch as it fails to detect glucose in amounts less than 0.5 per cent. Again, the phenylhydrazin test, one of the most sensitive, is incidentally one of the most unreliable. The real merit of any test, from a practical and a clinical standpoint, depends upon the ease with which it can be accomplished, the time involved in its accomplishment, and its relative reliability and delicacy. It is one thing to examine urine for

sugar in the office, and quite another to do so in a chemical laboratory. In the former we look for practical results; in the latter for percentages. Taking all conditions into consideration, and with a knowledge of most of the methods and of the instruments of precision in vogue for the quantitative detection of glucose in urine, I cannot help thinking that, for all intents and purposes, one of the quickest, most delicate, and most certain methods is that devised and perfected by Dr. J. Rudisch, of New York. It can be employed in the office, and his double-titration method, which involves only one-half to one hour in its operation, detects even such small amounts of sugar as 0.1 per cent. The single titration, with his test solution into diluted urine, is, according to his statement, "accurate enough for all purposes required by the physician, and can be done more quickly than by any other method."

My limited experience with Rudisch's saccharometer has convinced me that his claims are not exaggerated. The test solution is made up as follows: Copper sulphate (crystallized), 4.78 gm.; sodium sulphite, 50 gm.; sodium carbonate (crystallized), 80 gm. Dissolve in 10 per cent. ammonia water and make up to 500 c.c. One c.c. is decolorized by 1 milligram of sugar.

Prognosis.—In considering this aspect of the disease, it is always the part of wisdom to be reticent in our opinions regarding the intrinsic tendencies of an individual case, inasmuch as a correct judgment of its termination and course cannot be formed until the patient has been under observation for some time, this being especially true in the beginning stages of the disease. In general terms it may be claimed that the majority of cases are amenable to treatment. There are cases presenting numerous and aggravated symptoms which run a favorable course under treatment, while there are other cases with few and mild symptoms which run a protracted course, the cases varying within these two extremes within wide limits. There are those who believe that a permanent cure can be hoped for in some mild cases; there are others who believe that once the disease is established beyond peradventure complete recovery never follows. One fact, however, is well established, that under proper *régime* and diet in a majority of cases patients may live for years—three to fifteen—during most of which time few subjective symptoms may present themselves.

Of great prognostic importance are the following features: (*a*) Age, (*b*) power of assimilation of carbohydrates, (*c*) early recognition of the affection, (*d*) the presence of intercurrent and complicating diseases, (*e*) condition in life, (*f*) state of the urine, (*g*) the power of absorption of other foodstuffs than carbohydrates.

(*a*) Age: In those rare instances in which the disease occurs in childhood it has rapidly proven fatal. This is the only disease in our nosology in which old age is an advantage. The severe forms are better borne in advanced age than the mild forms in youth.

(*b*) Power of assimilation of carbohydrates: This tolerance is ascertained by a quantitative determination of glucose; urine containing one-half per cent. to two per cent. is regarded as belonging to the mild type. One containing five per cent. to ten per cent. is viewed as belonging to the severe type. Decided improvement can be expected when the system is capable of disposing of 200 grams of carbohydrates daily without giving rise to a glycosuria. Permanent intolerance for carbohydrates is an unfavorable prognostic indication, and those cases offer the most unfavorable prognosis in which a glycosuria persists despite the most rigid antidiabetic diet, the glucose being ultimately derived from the metabolism of proteids and from the tissues.

(*c*) The early recognition of the affection has an important prognostic bearing. The sooner the disease is recognized the greater the possibility to maintain nutrition, and the more hopeful will be the subsequent course of the disease.

Right here I wish to offer a plea for the advisability of instructing the laity regarding the necessity of systematic examinations of the urine, even when in the enjoyment of apparent health. I believe much misery and suffering could be averted if all persons over thirty-five years of age would make it a routine practice of their life to have a chemical analysis of their urine made, say, twice in each year, just as they submit their teeth to the regular inspection of their dentist. With this precaution, time and again, the incipient stages of more diseases than diabetes could be detected and disaster averted.

(*d*) The presence of complications or of intercurrent diseases offers a serious drawback in the course and termination. Pulmonary tuberculosis and coma are frequently the cause of death, while syphilis, obesity, and gout are rather favorable prognostic components.

In several cases of uterine cancer complicating diabetes, I have seen the glucose disappear months before death; in certain other diseases, such as nephritis, the same phenomenon obtains. In influenza accompanying diabetes, the sugar does not usually disappear. In gouty and in corpulent individuals the diabetic condition may be markedly ameliorated, but in thin and nervous subjects the ultimate prognosis is unfavorable. The cutaneous manifestations are unfavorable indications.

(*e*) Condition in life: Patients who can afford to lead a sedentary life, free from care and worry, devoting their time and means to an alleviation of their condition, usually succeed in warding off many of the disturbing elements of the disease and in prolonging life. On the contrary, patients who are forced to engage in exacting manual labor, or in prolonged and exhausting mental work, become easily the prey to the ravages of the disease.

(*f*) State of the urine: In addition to glucose, the urine may contain other threatening evidences of the diabetic dyscrasia. Thus we may find excessive amounts of acetone, diacetic and β-oxybutyric acids. The presence of the first of these urinary elements in large quantities, and of the second and third in appreciable quantities, is of grave importance as portending the approach of coma. If it be true that diabetic coma is due to a hyperacidity of the blood—a sort of acid intoxication—we can then readily understand how important it is from a prognostic standpoint to cause a rapid elimination of these organic acids. Acetone occurs physiologically in urine in insignificant quantities; if it accumulate in comparatively large quantities, the severity of the disease is in direct proportion to the amount. Diacetic and β-oxybutyric acids never occur in urine in physiological conditions. The quantity of urea eliminated is also of great prognostic moment, as it supplies the best clew regarding the rapidity of tissue destruction or of retrograde metamorphosis of the nitrogenous foods. If a proteid equilibrium can be maintained, so much more favorable is the ultimate course of the disease. The relation between the ingested proteids and the urea eliminated, while in no instance a fixed quantity, nevertheless operates in accordance with the fixed laws of metabolism. With a knowledge of the rate of urea elimination, the physician can direct the patient regarding the quantity and quality of his food.

(*g*) Finally, the prognosis depends upon the capacity of the system to absorb and assimilate fatty and nitrogenous food, to the exclusion of carbohydrates. If nutrition and the metabolic functions can be maintained under a strict diet, the patient will hold out a

long time; if, however, glucose continue to be formed despite the rigid exclusion of carbohydrates—that is, from the proteid food, from the fats, and from the tissues themselves—the aspect of the case becomes serious.

From what has preceded, it is evident that all cases arrange themselves in one of three types from a prognostic standpoint. First, the mild type; secondly, the medium type, and thirdly, the severe type. To the mild type belong those cases in which the glucose disappears upon the gradual exclusion of carbohydrates. To the medium type belong those cases in which the glucose disappears only after the complete exclusion of carbo-hydrates. To the severe type belong those cases in which the glucose does not disappear despite the complete exclusion of carbohydrates and even of proteids.

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Fifty-eight Cases of Puerperal Eclampsia without Mortality.—W. Stroganoff, in summing up the leading principles which he believes should guide the physician in the treatment of eclampsia, states the following: 1. After the first attack narcotics are to be used prophylactically for a varying period. 2. The combined use of morphine and chloral seems to have the best effect. 3. It is desirable to discontinue the narcosis in from twenty-four to forty-eight hours, according to the intensity of the attack. 4. The most careful attention should be paid to securing the following result, viz., that the lungs and heart perform their functions regularly and actively; for the latter purpose it is especially important that liquids be given per rectum, or if the patient be unconscious, by the mouth. 5. All sources of irritation should be removed. 6. Delivery should be accomplished as rapidly as is possible without danger. The writer has had in fifty-eight cases o per cent. mortality from eclampsia and 1.7 per cent. from complications. No less favorable is the result as regards the children.—*Obstetrics*, February, 1901.

The Sensitiveness of the Abdominal Cavity, and Local Anæsthesia in Hernia Operations and Laparotomies.—K. G. Lennander believes that the pain in abdominal operations, colic, peritonitis, etc., originates solely in the parietal peritoneum, and that the other abdominal contents are devoid of sensory nerves. By actual experiment during an extended series of herniotomies and laparotomies done under local anæsthesia he was able to satisfy himself that the stomach, intestine, mesentery, kidney, gall bladder, and liver may be handled, incised, or cauterized without causing the patient any sensation whatever, while any manipulation involving the parietal peritoneum is sure to be accompanied by acute pain. It is especially stretching of the membrane that gives rise to pain, and the application of retractors or the walling off of the operative field by the insertion of gauze compresses is acutely painful. In view of these observations, he concludes that the pain of peritonitis begins only when the parietal peritoneum commences to be inflamed; so that cases in which the disease is restricted to an inner localized area should run a painless course, a supposition that is borne out by clinical experience. The pain of intestinal colic also depends not on the actual distention of the gut itself, but on the acute traction exerted on the parietal peritoneum, while in ascites, for example, the process takes place so slowly that no discomfort is caused. In cases not permitting protracted anæsthesia to the full degree, it is recommended to begin the operation under light morphine-ether narcosis, and to prepare the field for whatever internal manipulation may be necessary, during the carrying out of which the administration of the anæsthetic may be omitted, to be resumed again when the pads are to be removed and the sutures inserted.—*Centralblatt für Chirurgie*, February 23, 1901.

Splenic Anæmia as a Morbid Entity.—Tommaso Guida holds that it is a misnomer to call the complex of symptoms known as splenic anæmia a disease. It is a syndrome, which often prepares the way for diseases, more especially tuberculosis. It is due to malnutrition, or more exactly, to malassimilation. The physician should endeavor to ascertain the cause of the condition, and to remedy the defects in diet. In cases of hereditary syphilis, specific treatment will, of course, be administered. Splenic anæmia is on the decrease, owing to the wider dissemination of hygienic and alimentary knowledge.—*La Riforma Medica*, January 29, 31, and February 1, 1901.

Meningitis, Secondary to Croupous Pneumonia.—Giuseppe Pollaci says that the presence of one or of a very few symptoms is not sufficient for the diagnosis of a meningitis complicating pneumonia; but when all the characteristic symptoms are present (increased temperature, retention of urine, rigidity of the back of the neck, headache, delirium, venous stasis of the retina, etc.), we may be sure of our diagnosis. A few isolated symptoms, with negative symptoms of the fundus of the eye, might be caused by an inflammatory condition of the cerebral membranes, it is true; but might with equal justice be attributed to functional lesions of the nerve centres, produced by the toxic elements arising from the pneumonic process.—*La Riforma Medica*, February 16, 18, and 20, 1901.

Errors of Diagnosis and of Treatment in the Diseases of Women.—L. Berruti calls attention to various errors made in gynæcological practice, which lead to harmful results. Among these are local treatment for amenorrhœa or metrorrhagia, due to chlor-anæmia, approaching menopause, or some disease of the circulatory or respiratory organs; or the opposite mistake of instituting general treatment for causes which careful examination would have shown to be purely local. Many cases of dysmenorrhœa and sterility are dismissed as unavoidable, when dilatation of the cervix, the breaking down of adhesions, or internal uterine treatment might bring relief. Many cases of inflammation remain undiscovered until too late. A mania for gynæcological examination and treatment on the part of non-specialists often results in the aggravation of existing conditions, while uterine catarrh, tumors, displacements, etc., frequently result from neglect.—*Gazzetta Medica Lombarda*, February 10, 1901.

The Diazo Reaction as a Test for Bilirubin.—F. Pröscher describes a color reaction for bilirubin which is said to be very delicate. If the diazo solution be added to a solution of bilirubin previously acidified with nitric acid, a beautiful blue color is produced; if the reaction be made alkaline, the color changes to green, while neutral solutions of azo-bilirubin give a splendid red color. In this form the reaction, however, is not adapted for use in testing icteric urine, for this appears to contain some substance not present in normal specimens, which interferes with the color formation and gives muddy or yellowish mixtures instead of the characteristic shades. For practical use the following technique is recommended as giving reliable results: A small amount of urine is saturated with ammonium sulphate and the resulting colored precipitate filtered out through a small paper filter. This is now washed with ninety-six-per-cent. alcohol and the resulting solution acidified with nitric acid and then added to the diazo reagent.

The presence of bilirubin is indicated by the production of a deep blue color, which changes to red and green, as above described, on the cautious addition of sodium hydrate.—*Centralblatt für innere Medicin*, February 16, 1901.

Operation for Appendicitis.—Jose A. Presno summarizes his article as follows: (1) The frequency of epiploic lesions in cases of chronic appendicitis—lesions to which the post-operative pains of appendectomy may be ascribed. (2) The necessity for excising all inflamed and adherent portions of the epiploon. (3) The necessity for a careful examination of the epiploon in every case of laparotomy.—*Medical Press and Circular*, February 6, 1901.

Allotropic Iodine.—G. Levi has produced allotropic iodine from the metalloid, which differs radically from the latter physically and chemically. It is very diffusible as regards the tissues and the mucous membranes, being rapidly absorbed, without leaving any trace when injected hypodermically. It renders the serum of a horse bactericidal toward the bacillus pyocyaneus. Experiments with this serum upon guinea-pigs, which had been inoculated with tuberculosis, showed that, although the animals died and tubercles were found in the liver, spleen, etc., as in the case of non-immunized animals, yet the lungs showed no sign of disease.—*La Riforma Medica*, February 20, 1901.

Regeneration of the Suprarenal Capsules.—G. B. Ramoino concludes from experimentation that after cutting, crushing, and cauterization of the capsule, there occurs extravasation of blood, more or less extensive mortification of the parenchyma, followed by inflammatory reaction and reparation by means of cicatricial tissue. Hemorrhage was greatest when a section was cut out with the knife, and least when caustics were applied. Necrosis was least when the knife was used. Small-celled infiltration was most abundant after crushing or cauterization. Wounds that extend into the medullary tissue are followed by greater hemorrhage, more intense inflammatory reaction, and more abundant formation of cicatricial tissue than when the cortical substance only is injured.—*La Riforma Medica*, February 2 and 4, 1901.

The Value of Continuous Catheterization in Some Genito-Urinary Affections.—H. M. Christian says that in the employment of continuous catheterization, one important point in the technique must not be overlooked, and that is to see that no part of the catheter is allowed to remain in the bladder itself. The instrument should be very slowly introduced and should be retained permanently at that point at which the first urine begins to flow, the object of this manœuvre being to keep the eye of the catheter in the prostatic urethra. Any portion of the instrument remaining for any length of time in the bladder is bound to provoke congestion of the trigonum, hæmaturia, and vesical tenesmus, conditions which will not only add considerably to the patient's suffering, but will materially add to the dangers of bladder infection.—*Therapeutic Gazette*, February 15, 1901.

A Case of Hysterical Deafness.—F. Schultze reports a somewhat unusual case of hysteria, in which almost the only symptom was absolute deafness affecting both ears. The patient was a boy aged fourteen years, of good family history, who had never been ill and was free from any neurotic tendency. While locking a desk he was suddenly startled by the banging of a door, so that he dropped the key he was holding and was found to be totally deaf. No local lesion could be diagnosed, the reflexes, including that of the pharynx, were normal, and no reason for simulation could be found. For a time the treatment consisted in electricity and hydrotherapy, when hysterical convulsions, at first of the arms and shoulders, later of the entire body, developed. These ceased spontaneously after a few days, but the deafness continued unabated until one day after removal to the hospital the hearing returned as suddenly as it had disappeared six weeks previously.—*Deutsche Aerzte-Zeitung*, February 15, 1901.

A Handy Device in Opium Narcosis.—In order to keep a patient awake during opium narcosis, W. H. Lyne advises a thorough tickling of his body, which procedure, he says, not only awakens the patient but angers him nearly to the point of fighting. He summarizes the advantages of this method by saying that the doctor has it handy, it has a wide range of application, is simple, leaves no marks of violence, and is efficient.—*Virginia Medical Semi-Monthly*, February 22, 1901.

Should Fever be Treated?—M. Lépine concludes that in certain diseases hyperpyrexia, while indicating the gravity of the febrile condition, is not the most important factor, and we must endeavor to find a specific treatment for the fever. In others we are reduced to constant supervision of the organic reaction, sometimes moderating it by means of antipyretics, sometimes stimulating it by means of hydrotherapy, and occasionally, if very high, by direct antipyresis, and, lastly, by sustaining the economy. Disease is by no means a simple entity, and therapeusis has for its object to follow up the infinite complexity of its elements.—*Medical Press and Circular*, February 27, 1901.

The Amelioration of Paralysis Agitans and Other Forms of Tremor by Systematic Exercises.—John Madison Taylor is convinced that in most forms of tremor, whatsoever their cause, we may hope to obtain fair amelioration of symptoms, and it may be in some instances a cure, by carefully regulated and systematized movements. These should be such as shall reestablish the largest degree of elasticity in the tissues which have suffered contractures. They should always include passive extensions and flexions, followed by active repetitions of these acts. The most important movements to overcome the milder forms of tremor, as the senile form, are slow, full, forcible extensions. An important part of this treatment is the attainment of normal attitudes. Along with this should be continued conscientious efforts on the part of the patient to acquire full thoracic capacity and as much elasticity of the lungs as possible. To regain and maintain health and activity in chronic conditions of almost any sort, is conditional upon a fair respiratory capacity constantly exercised.—*The Journal of Nervous and Mental Disease*, March, 1901.

The Psychology of Profanity.—G. T. W. Patrick has made a study of the psychology of profanity, in which he asks and endeavors to answer two questions: 1st, why do men swear, and 2d, why do they use the words they do? Profanity is defined as "the ejaculatory or exclamatory use of a word or phrase, usually the name of the deity or connected in some way with religion or other sacred things, having no logical connection with the subject in hand, and indicative of strong feeling, such as anger or disapproval." As regards the subjective effects of profanity, the most striking is that of a pleasant feeling of relief from a painful stress. Some words seem made for special circumstances. "Even men who do not swear can by a sort of inherited instinct appreciate the teleological relation exising between the behavior of a refractory collar button during the hurried moments of dressing for some evening function and the half-smothered

ejaculation of the monosyllable 'damn.' The word seems to have been made for the occasion." In a general way it may be said that the author regards profanity as a reversion to a type of expression comparatively low down in the scale of development of language. The human oath is the analogue of the roar or growl of anger of the lower animals.—*Psychological Review*, March, 1901.

Temperatures of Healthy Children.—W. M. Donald states that he has noticed in institutional work that when healthy children were isolated and quarantined on account of suspected exposure to some contagious disease, the temperature by accurate thermometric tests showed marked variations. These variations seemed to be due partly to individual peculiarities of temperament and partly to variations in atmospheric temperature. A series of tests was undertaken, some twenty children being selected who were in perfect health. The temperature of each was taken twice daily, at about 8:30 A.M. and 6 P.M., for a period of fourteen days. During the fourteen days in which the tests were conducted, there were, of course, 28 collective readings, and out of the 28, 12 readings, or 42 per cent., gave a mean or average temperature of 99° F. or over. As was to be expected, the higher readings occurred at the afternoon tests in the majority of cases; 9 of these being recorded in the afternoon, and but 3 in the morning aggregate. On 5 different occasions, or about 18 per cent., the mean temperature on the collective reading showed a higher range in the morning than in the evening of the same day. This is contrary to the usually accepted dictum that the normal evening temperature is always higher than that of the morning, and was a point of considerable interest. Leaving now the collective and taking up the individual readings, it may be premised that there were in the aggregate 560 temperature records. Out of these 560 records, 13, or .02 per cent., showed 100° F. or over. On one occasion a child was found with a temperature of 101° F., and once a temperature of 102° F. was discovered in another child. The minimum readings showed 13 out of 560 records, or .02 per cent., to be under 98° F. As a matter of fact, they were usually 97° F. or 97.4° F. In the course of his tests, Dr. Wilson, upon a single occasion, found a temperature of 96.4° F. Another point which is of marked interest, and which was manifested in about 30 per cent. of the cases examined, was a tendency toward a constant high temperature.—*Archives of Pediatrics*, March, 1901.

The Treatment of Hemorrhoids by Elevation of the Pelvis.—G. Oeder describes a simple method of treatment which in his hands has given great relief and often made surgical intervention unnecessary. Starting with the idea that the hemorrhoidal varicosities depend on the weight of the blood column which has to be forced upward the whole distance from the anus to the heart before any valves are encountered, by placing the starting-point higher than the destination he allows the stream to flow by gravity away from the congested area and quickly relieves the painful distention. This is best effected by placing across the centre of the bed, one on top of the other, two ordinary wedge-shaped bolsters, the thin end of the wedge being toward the head. Under the weight of the body these become depressed, so that the pelvis is actually about ten inches higher than the heart and the body is prevented from slipping down the incline by placing the bolsters at such a point that when the patient is recumbent his head will just impinge against the head of the bed. Suitable pillows may be placed under the head, the only object being to keep the pelvis higher than the heart, and the patient readily finds comfortable attitudes on his back or semi-prone. Whenever the customary premonitory symptoms of a fresh access of the trouble are felt it usually suffices to sleep one or two nights in this position, and even obstinate cases are often cured by its habitual employment for a longer period of time.—*Zeitschrift für diätetische und physikalische Therapie*, vol. iv., No. 8, 1901.

Miliary Tuberculosis, Tuberculous Meningitis, or Typhoid Infection?—Colla Vittorio reports a case in which the symptoms pointed with apparent clearness to a diagnosis of general tuberculosis with involvement of the meninges. A bacteriological examination of the fæces however, gave evidence of Eberth's bacillus in great numbers, while examination of fluid obtained by lumbar puncture was negative as to Koch's bacillus. The autopsy bore out the diagnosis of typhoid infection. —*La Riforma Medica*, February 26 and 27, 1901.

Injection According to Bier's Method in Sciatica.—Felice Pullé reports the case of a man suffering from sciatica. Other methods of relief having failed, the author gave an injection of a two-per-cent. solution of cocaine in the spinal cord at about the fourth lumbar vertebra. Just before the injection the patient's temperature was 37° C.; pulse, 70; respiration, 18. Ten minutes after the puncture the temperature was 37° C.; pulse, 74; respiration, 24. Analgesia was complete. Some general symptoms such as headache and anorexia followed, but these soon disappeared, and on the fourteenth day the patient was dismissed, cured, from the hospital.—*La Riforma Medica*, February 22, 1901.

Exophthalmic Goitre Successfully Treated with Collodion Dressings.—The collodion is spread over the skin of the affected area and by the evaporation of the ether there is set up a compression of the goitre which leads, by largely cutting off its blood supply, to a reduction of its size and a diminution of its secretive function. This plan has been successfully followed by A. T. Haight who gives the following directions for its employment: 1. The collodion must be absolutely fresh, so that the maximum degree of contraction will be obtained at each application. 2. Rapid evaporation will be secured by using from twenty to thirty pounds of air pressure, thereby increasing the compression fully one-third. 3. The patient's head should be placed in an easy position, with muscles relaxed. 4. The collodion may be applied with a brush or cotton carrier and the pressure should be kept constant by repeated applications, as required, at intervals of from two to five days.—*Chicago Medical Recorder*, March, 1901.

Wheeling for Health and Not for Records.—From an extensive experience in noting the effect of bicycle riding on candidates for life insurance, F. S. Grant gives the following directions: 1. Do not ride a wheel before getting a medical opinion as to your physical condition and fitness. 2. Learn to ride properly and thoroughly to control your wheel before taking to the road. 3. See that your wheel is equipped with some form of reliable brake. Abandon high gears. 4. Learn to use, not abuse, this wonderful invention and graceful means of locomotion. 5. Never exceed your strength—ride for health and recreation, never for records. 6. Ride regularly, time and weather permitting, regardless of seasons. 7. Change your clothing immediately after coming from a ride. Take a tepid bath with ammonia added and sponge off with cool water and good rub. Put on dry underwear. 8. Finally, be considerate and thoughtful of man and beast, women and children and fellow-wheelers when out on the road. Strictly follow "the rules of the road," and compel others to do the same.—*Medical Examiner and Practitioner*, March, 1901.

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CIRCUMCISION AS A PREVENTIVE OF VENEREAL DISEASE.

CRITICAL investigation will often disclose a useful purpose at the bottom of commonly observed practices. For instance, there are many religious customs that are based upon sound, sanitary doctrine. Thus certain dietetic regulations have been shown to be effective in the prevention of disease. So, too, it is held by many that the rite of circumcision is a salutary measure, tending to diminish the frequency of local disease, particularly of a venereal character. Ricord considered the prepuce an unnecessary and useless appendix, capable of acting as a source of much inconvenience, and predisposing to venereal infection. In a discussion of this question, E. Harding Freeland (*Lancet*, Dec. 29, 1900, p. 1869) is sanguine enough to believe that "if it were possible to secure the efficient circumcision of every male in infancy, not only would many of the disorders incidental to the genito-urinary organs in childhood, adolescence, and adult life be prevented, but also—a fact of far greater importance—that the incidence of that scourge of humanity, syphilis, which, in its ever-varying phases, permeates all classes of society, at every period of life, would be materially diminished."

Concerning the operation itself, it can be regarded as perfectly safe in the hands of a competent surgeon employing modern aseptic methods. In the next place the removal of the prepuce in no way interferes with the physical well-being of the individual. There is no evidence that the operation diminishes sensuality or procreative power. The justification for its performance resides in the fact that it is a most important factor in the prevention, not only of such conditions as dysuria, enuresis, retention of urine, balanitis, constriction of the glans, hernia, prolapse of the rectum, difficulty in sexual intercourse, aggravation of gonorrhœa, a liability to contract evil habits, together with a host of nervous symptoms, but also of syphilis.

The operation of circumcision results in the removal of the various pocket-like folds that exist around the glans and favor retention of secretion; and thereby the risks of irritation and excoriation, as well as the implantation of disease germs, are reduced to a minimum. The dry and somewhat thickened condition of the epithelium of the glans following circumcision offers an additional barrier to any local infection. Statistics show that the incidence of syphilis is far less among the circumcised than among the uncircumcised, although that of the other venereal diseases is greater, showing that the difference is due not to morality, but to the anatomical conditions present. It is the prepuce that, in the male, is the seat of election for the primary lesion of syphilis, so that if this structure were removed, a most prolific site for infection would be withdrawn, and, thereby, a most important source for the transmission of the disease would be destroyed. The effects of such removal would be appreciable with regard not alone to immoral and public women, but also to the wives of infected men. Evidence exists to show that syphilis is acquired less commonly by women from husbands who have been circumcised than from those who have not been, and that congenital syphilis is less common in the children of the former than in those of the latter.

For the operation of circumcision to be successful, toward the end of preventing syphilis, it is necessary not merely to remove the prepuce, but to effect, so far as possible, obliteration of all folds about the glans. Often too little of the structure is removed. The incision ordinarily should be made obliquely from above downward and forward, and slightly concave forward, so that when the skin retracts it may sit snugly behind the corona, the plane of the incision being as nearly as possible parallel to the plane of the corona. The reflected layer of the prepuce—the so-called mucous layer—which has been left untouched by this first incision, should, after being slit up and reverted, be carefully trimmed around the corona glandis, in such a way as to allow the cut edge to come neatly into contact with the cut edge of the part first removed. A wedge-shaped piece of frenum should always be excised. In this way the folds that exist on either side are obliterated, and the œdematous nodule that is apt to form at this point is prevented.

It is not likely that the practice of circumcision will ever become universal—any more than, for instance, preventive removal of the vermiform appendix—but the reasons that have been put forward should be sufficient not only to warrant its continuance when once the practice has been instituted, but to extend the field of its application. For those who see in it no religious justification, there is abundant reason of a less spiritual character for its performance; and the physician has placed at his command a potent means for restricting the ravages of a disease that he cannot hope ever entirely to eradicate, and which, while ordinarily amenable to treatment, is still capable of causing much suffering to innocent and guilty, to transgressor and victim alike.

A CURIOUS COMPARISON.

A POINT of perhaps negative utility, but at the same time of decided interest, is raised in the *National Provisioner* for March 9, 1901. The writer of an article in the journal named has been studying the health statistics of New York City, with the view of ascertaining whether the rich or poor sections of this metropolis are the most conducive to good health and long

life. The ordinary non-professional individuals and physicians as a body are firmly imbued with the belief that overcrowded districts are in the nature of things most inimical to sound health, and that poverty does not tend to develop a robust specimen of humanity. The remark should be made that the trend of the article in the *National Provisioner* is not toward proof, but rather intended to set forth facts.

Young children—that is those under five years of age—are first taken as a basis of comment. The figures given below are those cited for the second quarter of 1900. The Twelfth Ward uptown, where a fair sprinkling of the very rich of this city have their *pied à terre* and where their prosperous brethren have their more abiding homes, affords the following statistics with regard to the death rate of young children: This ward has a population of 364,412; has only 61.6 people to the acre, but its death rate for children under five years of age was 769, while the plebeian Thirteenth Ward downtown, in the vicinity of Grand, Division and Rivington Streets and the East River, with a population of 56,802 people and 539.5 to the acre, had a death rate of 106 children under five years of age. The relative percentages are in favor of the slums.

Other comparisons drawn between districts in which plutocrats live and those inhabited by the so-called lower classes bring to light a similar state of affairs. The total deaths of those of all ages in proportion to population is then dealt with, and reveals truths equally as suggestive. The Twelfth Ward in Harlem shows a total death rate of 2,287 for its 364,412 people, living 61.6 to the acre, while the Thirteenth downtown, with 56,802 people, living 539.5 to the acre, had a death roll of only 196.

The above figures give rise to thought. It is probable too that statistics taken in a like manner the civilized world over would yield somewhat corresponding results. No one of course would even attempt to argue from such records, that it is more healthy to live in a tenement house swarming with human beings like bees in a hive, than in an airy, well-ventilated, commodious, marble or brownstone structure. The writer in the *National Provisioner* does not argue thus; indeed, he draws but few deductions. Nevertheless he places his finger upon one important point when he says, "The poorer classes, eating plainer and more nutritious foods, seem to prosper constitutionally better than the eater of rich foods, who expects to digest his dinner by sucking in fresh air in a ride through the parks."

Moderation in eating and drinking, with plenty of fresh air and exercise, will go far toward rendering a person hardy and well able to withstand the attacks of disease. The contention would never be advanced by a sane individual that poverty and insanitary surroundings can have any but an injurious effect upon the human animal. On the contrary, the aim of the wisest sanitarians is to make it possible for every one to live amid healthful surroundings. Notwithstanding the obvious force of this statement the assertion may be made that, given a community of working people who are able to procure a sufficiency of wholesome food and who must perforce spend a large portion of their time exercising in the open air, and a community of rich people who are not compelled to lead such a life and who often do not do so, there can be no doubt as to which of these two classes will enjoy the longer life.

Many other causes enter into the question of the comparative healthfulness of the rich and the poorer classes. The fringe of the subject has only been touched in the foregoing remarks. To treat it fully from every standpoint would take reams of paper and much ink. It may be said that the rich can take lessons with advantage to themselves from their poorer neighbors so far as rules of health are concerned.

SURGICAL OPERATIONS ON THE INSANE.

Evidence of the complexity of the etiology of disease abounds on all sides. Even in the infectious diseases certain predisposing, auxiliary, or contributing influences are necessary for the pathogenetic operation of the specific exciting cause. This fact is deserving of consideration, and it is of significance both in prophylaxis and in treatment. For a time discussion waxed hot as to the part played by disease of the pelvic organs in the development of neurotic and psychotic states in women, and conservative minds have reached the conclusion that the former alone is not capable of inducing the latter, although it may contribute thereto, perhaps lighting into activity an already existing but latent tendency. The practical point, however, resides in the decision that pelvic disease should receive essentially the same treatment in neurotic or psychotic as in other women, the complicating state *per se* affording neither the indication for nor the counterindication against operative intervention, for instance—except in so far as every source of irritation or excitation or drain of etiological possibility should be removed. Of the value of such a course of procedure an illustration is afforded by the report recently made by Dr. W. C. Posey (Proceedings of the Philadelphia County Medical Society, vol. xxi., n. s. ii., No. 7, p. 251) of two cases of insanity in which mental recovery followed successful operation for cataract.

One of the patients was a farmer, forty-five years old, of temperate habits and with a good personal history, whose father had suffered from an attack of acute mania in the sequence of financial trouble, while a brother had been confined in a hospital for the insane as a result of sunstroke. Following an attack of "grippe," vision began to fail, and the patient at the same time commenced to be irritable, morose, and greatly depressed, with change in demeanor and the development of delusions of persecution. The opinion had been previously expressed that the cataracts present were not suitable for operation, but the removal of the riper of the two lenses was finally decided on, and was performed, on account of the objection of the patient, under general anæsthesia. The result was admirable with regard to both the success of the operation and the effect on the mental state. Correcting glasses were prescribed, and the patient was, after a little

while, permitted to return home on parole. Some time later the second eye was successfully operated on, at the request of the patient. The improvement persisted, and there had been no relapse after more than two years.

The second case occurred in a woman sixty years old, who had been depressed and melancholic for some time since her vision had commenced to fail. She consented to an examination only after considerable suasion, when it was found that both eyes were cataractous, the left in slight degree and the right in lesser degree. A correcting glass was prescribed for the right eye, and temporary improvement followed. After a time, however, it was decided to remove the cataractous lens of the left eye, and this was successfully accomplished under cocaine anæsthesia. The improvement in the mental condition was at once marked. Correcting glasses were prescribed six weeks later, and there was no return of the previous manifestations, although nearly three years had elapsed.

The cases are unfortunately rare in which such happy results as have been quoted can be brought about in the manner described. Such an outcome can, however, be hoped for only when the disordered mental state is due directly or indirectly to the visual defect; and operative intervention may be at once undertaken, although under other circumstances it might be deferred. If, on the other hand, the impairment of vision is but an incident in the course of the mental disorder, no such result can be anticipated, and under such circumstances the treatment should be the same as that which would be pursued apart from the presence of the associated condition.

THE COMMITTEE OF FIFTEEN UPON THE TENEMENT-HOUSE BILL.

THE MEDICAL RECORD on various occasions has voiced its strong approval of the tenement-house bill now before the legislature. The passing of a measure of this nature will assuredly have the effect of checking disease and will prove an effective means of raising the standard of health throughout the entire city. But this is not the only benefit it will confer upon the citizens of New York. Regarded from the point of view of good morals, its passage will act as potently in curbing vice as it will in preventing disease. The committee of fifteen looking at the matter through "their spectacles" has written a letter to Governor Odell in which its members embody their views on the subject. The letter in part says that "At a meeting of the committee of fifteen held March 6, 1901, a resolution was unanimously adopted declaring the adherence of the committee of fifteen to the views of the tenement-house commission in regard to the social evil in tenement houses, and earnestly approving of sections 141 to 151, inclusive, of the act relating to tenement houses in the city of New York, proposed by said commission." The committee then proceed to give their opinions on the existing condition of affairs which are asserted to be not only deplorable but intolerable. Attention is drawn to the fact that the worst and saddest feature of the case is the prostitution of children, rendered possible by the pollution of the atmosphere by degrading forms of moral evil in the tenement district. It is pointed out that the statistics of disease due to vice show that such diseases are increasing at a rapid rate among children in the crowded sections of this city, and that the laws at present upon the statute books have so far not met the situation with regard to the restraint of prostitution. It is consequently urged that the social evil must be extirpated from the tenement houses.

The committee believes thoroughly that the legislation as proposed by the tenement-house commission is sound and likely to have the desired result.

The proposed law makes the penalty for allowing any part of a tenement house to be used for immoral purposes $1,000 which shall be a lien on the property. Undoubtedly the tenement bill if it become law will do incalculable good, and is worthy of the support of all respectable dwellers in New York City.

News of the Week.

John Milton Holt, assistant surgeon of the United States marine service, has been transferred from Cairo, Ill., to Chicago.

Florida Medical Association.—The twenty-eighth annual meeting of the Florida Medical Association will be held in the Board of Trade Building, Jacksonville, Fla., Wednesday, April 10, 1901.

Department of Charities not Able to Pay Medical Examiner.—Dr. Abraham L. Lewis, a medical examiner of charitable institutions in the Department of Public Charities, in Brooklyn, has been relieved of his position. The reason, according to Commissioner Goetting, is "insufficient appropriation for salaries." Dr. Lewis' pay was $1,000 a year.

The Eastern Medical Society held its annual banquet at the Hotel Marlborough on Saturday evening, March 23d. The large banquet hall was well filled, mostly by members and their wives and a few invited friends. After-dinner addresses were made by Dr. L. J. Ladinski, chairman of the arrangement committee, who acted as toastmaster, and called on Dr. A. Jacobi for the first address. Dr. Jacobi spoke at first very wittily and ended very seriously on the subject, "Roads to Success in the Practice of Medicine." He was followed by the Rev. Dr. S. Schulman, who spoke on the relations of the clergyman to the physician, and dwelt very eloquently on the social conditions of the lower East Side, the home of the society. Dr. A. E. Isaacs, the president, spoke for the society, as to the causes that brought it into existence and its prospects for the future. He stated that its membership had recently risen over the three hundred mark, and that it included over ninety per cent. of the physicians of the lower East Side; that great results were hoped for from this large membership, one being the establishment of a

local medical library. Dr. William S. Gottheil closed the speaking with a toast to the ladies. The dinner was followed by an informal dance, which proved to be a very agreeable feature of a most pleasant affair.

Philadelphia Neurological Society.—At a stated meeting held March 25th, Dr. F. X. Dercum exhibited "A Case of Traumatic Epiphysitis" in a man thirty-seven years old, who presented considerable shortening of one upper extremity, due to abbreviation of the humerus, which, it was thought, had resulted from inflammation of the upper epiphysis and premature union with the diaphysis of the bone, in consequence of injury. Dr. Dercum stated that he had seen two other cases of similar character following infectious disease in childhood. The patient complained further of a number of painful points on the shoulder, the neck and the orbits, and the possibility of the coexistence of hysteria was suggested. Dr. A. R. Moulton reported "A Case of Fracture of a Thin Skull and Hemorrhage into the Brain." The patient was an insane man, fifty-nine years old, who, shortly after his reception into the hospital, was in the morning found dead on the floor of his room beside his bed, apparently as though he had become entangled in his clothing and had fallen. On post-mortem examination the skull was found exceedingly thin—from $\frac{1}{50}$ to $\frac{1}{32}$ inch in thickness—in places, especially on the floor of the posterior fossa and at the sides above and behind the external auditory meatus. The base of the skull was fractured in two places. The left frontal and the right parietal and occipital regions were covered by large blood clots and an area of degeneration was found in the left cerebellar hemisphere and the left frontal lobe of the cerebrum. Dr. Charles Potts exhibited "A Case of Multiple Sclerosis, with Unilateral Ascending Progressive Paralysis." The patient was a young man, nineteen years old, who presented symptoms of right hemiparesis, with exaggerated knee jerks, ankle clonus, Babinski's sign, nystagmus, transitory diplopia, slight thickness of speech, and pallor of the optic discs, of comparatively recent development. Dr. Alfred Gordon read a paper entitled "The Rôle of Infection and Intoxication in Diseases of the Spinal Cord," pointing out the frequency with which this presumably etiological association can be discovered if carefully looked for. Dr. William C. Pickett read a paper entitled "The Scapulo-Humeral Reflex of von Bechterew," in which he detailed the results of observations in one hundred and twenty-two cases, principally of various forms of organic disease of the nervous system. The reflex was found increased in the presence of lesions of the upper (corticospinal) segment, including the pyramidal tract, while it was diminished or absent in the presence of lesions involving the reflex path, including the gray matter of the posterior columns. It may be considered the analogue of the knee jerk, although it is less constant than the biceps jerk and the triceps jerk. Its mechanism is, however, so complicated and so obscure that as yet too much confidence should not be reposed in its localizing value. Dr. Moses Behrend, by invitation, read a paper entitled "The Biceps-Tendon Jerk in Locomotor Ataxia," reporting the results of observations in twenty-nine cases, in which he failed to find correspondence between the biceps jerk and the knee jerk, the former being not rarely present when the latter was absent.

Reception to Dr. C. L. Dana.—A reception was tendered, on March 29th, by the Philadelphia Medical Club to Dr. Charles L. Dana, of New York, after a dinner by the president of the club, Dr. E. L. Duer.

Entertainment in Aid of the Blind.—An entertainment will be given at the Waldorf-Astoria, on the afternoon of April 12th, in aid of the Home of the Blind. Coquelin and Plançon will entertain.

Extirpation of the Stomach Performed in New York.—At the German Hospital, St. Nicholas Avenue, Brooklyn, this operation was performed on March 29th by Dr. George R. Fowler upon Jacob Wichman. The patient had been suffering for a considerable time from cancer of the stomach, and it was recognized that an operation was the last resort to save life. A number of prominent physicians witnessed the operation, which lasted three hours. It is said that the patient stood the operation well, although he died quite suddenly three days afterward.

Court Held in Hospital.—St. Catherine's Hospital, in Brooklyn, was the scene of an uncommon occurrence on Friday, March 29th. Some four weeks ago Samuel Earl shot himself with a revolver in the head and left shoulder. He was arrested and taken to the hospital, where the wounds healed, but pulmonary tuberculosis developed. Earl had to answer the charge of attempted suicide, but as he was in no fit condition to be removed, the magistrate proceeded to the hospital, accompanied by the court officers. The man pleaded guilty, but said that he was distracted by thinking of his hard luck, and was not responsible for his action. The complaint was dismissed.

Pathological Society of Philadelphia.—At a stated meeting held March 28th, Dr. William G. Spiller read a communication entitled "Cerebellar Lesions Without Cerebellar Symptoms," with a report of illustrative cases. Dr. David L. Edsall reported "A Case of Malignant Endocarditis," and exhibited the specimens. Dr. Milton B. Hartzell reported "A Case of Pigmented Epithelioma or Alveolar Melanotic Sarcoma" and "A Case of Peculiar Degeneration of the Epithelial Cells at the Margins of an Ulcer." Dr. W. B. Eaton presented a communication on the "Histogenesis of Myomata." Dr. A. Newlin exhibited specimens from "A Case of Sarcoma of the Lung," in a man in whom the primary lesion had appeared some six years previously in the scapular region. There was found also a large fibroid tumor attached to the capsule of the spleen. Dr. A. V. Meigs presented a communication describing the changes induced in blood-vessels as the result of shrinking due to methods of preservation. By introducing cylindrical bits of glass into vessels on post-mortem examination, and thus keeping the lumen free and preventing shrinking, without distention, the plicated membrane was shown

to have no existence as such, and certain other distortions observed in the muscular layer were not present. In each instance a portion of the same vessels was treated in the ordinary manner, as well as kept patulous by means of the glass, for purposes of comparative observation. Dr. Meigs demonstrated also the development of blood-vessels in the wall of a vein.

A Hospital for the Bronx.—The assembly on March 29th passed Senator Hennessey's bill, providing for the construction of a hospital by New York City, in the Borough of the Bronx, the cost not to exceed $200,000.

Honors for Professor Grassi.—The Society of Italian Agriculturists has awarded the Golden Crown, bestowed upon those who have deserved well of agriculture, upon Prof. Giambattista Grassi for the valuable services which he has rendered agriculture by his investigations on malaria.

A Permit Necessary to Practise Hypnotism in Hungary.—The government in Hungary has issued an ordinance forbidding hypnotism to be practised without a special permit from the Sanitary Department. This step has been taken to deprive criminals of the opportunity to plead hypnotic influence as an excuse for wrongdoing.

Convicts in Virginia.—Conditions in the Virginia penitentiary, as described by Dr. Charles V. Carrington, the physician at the institution, are fully as bad as those which required legislative correction in Georgia, Florida, and other of the Southern States. Both body and soul are ruined in the Virginia prison. The faulty, antiquated construction of the buildings and their crowded condition make impossible the provision of ordinary means for the preservation of health. In the prison for men an average number of one thousand two hundred convicts are confined in one hundred and ninety-two cells; and pure air is, of course, unknown. There is no sewerage system except in the hospital. The food is of poor quality, and the manner of its distribution makes it worse. It is taken by the prisoners from a board in the yard as they pass by in single file, and in the winter the men often find their miserable portion frozen. Only the fact that the criminals are generally young, vigorous, and accustomed to privations prevents the annual death rate from rising above forty per thousand. By the congregate plan in vogue, hardened criminals are thrown together with young offenders. Lessons in crime are the result, and vice for which the cities of Sodom and Gomorrah were destroyed.

Philadelphia County Medical Society.—At a stated meeting held March 27th, Dr. C. A. E. Codman read a paper entitled "The Acquired Form of Funnel Chest." Dr. M. G. Tull reported "A Case of Arthritis Deformans Successfully Treated by Application of Ice to the Spinal Column," and exhibited the patient. Dr. W. C. Hollopeter read a paper entitled "Fangotherapy," and related several cases in which relief was afforded by the local application of the volcanic form of mud or slime known as fango. This putty-like substance is obtained at some of the Italian health resorts, and makes a somewhat neat moist dressing, which retains its heat well. Dr. I. Newton Snivley read a paper entitled "Treatment of Croupous Pneumonia by Antipneumococcic Serum," describing several cases in which the employment of this agent was apparently followed by curative results.

The Bell Medical Bill, according to latest reports from Albany, will not be reported by the legislative committee, neither will the bill providing for the licensing of osteopathy.

Successor to Dr. Jacob.—Dr. Henry Jellett, ex-assistant master, Rotunda Hospital, Dublin, has been appointed editor of the *Medical Press and Circular*, in succession to the late Dr. Archibald Hamilton Jacob, and Dr. Foy has been given the post of assistant editor.

Russia Bars Women Medical Students.—As a result of the recent student riots in St. Petersburg all the higher courses for women in the Medical Institute of the University of St. Petersburg have been closed indefinitely by official orders.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy, for the week ending March 30, 1901. Assistant Surgeon R. E. Ledbetter detached from the *Constellation* April 1st and ordered to the *Chicago*, via the *Dixie*, April 3d, as relief of Assistant Surgeon J. R. Whiting. Assistant Surgeon C. A. Crawford detached from the *Dixie*, March 28th, and ordered to the *Constellation* April 1st, as relief of Assistant Surgeon R. E. Ledbetter. Assistant Surgeon J. R. Whiting detached from the *Chicago*, upon reporting of relief, and ordered to the *Dixie*. Surgeon G. Pickrell detached from the naval hospital, Mare Island, Cal., and ordered home. Assistant Surgeon E. Davis detached from the naval hospital, Mare Island, and ordered home, with permission to delay *en route*. Assistant Surgeon R. K. McClanahan ordered to the Asiatic Station, via the *Solace*, April 12th. Surgeon C. J. Decker, order detaching from the *Monocacy* and ordering to the *Oregon* revoked; ordered to the *Newark*. Surgeon P. Leach, order detaching from the *Oregon* and ordering to the *Monocacy* revoked. Surgeon C. T. Hibbett detached from the *Newark* and ordered to the naval hospital, Cavite, P. I. Passed Assistant Surgeon R. Spear detached from the *Isla de Luzon* and ordered to the *Concord*. Passed Assistant Surgeon S. G. Evans detached from the *Concord* and ordered to the *Monocacy*. Assistant Surgeon E. J. Grow detached from the *Glacier* and ordered to the *Isla de Luzon*.

McGill University, Montreal.—Dr. J. G. Adami, professor of pathology at this university, has been appointed vice-president of the section of pathology and bacteriology of the International Congress on Tuberculosis, to be held in London in July, under the patronage of King Edward. Dr. Adami will attend.

Census Enumerators in Canada to be Vaccinated.—The New York *Evening Post*, March 25th, states that the chief census commissioners throughout the

Dominion have been instructed by telegraph to order the vaccination of all the enumerators under them. There is believed to be a lot of what is called "walking smallpox" or a mild form of the disease, in different parts of the country, and vaccination is resorted to as a precautionary measure.

British Congress on Tuberculosis.—This congress, says the *Sanitary Record*, which is to be held in the Queen's Hall, Langham Place, in the week beginning July 22, 1901, has arranged amongst other matters for three public addresses to be delivered in the large hall, on Tuesday, Wednesday, and Thursday of that week. The first will be given by Prof. Robert Koch, of Berlin, discoverer of the tubercle bacillus, the second by Professor Brouardel, of Paris, and the third by Professor McFadyean of the Royal Veterinary College, London.

The New York American Medical Association Special.—Arrangements are being made for a special train from New York to carry those who desire to attend the meeting of the American Medical Association in St. Paul, June 4th–7th. Persons residing in New York City or its vicinity who contemplate attending this meeting should communicate without delay with the secretary of the New York State Medical Association, Dr. Frederick Holme Wiggin, 55 West 36th Street, New York.

Progress of Medical Science.

New York Medical Journal, March 30, 1901.

Tropical Dysenteries.—By S. M. Long. The author finds five types of the disease; the fulminating catarrhal, the simple acute, the amœbic (subdivided into the simple amœbic, the trichomonadic, the cercomonadic, and the mixed), the chronic, and the diphtheritic and gangrenous. The sequelæ of the disease as met in the Philippines are: (1) Its chronicity; (2) chronic gastritis and indigestion; (3) obstinate constipation; (4) paralysis (partial) of the large intestines, due either to obliteration of the glands and lack of secretion or to lack of innervation and blood supply; (5) anæmia, from lack of assimilation of food; (6) the association with it of malarial fever; (7) typhoid fever; (8) neuritis; (9) atrophic cirrhosis of the liver; (10) chronic parenchymatous nephritis; (11) abscess of the liver; (12) metastatic abscesses of other organs, as of the lungs and kidneys; (13) inanition; (14) toxæmia; (15) dilatation of the stomach and intestines. For treatment the author advises reliance; in the army service at any rate, on calomel with sulphate of magnesium, ipecac given with an opiate, and bismuth subnitrate. For bowel irrigation he prefers hot water to cold. He prefers solutions of silver nitrate, gr. xx. to the pint, for ordinary cases and quinine for the amœbic cases.

Congenital Dislocation of the Shoulder, with Report of Two Cases of Dislocation Posteriorly.—By D. W. Marston. The author concludes his paper with the following observations: It is of the utmost importance to distinguish between cases of dislocation and true obstetrical paralysis. The treatment of the former condition is immediate reduction; by manipulation if possible; otherwise, operative. Every infant should be carefully examined at birth, for it is at this time that reduction is most easily performed. From the facts that a fracture of the glenoid cavity was found in three cases, and that the history of nearly all cases shows difficult labor, he is led to believe that these cases are not of paralytic origin, or due to non-development, but are due to traction made in the axilla by the finger or vectis, or to the arm being caught in some unusual position and dislocated by the contraction of the uterus. Paralysis may be coincident, but it cannot be a primary factor in causing dislocation posteriorly. The prognosis of the operative treatment is excellent. The earlier the operation, the more hopeful the outlook. Like congenital dislocation of the hip, these cases of the shoulder are little benefited by mechanical treatment.

A Requisite to Increase the Usefulness of Ambulances.—F. Griffith believes that the construction of ambulances is too open for the freezing weather common to northern cities. He thinks that the vehicle could be kept much warmer by the use of asbestos or some other non-conductor of heat in the frame of the top, bottom, side walls, and doors. When steam is the motive power for propulsion the exhaust steam could be turned into coils which would warm the interior; a similar result could be obtained from electricity. In the old type of ambulance drawn by horses a small stove should be carried. By these measures shock to the patient from an injury could be greatly lessened. It is also practicable to carry heated sand bags which could be laid alongside of the patient's body.

The Causes and Significance of the Obstetric Hemorrhages.—By J. C. Edgar.

The Pathology of Intra-Uterine Death.—A continued article by Neil McPhatter.

The Comparative Pathology of the Jews.—By M. Fischberg.

A Dressing for Colles's Fracture.—By C. L. De Merritt.

The Boston Medical and Surg. Journal, March 28, 1901.

A New Method of Treating Fractures.—Leonard F. Hatch says that his principle (a part of it old but not followed generally, the other never having been used nor advanced to his knowledge) is to convert all compound fractures into simple ones; the other is to operate on simple fractures, making them compound and then apply the first principle, making them simple. He gives the technique of his operations and reports fifteen cases of successful results. His deductions are, that (1) with the advance made in modern surgery, seeing that we do not hesitate to enter the abdominal or cranial cavities (in some cases even simply to establish a diagnosis) we should not be deterred from operating on fractures by fear of sepsis, and it certainly is unscientific to adopt a blind way when a better presents itself. (2) It would be warranted if it did nothing more than to relieve the pain and swelling, which it certainly does. (3) It shortens the repair process at least one week. (4) It reduces the chances of deformity and non-union to a minimum.

The Embryological Basis of Pathology.—Charles Sedgwick Minot, in an address to which it is impossible to do justice in an abstract, divides his subject into (1) normal differentiation, and (2) pathological differentiation. Under the first head he discusses the undifferentiated cell, the progress of differentiation, and the changes which may succeed differentiation. Under the second heading he develops these general propositions: (1) That each germ layer has a specific and exclusive share in the production of tissues; (2) that undifferentiated cells, characterized by having only a small amount of unspecialized protoplasm, exist not only in the embryo, but also throughout life, in certain parts of all three germ layers; (3) that differentiated cells, characterized by having a larger amount of specialized protoplasm, form most of the organs of the adult, and are incapable of undergoing any new unlike differentiation, though they are still capable of completing their cytomorphosis, by necrobiosis or degeneration.

Nine Cases of Lobar Pneumonia Treated by Ice Pack.—George L. Collins says that in only one case did the ice pack cause discomfort. In no case was the crisis accompanied by dangerous collapse. High temperature (and not physicial signs) has been in each case the indication for application of ice; low temperature, the indication for its removal. The average fall of temperature was 4.5°. In all but one case this fall was within forty-eight hours of application of ice. The white count invariably began to fall with the temperature, but reached normal in no less than one week after the temperature was normal. The ice pack had apparently no particular effect in shortening or prolonging the duration of physical signs. These cleared on the fourteenth day.

Mumps in Pneumonia; Boroglyceride.—Charles W. Dulles treated a case of mumps by the application of a fairly thick compress of surgical gauze saturated with boroglyceride, and covered with a layer of paraffin paper and just enough bandage to keep it in place. Relief of pain and the subsidence of swelling promptly followed the application. The author uses boroglyceride in a variety of inflammatory swellings, and since its use has not had to apply a knife to boil or carbuncle.

Medical News, March 30, 1901.

Vaccination, Clinically Considered.—Frank S. Fielder emphasizes among other points the following: Complete natural immunity to vaccination is practically unknown. In primary cases, delayed vesiculation, raspberry excres-

cence, and abortive course mean poor virus. There is now no danger of transmitting syphilis or tuberculosis. During the second week of vaccinia a large painful areola may be considered normal if it be bright red and if the vesicle be of typical appearance. If the vesicle be irregular, filled with greenish pus, and the areola be of a dark livid, purplish hue, the case is one of mixed infection. Immunity is acquired about the time the areola is at its height—eight to ten days after vaccination. Vaccination of the pregnant woman does not protect her child. The duration of immunity to smallpox, which is conferred by vaccination, is extremely variable. Of persons successfully vaccinated within five years, very few will contract the disease; but some will, though they will probably have varioloid instead of severe smallpox. The duration of immunity to revaccination is also extremely variable, and is probably two years or under. The quality of a scar is a fair indicator of its protective power against smallpox. Revaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack. Revaccination should be considered as important as primary vaccination, and should be just as systematically practised. Primary vaccination should be performed in infancy, revaccination at school age. In the presence of an epidemic, however, revaccination should be performed even though the primary vaccination was of comparatively recent date. All vaccine virus should be subjected to rigid physiological tests before issuance. It should be retested monthly so long as it is on sale. Vaccination should be performed aseptically. Shields often do more harm than good. If signs of mixed infection appear, the vesicle should be opened, the wound cleansed, and treated upon general surgical principles.

The Method of Preparation of Vaccine Virus in the Vaccine Laboratory of the New York City Health Department.—By J. H. Huddleston.

The Jour. of the Amer. Medical Ass'n, March 30, 1901.

Sanitary Conditions of Peking.—John Inglis says that the population of Peking is now close to the million mark. A study of the sanitary conditions of that city reveals much of a threatening nature. The city is without water works, and has no sewerage system worthy of the name. The Chinaman believes in open sewers. The water supply is from wells dug along the sides of the streets. The water itself is of two kinds, "sweet" and "bitter," the latter with an excess of alkali and containing twenty-two per cent. of hardness. The use of this water means a great deal of kidney trouble. There are no alleys. In front of meat shops the animals are killed. Dogs are the city scavengers. There are no cellars. The city is infested with beggars, ill-clad and filthy beyond description. As to the disposal of the dead, if the deceased be wealthy the corpse is kept in the courtyard for weeks. The itinerant barber is a prolific spreader of diseases. An American bishop, who visited Peking recently, stated that, on entering the city, he distinguished seventy-two distinct odors. Sanitary science should be applied in Peking, and would make it as healthy a city as New York or Chicago.

Recent Advances in Dermatology which are of Service to the General Practitioner.—L. Duncan Bulkley states that of late years considerable progress has been made in the way of recognizing various inflammatory conditions of the skin under the general name dermatitis, and much that was formerly classed as eczema is now thus designated. In the pathology of skin diseases there has been considerable activity of research, and clearer views are obtained each year in regard to many affections. As to the newer remedies in skin diseases, resorcin and ichthyol have more than held their own. Light, as found in the *x*-rays and the so-called Finsen phototherapy, is among the newer therapeutic agents from which much has been expected. It is probably too soon to form a correct estimate of the value of this treatment. The author believes that although dermatology is such a difficult field, yet a reasonable amount of study and observation, with judgment, will enable the general practitioner to utilize many of the advances which are continually being made in this specialty.

Pathological Conditions Found in Meat Inspection.—D. E. Salmon states that our inspectors are instructed to condemn: (1) All carcasses affected with generalized tuberculosis; (2) all carcasses with extensive localized tuberculosis, and (3) all carcasses with localized tuberculosis, that show signs of emaciation. This ruling is considerably more stringent than the European practice. The nodular disease of the sheep's intestine is an interesting one. This is very common and apparently affects the sheep's health only when the nodules are so numerous as to interfere with the assimilation of the food. Another disease to be noted is actinomycosis with its lesions in the jaw, tongue, liver, lungs, and udder. In this country the process most frequently affects the maxillary bones. This disease is probably not transmitted from animals to man, so the carcasses are condemned only when there is emaciation or when the system is affected at large. The author then considers the animal parasites.

Venereal Disease as a Social Problem.—W. C. Gates believes that much of this evil can be prevented. The acme of medical science is the prevention of disease. Prostitution has existed under every social system of which the world has knowledge. While it may be a necessary evil under the present social system, many of the resultant evils are not necessary and may to a great extent be prevented. Social purity should be one of the ideal aims of society, and the author believes its nearest attainment will be found through the means of education. More thorough instruction should be given in sexual hygiene and physiology in our medical schools. Medical men can have great influence in this field.

Circumcision in Restricting the Spread of Syphilis.—Harold N. Moyer calls attention to statistics which show that if circumcision were universally applied there would be a lessening of the most disastrous of venereal diseases from fifty to seventy-five per cent. He believes the operation to be a practical means of reform, ready to hand. Its application is within the reach of every physician.

Report of the Special Committee of the Section on State Medicine of the American Medical Association, Appointed to Inquire Whether and When the Gonorrhœic may be Permitted to Marry and Whether the Matter is a Proper One for Regulation by Statute.

Quantitative Tests for Proteolysis.—A. L. Benedict concludes his article this week and tabulates a number of cases.

The Rage for Rapid Operating and the Importance of Saving Time in Surgical Operations.—By John S. Miller.

Purulent Otitis; its Treatment and Prevention by the Family Physician.—By H. Gradle.

Operations for Injuries to the Median and Ulnar Nerves.—By R. Brindley Eads.

The Treatment of Prolapse of the Rectum.—By Joseph M. Mathews.

Open Treatment of Suppuration of the Knee Joint.—By W. J. Mayo.

Acute Suppurative Folliculitis of the Scalp.—By William S. Gottheil.

Hyperacidity a Cause of Skin Disease.—By W. R. Inge Dalton.

Thyroid Tissue in the Larynx and Trachea.—By Otto T. Freer.

Philadelphia Medical Journal, March 30, 1901.

How to Prevent Stammering.—G. Hudson Makuen declares that the time to cure stammering is before it begins. Few, if any, children stammer from the very outset. There are three mechanisms of speech: the respiratory, the vocal, and the oral. Most stammerers can employ any one of these separately, but the trouble comes in attempting to do these three things at the same time. They are unable to co-ordinate the action of the three mechanisms of speech. This faulty co-ordination is generally due to a faulty action of one of these mechanisms, which always results in a faulty action of them all. The trouble generally appears in the respiratory and vocal mechanisms, and the spasms of the articulating muscles are due to the overflow of nerve energy into these parts. The primary cause of this affliction is probably located in the motor speech centres of the bulbous portion of the spinal cord. It is probably a structural condition, differing slightly from the normal. In many cases the tendency to stammer is inherited. Stammering is generally of slow development and begins during a period of great excitement. The child should not be scolded or imitated or allowed to associate with stammerers. The mental processes should be directed into normal channels. Children should never be allowed to stammer and the habit should never be formed.

The Coexistence of Carcinoma and Fibroma in the Corpus Uteri.—W. A. Newman Dorland, from the study of this subject, concludes: That it is possible for fibroma and carcinoma of the uterus to coexist; and that this coexistence may manifest itself in one of three distinct ways, as follows, given in their order of frequency: (1) Fibromyoma of the corpus uteri with carcinoma of the cervix; the increased vascularity of the uterus and the irritant leucorrhœal discharges attendant upon the benign tumor favoring, in those women so predisposed, the development of cervical malignancy. (2) Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. (3) True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included

in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue.

Atmokausis: its Value in the Treatment of Severe and Uncontrollable Uterine Bleedings (Uterine Arteriosclerosis).—By Samuel W. Bandler.

Bell's Palsy Associated with Complete Anæsthesia in the Territory of the Fifth Nerve.—By James Hendrie Lloyd.

A Practical Modification of the Phenylhydrazin Test for Glycosuria.—By Robert N. Willson.

Shock in Abdominal Operations.—By Fenton B. Turck.

The Lancet, March 23, 1901.

Diseases and Disorders of the Heart and Arteries in Advanced Life.—Second Lettsomian lecture, by J. Mitchell Bruce. The special topics considered in the lecture are the heart in tobacco poisoning, alcoholism, gout, bodily strain, and syphilis. Syphilis appears to account for a very considerable proportion of the more serious cases of heart disease met with in older subjects, of course excluding chronic valvular disease originating remotely in endocarditis; but syphilis as a cause of cardiovascular lesions is very often associated with other morbific influences, particularly strain and alcohol. Of its position as the principal cause of serious disease of the valves, as distinguished from the walls of the heart, originating in middle life, there can be no question. No fewer than nine out of twenty-eight patients of whose cases the author has notes were the subjects of double aortic disease; practically all the others had a loud ringing second sound over the aorta, significant of degeneration; pain of anginal type in half the cases was the prominent complaint; and two-thirds of the subjects had sclerosis of the radial artery. When we consider that syphilis does also affect the myocardium primarily, that fibroid disease, chronic aneurism, and fatty degeneration of the heart are all traceable to specific disease of the coronaries in many instances, and finally, that many of the subjects of syphilitic cardiovascular disease have perished before the age of forty years, the magnitude of this cause can be fully realized. The profession in general are not yet awake to the gravity of this subject. Reference is made to a paper published thirteen years ago by Mott on twenty-one cases of sudden death from cardiovascular disease, and in nine of these there was a history of either actual or probable syphilis. What was of greater interest, however, at that early date, was that he drew attention to the association of syphilitic cardiovascular lesions with Bright's disease, in the broad acceptation of the term.

Three Cases of Acute Diffuse Septic Peritonitis Resulting from Appendicitis; Operation; Recovery.—By W. G. Richardson. In discussing the cases the author says that if the rule be followed to remove the appendix in very acute cases which at the end of twenty-four hours do not improve in all the symptoms—a large number of lives will be saved which are often, perhaps usually, lost through the operation being performed after perforation has taken place. At the same time, it is obvious that by applying such a rule a number of cases will be operated on in which, although the appendix is on the point of giving way, it is yet guarded by adhesions. Against this must be placed the risk of waiting and the possibility of abscess formation, and above all the simplicity and safety of operating at this stage must be taken into account. This, however, must not be made an excuse for a hard-and-fast rule of treatment that all cases of acute appendicitis must be operated on. Surely that is not sound surgery. If the appendix has perforated and general peritonitis has become established, it is then a matter of supreme importance to operate without any unnecessary delay—unless the abdomen is distended with flatulent intestines or the hands are cold and red, when it is best not to operate at all, as there is evident general vascular and nerve failure and any operation could only hasten death. In the first few hours of acute general peritonitis the distention is not due to gas in the intestines, but to a collection of thin milky-looking pus in the general peritoneal cavity; whereas in the later stages there is little or no fluid and the distention is due to gas in the intestines, which are then dark-colored, dry, and sticky, with adherent lymph on the peritoneal surfaces, suggesting that the wall of the intestine has played the part of a sieve, allowing the fluid to pass through but retaining the solid portion of the pus as a covering of lymph.

The Elimination of Arsenic through the Hair and its Relation to Arsenical Poisoning.—By W. F. Dearden. Samples of hair taken from six males were submitted to analysis. Two were from well-marked cases of arsenical beer poisoning, another from a patient who had been taking one-ninth of a grain of arsenic per diem for an extended period, and three from healthy individuals, aged respectively sixteen, twenty-three, and thirty-five years. In the three last-named samples arsenic was found to be present, but in quantities too minute to be estimated in one gram of substance. The sample from the patient who was taking the drug medicinally was found to contain arsenic in the proportion of 0.3 in 10,000. One of the two patients who were the subjects of arsenical beer poisoning had present in his hair arsenic to the extent of 0.3 in 10,000, whilst the other showed the much larger proportion of 1 in 10,000. The vast difference in the proportions found between these samples and the three healthy samples shows in a marked manner the value of chemical analysis of the hair from a diagnostic point of view. The method employed in the estimation of arsenic in the samples referred to above was Sanger's modification of the Marsh test.

Blackwater Fever.—J. W. W. Stephens concludes that blackwater fever is essentially a malarial infection in which quinine is the most common immediate determining cause of intoxication. Protection from malaria will insure protection from blackwater fever. Complete protection from malaria may, as the author's two years' experience in tropical Africa under all conditions shows, be attained without the taking of any quinine, by paying scrupulous attention to the clothing, and by the use of the mosquito net.

Public Health and Housing; the Influence of the Dwelling upon Health in Relationship to the Changing Style of Habitation.—Third Milroy lecture, by J. F. J. Sykes.

Resection of the Superior Cervical Ganglion of the Sympathetic for Glaucoma and its Results.—Report of a case by H. W. Dodd.

A Case of Enteric Fever with Severe Hemorrhage from the Sigmoid Flexure.—By S. G. Longworth.

Fatal Case of Laryngeal Diphtheria Complicating Measles.—By G. J. Maguire.

History of Renal Surgery.—By David Newman.

Case of Pneumothorax.—By E. Frazer.

British Medical Journal, March 23, 1901.

A Clinical Lecture on the Diagnosis and Treatment of Intussusception.—Charles P. B. Clubbe states that the attack occurs quite suddenly, the child generally screams, seems faint, turns pale, and a few hours later passes blood. The "sausage-shaped" tumor is nearly invariably felt in cases of intussusception. This trouble may be present while all its usual symptoms are absent. As soon as the diagnosis is made the treatment should be begun. If the child belongs to poor people, it should be sent to the hospital at once. The author believes injections to be both useful and safe. They may consist of warm oil or water. The operation is then described. The after-treatment is important. A baby must be fed after the first few hours. Mellin's food, or whey and water, or the white of egg in water with a little somatose may be given in small quantities. Nearly all children will require morphine in very minute doses during the first twenty-four hours. Strychnine and digitalin are often indicated. Calomel may be given if the bowels are not open after the first twenty-four hours. The silkworm-gut sutures must never be removed before the tenth day.

A Case of Gastric Fistula; Operation; Death.—C. F. M. Althorp reports a case in which the index finger could be easily passed through the fistula into the stomach. An incision was made above and to the right of the fistula. The interior of the stomach was found free from disease except near the fistula. The latter appeared to be the centre of a large ulcer, situated near the pylorus, on the greater curvature. The edges of the fistulous opening in the stomach were freshened and three rows of silk sutures inserted. Over all, a piece of omentum was drawn and stitched. The wound was sutured and the patient appeared to do well till she developed pneumonia and died on the sixth day.

Perforated Ulcer of the Stomach.—William H. Horrocks reports this case with the following points of interest: The absence of any indication of gastric ulcer before perforation. The ulcer was near the cardiac end and close to the lesser curvature. There was no apparent exciting cause for perforation. The pain and tenderness correctly localized the position of the ulcer, and the marked tension of the abdominal wall at this part made the diagnosis more certain. The repeated movements of the patient spread the extravasated material over the whole abdomen. The cleansing power of the peritoneum over its lower zone was markedly shown.

Four Cases in which the Murphy Button was Used.—G. P. Newbolt gives the history of these cases, and states that his experience of the button, as far as it goes, is favorable. In each case he used Lembert sutures over the button. He does not believe that any patient would get rid of the button with knowing it had passed.

Auto-Reduction of Hernia en masse as a Cause of Abdominal Obstruction.—By W. J. Walsham.

A Case of Acute Intestinal Obstruction due to a Papillomatous Ovarian Cyst and a Carcinoma of Small Intestine.—By H. Savory and W. G. Nash.

The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.—By J. Mitchell Bruce.

Some Practical Points in the Diagnosis and Operative Treatment of Perforated Gastric Ulcer.—By R. C. B. Maunsell.

A Case of Hour-Glass Stomach; Non-Malignant; Gastro-Enterostomy.—By Charles P. Childe.

Case of Extreme Stenosis of the Small Intestine in an Infant.—By Ernest W. Hey Groves.

Notes on the Anatomy and Surgery of Meckel's Diverticulum.—By George A. Clarkson.

Ulcer of the Stomach; Acute Hæmatemesis; Gastrotomy.—By H. Brunton Angus.

A Case of Subphrenic Abscess; Operation; Recovery.—By H. J. Campbell.

Case of Intestinal Obstruction.—By H. J. Hildige.

Transposition of Rectum.—By John J. Bingham.

Intestinal Sand.—By A. G. S. Mahomed.

Revue de Chirurgie, March 10, 1901.

Torsion of Hydrosalpinx. — Fernand Cathelin concludes that the torsion of hydrosalpinx is merely a special example of the general law governing the torsion of organs and of abdominal tumors. It is noted with the greatest frequency between the ages of thirty and forty, and occurs most often on the right side. The mechanism of torsion depends upon various causes, such as a peripheric external-tubal seat of the tumor, a long and slender pedicle, excessive mobility, abdominal, non-pelvic situation, growth from above, or pressure and contraction of the intestines, and a very sloping superior strain. Prognosis is grave unless operation is performed, as secondary pyosalpinx is likely to occur. Laparotomy, with bilateral castration and secondary hysteropexy, without drainage is the preferable procedure.

Unilateral Exclusion in Obstinate Intestinal Fistula.—X. Delore and M. Patel extol this operation, which consists in the partial exclusion of a portion of the intestine, which is ligated at its distal end only. When performed on the small intestine, the results are the same as in entero-anastomosis; that is to say, fecal matter accumulates in the lower segment, and the fistula persists. In the large intestine, however, the results are often curative. Circulation of the fecal matters is obtained as in bilateral exclusion, the purulent fistula has no further excuse for existence, and there is but little risk of infection by propagation.

Chopart's Amputation.—André Lapointe gives a long and detailed account of this operation. He considers it an excellent process for the partial amputation of the foot, and the one to be chosen whenever possible. It has not yet been demonstrated that either Syme's or Pirogoff's operation has any greater orthopedic value.

Total Extirpation of the Vas Deferens and Seminal Vesicle through the Inguinal Route.—By R. Baudet and P. Duval.

Ligature of the Abdominal Aorta; Record of Cases.—P. Tillaux and P. Riche (conclusion).

Fractures of the Upper Jaw.—By R. Le Fort (a continued article).

Revue de Médecine, March 10, 1901.

Hysterical Anæsthesia.—Bernheim, of Nancy, says that hysterical anæsthesia is purely psychical, its characteristics being the same as those of anæsthesia due to suggestion. It is less frequent than usually supposed. It is always amenable to psychotherapy, but the latter is often interfered with by the autosuggestive resistance of the patient. It may have an organic origin, as peripheric or central vasomotor paralysis or constriction, and remain as an autosuggestion after the vascular trouble has disappeared. Organic hemianæsthesia of cerebral origin, from a lesion in the neighborhood of the posterior third of the posterior segment of the internal capsule (*carrefour sensitif*), may also survive the lesion by means of autosuggestion. Sensory impressions are perceived and recognized during psychical anæsthesia. But the mind, affected by the idea of anæsthesia, acts in an inhibitory way and effaces the sensation as soon as it is perceived, by amnesia.

Typhoid Fever Associated with Dysentery.—Paul Remlinger reports a number of cases of the association of these two diseases. The prognosis in these cases is very grave. As to treatment, absolute rest in bed, milk diet, saline purgatives, and calomel are indicated in both diseases. Purgatives, judiciously given, are even to be preferred to naphthol, salol, or bismuth salicylate. There is no absolute contraindication to cold baths. If the physician desires to treat the dysenteric mucosa by injections of silver nitrate, the tincture of iodine, or permanganate of potassium, the coexistence of typhoid fever will not forbid. Artificial serum will render the same services in the case of the associated diseases that it does to each singly. Subcutaneous injections of caffeine or camphorated oil and the administration of tonics will sustain the heart and the general system.

Re-education of the Heart Movements by Means of Methodical Exercise.—By Fernand Lagrange (a continued article).

Condition of the Blood in Zona.—By Sabrazés and Mathés.

A Case of Colotyphus.—By Ph. Bourdillon.

French Journals.

Disciplinary Control of Cough in Tuberculous Patients.—F. Lalesque is accustomed to direct the patient coming to submit himself to the climatic treatment, not to cough without expectorating. Although the cough provoked by excitations originating in the various organs is called reflex, the term is not appropriate, since cough is always reflex. The dry cough is without aim—without result. The moist cough has an aim and attains a result—it is useful. The author believes that the dry cough can be suppressed by self-control. The physician should carefully explain to the patient the uselessness of the dry cough, pointing out to him the discomforts attending it, and urging him to exert his will in suppressing it. This will often have the desired effect.—*Journal de Médecine*, March 10, 1901.

Is Alcohol a Food?—R. Romme declares that our knowledge of the physiological action of alcohol and the alcoholic beverages is very limited. In medicine, alcohol passes as an excitant or stimulant—a very vague term. But it really appears from its effects, according to many authors, to be a paralysant. It alters rather than stimulates the functions of the organism. It presents the action of a toxic substance whose effect is more paralyzing than stimulating. Alcohol is not a food properly speaking. It should be considered a condiment. But in order to play this rôle, which is one of considerable importance, it should be sufficiently diluted, and natural, as it is found in a drink naturally fermented such as wine, cider, or beer. In any other form it is a poison.—*La Tribune Médicale*, March 6, 1901.

Prolapse of the Genital Organs.—Duplay speaks of cystocele, rectocele, and prolapse of the uterus. The latter presents three degrees: (1) The uterus has fallen a little into the vagina. (2) The cervix has reached the vulva. (3) The entire uterus has passed outside the vulva. There are acute and chronic cases, the former being very rare. If the uterus is completely prolapsed and irreducible, vaginal hysterectomy is indicated. In certain cases in uterine prolapse alone, recourse may be had to shortening the round ligaments or to hysteropexy. Even in those cases in which vaginal hysterectomy, either total or partial, or Alexander's operation would appear to be indicated, the cure could be completed by elytrorrhaphy and perineorrhaphy.—*La Bulletin Médical*, March 9, 1901.

Münchener med. Wochenschrift, March 5, 1901.

Clubbing of the Fingers and Toes.—A. Dennig recalls the designation of hypertrophic pulmonary osteo-arthropathy given to this affection by Marie, before it was recognized that it could also be associated with diseases other than those of the lungs. Teleky classifies the factors capable of producing the deformity as follows: (1) Diseases accompanied by purulent or necrotic decomposition; pulmonary tuberculosis (with cavity formation), bronchiectasis, empyema, cystopyelonephritis, dysentery. (2) Infectious diseases and chronic intoxications; pneumonia, pleurisy, syphilis, alcoholism (?). (3) Heart lesions, especially when congenital. (4) Malignant tumors; sarcoma and carcinoma of the lung, sarcoma of the parotid. (5) Diseases of the nervous system; syringomyelia, neuritis (?). To this list the author would add, under headings (1) and (2), gastrectasis, basing the assertion on a case observed by him in which relief of the local trouble by resection of the pylorus was speedily followed by a recession of the digital enlargements. He further considers that the clubbing is due to overfilling with blood and hypertrophy of the soft parts rather than to actual growth of bone, though the joint thickening which sometimes is an associated lesion is more often the result of an ossifying periostitis. This view is supported by the fact that, out of ten cases submitted to *x*-ray examination, in only one could any bony hypertrophy be detected.

Clinical Contribution to the Peptic Ulcer of the Œsophagus.—K. Ortmann describes two cases of the œsophagus with secondary cicatricial contraction and dilatation appar-

ently analogous to the common peptic ulcer of the stomach. The possibility of such a lesion is demonstrated by the histological work of Schaffer, who found gastric cell elements mingled with the epithelium of the lower end of the œsophagus. The symptoms are not pathognomonic and comprise dysphagia, regurgitation, pain under the lower part of the sternum, and hæmatemesis. The presence of a stricture not hysterical in nature, not accompanied by the usual manifestations of malignant disease, and giving a distinct impression of cicatricial tissue on the use of the œsophageal bougie, together with the protracted course of the malady, led the author to the diagnosis. In both cases marked improvement followed gradual dilatation with bougies.

Hedonal.—E. Müller, after an exhaustive series of tests, concludes that hedonal in doses of from gr. xxx. to xlv. is a safe and fairly efficient hypnotic. Its most favorable sphere of action is in cases of moderate intensity in which the sleeplessness depends on psychical exaltation, while in severe insomnia it is of little value. Even in milder cases it is often necessary to increase the dose very rapidly, but the system becomes habituated to it so rapidly that very large doses are often as ineffectual as smaller ones. Slight subjective and objective by-effects were noted but seemed not to be of a serious nature, and indicated abandonment of the drug only in cases in which a special idiosyncrasy was present. The most prominent of such symptoms was a very considerable diuresis attended by unpleasant subjective symptoms, but which rapidly subsided on the cessation of medication and left no untoward results behind.

A Case of Unilocular Echinococcus of the Kidney.—A. Meinel reports this case, which occurred in a man aged twenty-one years, whose symptoms pointed mainly to mechanical disturbance of neighboring organs, especially the stomach, by a large-sized tumor in the left renal region. This was elastic, freely movable, and painless, and a provisional diagnosis of hydronephrosis resulting from a movable kidney was made. On laparotomy it was found that the tumor was a renal cyst, which on removal, together with the kidney, proved to be a unilocular echinococcus cyst.

The Technique of Vaccination.—Weichardt employs a lancet of pure nickel, averring that the scarification it produces is less likely to cause bleeding than if a steel instrument be used. For estimating the amount of lymph taken for each vaccination a glass block is used having a V-shaped groove in its upper surface to hold the lymph, while by graduations along the edge it is possible to control the depth to which the inoculating instrument is dipped into the fluid, and hence the amount that adheres to it and is transferred to the patient.

A Reply to Conradi's Article on the Effect of High Temperatures on the Casein of Milk.—By Bienstock.

The Effect of Salt Solution on the Morphology of Clotting.—By E. Schwalbe.

The Complications of Varicella.—By P. Krause.

A Simple Extension Sling.—By A. Riedel.

Berliner klinische Wochenschr, No. 10, March 11, 1901.

Sterilization of Catheters.—From a series of experiments, Jacob comes to the general conclusions previously advanced by Katzenstein as to the practical utility of formalin vapor for the purpose indicated. Ten minutes' exposure seems a sufficiently long time, provided the catheter is perfectly dry and provided the bacteria to be destroyed are not of unusual virulence. If they are, and if the catheter is moist, fully thirty minutes' exposure is necessary to insure destruction of all bacterial life. For ureteral catheters even the latter duration of exposure at 80–90° is not sufficient, for owing to the narrow lumen and the length of these catheters a longer time is required.

The Therapy of Epithelial Cancers.—O. Lassar records two cases of growths on the nasal alæ, examination of which revealed their cancerous nature. In each instance the persistent use of arsenic in the form of the "Asiatic pill," composed of arsenic and black pepper, effected a cure. Photographs are exhibited of the cases before and after treatment.

The Prognosis of Carcinoma of the Pylorus after Gastro-enterostomy.—By H. Strauss. The consideration of the question is based on the history of a woman aged thirty-five years, who was operated on for the condition named. She made a good recovery from the operation and lived for three years and four months, finally dying from pneumonia. From his personal experience the author is rather inclined to think that carcinoma of the digestive tract is relatively more common in early life than is carcinoma of other organs.

The Progress of the Investigation of Malaria in Italy.—By M. Koch and H. Coenen.

Hæmolysin.—By P. Ehrlich and J. Morgenroth.

Annals of Surgery, April, 1901.

Conservative Operations for Renal Retention.—C. Fenger states that the choice of operation comes into question only in cases of obstruction at the pelvic orifice of the ureter, and lies between transpelvic plastic operation, extrapelvic incision, and plastic operation and pyeloplication. Transpelvic plastic operation may be the operation of necessity in large cystonephrotic sacs because of the difficulty in reaching the ureter outside of the pelvis. In smaller sacs with dilatation of the pelvis he considers extrapelvic plastic operation preferable to resection and reimplantation of the ureter. Resection was practised six times in the cases collated. Twice the operation was incomplete and was followed by nephrectomy. It was successful three times and functionally successful once. One patient died from iodoform poisoning or sepsis. Thus it proved effective in all the four cases in which the operation was completed. Extrapelvic plastic operation was chosen by most of the operators. It was performed eleven times—was successful in ten cases with good functional results, and was unsuccessful in one case. It would thus seem that this should be the operation of choice by reason of the results obtained, and because its technique is relatively simple. The risk to life from this entire group of conservative operations for renal retention is small. Three of the thirty patients died, but in none of them was death due to the operation *per se*. In one case, the patient died from ileus. Two others had bilateral disease, and could not have been saved by nephrectomy. The results of the operations to re-establish evacuation of urine, and thus save the kidney, were as follows: The operation was non-effective in five cases, in four of which nephrectomy was performed with no deaths. In one case a urinary fistula returned. The operation was functionally effective in twenty-two of the thirty cases; that is to say, twenty-two out of thirty kidneys, or seventy-three per cent., have been saved from nephrectomy. In a few of these cases a mucous fistula still remained at the time of publication; but an almost dry mucous fistula, leading probably to a suture or ligature, will close in time, and will never necessitate the removal of a kidney the urine from which passes into the bladder. A statistical table and bibliography accompany the article, and from the former the author's conclusions are drawn.

The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi.—By C. L. Leonard. From the examination of one hundred and thirty-six cases suspected of having renal or ureteral calculi, and the detection of nineteen cases of ureteral and seventeen cases of renal calculus, the author concludes: (1) That both the negative and positive diagnoses by the Roentgen method are accurate and valuable; (2) that ureteral calculus is much more common than has been supposed, constituting about fifty per cent. of all cases of calculus; (3) that it is impossible to arrive at as accurate a diagnosis of calculus by other methods; (4) that this method is comprehensive, and aids operative intervention by localizing all calculi and excluding calculi from the other kidney; (5) that non-operative treatment, without a negative diagnosis by this method, is irrational and dangerous in cases that are at all suspicious; (6) that this method is precise, because its results are mechanically produced, but that accuracy in its employment and care in reading the results are necessary to the avoidance of error; (7) that the data obtained by this method make non-operative, conservative treatment rational in cases of small calculi low down in the ureter, which can be expected to pass; (8) that the negative diagnosis does not preclude exploratory nephrotomy, but does make unnecessary the actual incision into the kidney in search of calculi; (9) that dilatation of the ureter with bougies, as has been practised in the female, may be employed in the male by utilizing a suprapubic cystotomy wound to guide the instruments from the urethra into the ureters.

Ileus due to Vascular Obstruction.—L. L. McArthur enumerates as the four most constant symptoms indicative of ileus caused by embolism mesenteric or thrombosis, the following: (1) Blood seen either in the washings from the bowel, in bowel movements, or in the vomitus, unaccompanied by the tumor of intussusception. (2) Colicky pains, associated with pains in the back and lumbar region. (3) Early collapse if the embolism has been sudden or extensive. (4) Cardiac disturbance, arrhythmia, great frequency, and albuminuria. The history of a case under his own care is then given. The patient died on the table.

The Appendix in Relation to the Psoas Muscle in Three Hundred Male and One Hundred and Eighteen Female Adult Autopsies; Trauma of the Psoas Muscle Produces Appendicitis.—By Byron Robinson. The author's conclusions are expressed in forty-one distinct paragraphs, and space does not afford an opportunity to abstract them here. The paper is freely illustrated and must be read in full by those interested.

Excision of the Cervical Sympathetic Ganglia for Exophthalmic Goitre.—By J. S. Horsley. Notes are given of a case operated on. Horsley claims that this is the first operation for excision of the cervical ganglia for exophthalmic goitre done in America.

Ileus due to Mechanical Obstruction to the Fecal Current.—By D. A. K. Steele.

Ileus Caused by Neoplasms.—By A. J. Ochsner.

Fissure of the Head of the Radius.—By Carl Beck.

Dublin Journal of Medical Science, March, 1901.

A Criticism on the Light Treatment of Lupus.—E. Stapleton has investigated this plan of treatment so ardently advocated by Finsen, and is inclined to be sceptical as to its real value. In the first place he calls attention to the fact that the mucous membranes of the nose and lips have not been found suitable for treatment, partly because the pressure of the apparatus employed to keep the light from hurting the patient cannot be borne and partly because, owing to irregularity of surface, accurate focalization is impossible. Neither can the septum nasi, owing to its inaccessibility, be acted on by the rays of light. Now, as the mucous membranes of the nose and lips and the septum nasi are parts frequently attacked by the disease, this at once establishes a very serious limitation. To get over the difficulty other methods are employed to supplement the light, and, in addition to the usual chemical, mechanical, and thermal agents generally adopted, the *x*-rays are commonly used. The action of the light causes an irritation of the skin, varying in severity from a slight erythema to the formation of vesicles and desquamation. Each time the light is applied an inflammation of the skin is set up which lasts about twelve hours. In Stapleton's opinion it is this inflammatory reaction which brings about the cure when one is effected—the bacteria being killed incidentally. The advocates of the light therapy admit that the early and superficial cases are those which afford the best prospect of cure, but these are just the cases that would naturally be the most amenable to other forms of treatment. Even six months' continuous treatment with the light therapy fails to cure many cases, and the length of time necessary in any case to produce beneficial results is another great objection to the plan. From three to four months are necessary, with a daily attendance of one hour. The apparatus required is very expensive, and its management requires a large force of assistants with special training.

Some Results of the Nordrach Treatment of Consumption in Ireland.—By P. S. Hichens. The Nordrach treatment consists of three things: Abundance of fresh air at all times, day and night, superabundance of food and exercise, graduated according to the state of the body temperature. The results reported are decidedly favorable and the author considers them of interest because they seem to show very conclusively that the cure of consumption does not depend on a beautiful climate and abundant sunshine, but merely on pure country air and a carefully regulated system of life. They have been obtained during a cold, wet summer, and an abnormally wet and stormy winter. They show, indeed, that if doctor and patient were sufficiently determined very good results could often be obtained in the patient's own house. Unfortunately, however, there are but very few patients who will resign themselves thoroughly to this treatment, unless they are isolated from their friends in a sanatorium and associated with others undergoing the same treatment.

Clinical Report of the Rotunda Lying-In Hospital for One Year from November 1, 1899, to October 31, 1900.—By R. D. Purefoy, H. C. Lloyd, and P. C. Carton.

Four Cases of Laparotomy.—By R. J. Kinkead.

The Journal of Tropical Medicine, March 15, 1901.

Some Notes on Blackwater Fever.—R. U. Moffat holds that blackwater fever is a complication of malaria produced only when the blood glands have lost their normal regenerating power, either through the influence of malaria or any other constitutional cause. It is then caused by a chill acting on the surface of the body when the malarial parasites are in active development, some hours before their sporulation The effect of the chill is to cause a determination of the parasites to the deeper organs at a time when they should be in the peripheral circulation, and, as a result, sporulation takes place prematurely and there is a sudden death of all parasite-bearing corpuscles. Quinine should be taken as a prophylactic treatment, and even after blackwater fever has appeared the author gives quinine. He also advises free drinking of bland liquids, such as soda water, barley water, etc.; for even if they be vomited, a certain amount will be absorbed and assist elimination and prevent blocking of the kidney tubules. As vomiting is constant the liquid renders it less painful.

A Case of Blackwater Fever.—Dr. Patrick Manson gives a detailed account of his own attack.

The Liverpool School of Tropical Diseases.—Address by Sir William Church.

Beri-Beri in Hong-Kong.—A continued article.

The Birmingham Medical Review, March, 1901.

A Consideration of the Clinical Aspects of Localized Abscess Resulting from Appendicitis. — Leonard Gamgee writes of the abscesses which are likely to form in the midst of adhesions which bind the appendix to other structures. The seat of the abscess varies with the length and direction of the appendix. Its usual position is in the right iliac region, but the pus may run upward and point in the lumbar region, or behind the ascending colon and form a subdiaphragmatic abscess. Luckily, an appendical abscess has a great tendency to point on the surface of the abdomen, but it may burst into the general peritoneal cavity, or into some part of the intestine, or even into the bladder. The author gives the symptoms in the fulminating cases, and in cases of quiet suppuration. He believes that operation should not be delayed. He has operated in twenty-two cases; of these patients twenty recovered and two died.

On the Varieties and Treatment of Prolapse of the Uterus and the Vagina.—Thomas Wilson disapproves of pessaries, and finds that glycerin tampons, made and introduced by the patient every morning, answer far better. They are more cleanly, and they exert on the tissues a tonic and bracing action which helps to prevent further progress of the prolapse. Should the tampons be insufficient to correct the prolapse, the correct indication is to support the pelvic floor on the outside, by a perineal pad, just as one supports any other hernia by a truss. It consists of a hollow india-rubber bag of elongated oval shape, attached by leather straps to a waist-band. When prolapse has become firmly established, operative treatment is clearly indicated. The author gives a list of the various operations suitable for the different varieties of prolapse.

Some Relics of Past Medicine and Surgery in this Part of the Country.—By F. W. Willmore.

Archives Générales de Médecine, March, 1901.

The Genesis of Spina Bifida.—Étienne Rabaud points out the fact that there are two varieties of spina bifida, one consisting of a more or less voluminous pouch, and the second characterized by complete amyelia and an open spinal fissure. The first is the one of interest to the surgeon. The pouch is nothing else than an objective dilatation of the canal of the ependyma, its cavity being directly continuous with the canal. To open this pouch is simply to open the canal of the ependyma and allow of the escape of the spinal fluid. To inject a caustic into the pouch is to inject it into the central nervous system. Neither method should be adopted.

Etiology of Malaria.—M. Vincente says that other agents besides the mosquito play a part in the propagation of malaria. Certain sporiferous parasites of the oleander are known to carry the infection, and it is supposable that many agents of transmission come from plants. The latter mode of infection is less common than that by mosquitos, but on the other hand it can occur at any season, and in winter, when the insect has disappeared, the aspidiotus may become dangerously active if the plants are placed in a hot-house. The latter becomes an artificial marsh, with plants, spores, and insects carrying the spores; together with a deleterious atmosphere favorable to inoculation, multiplication, and infection of the parasite.

Clinical Study of the Acute Broncho-Pulmonary Symptoms Occurring during Malaria.—By J. Crespin and R. Mailfert. A continued article.

Strangulated Hernia in a Child of Sixteen Months.—By G. Michel.

Gastric Toxins.—By E. Cassaët. A continued article.

Varicose Veins.—Cases that may be cured by a thorough and careful operation are: (*a*) Local varix, even of marked prominence, particulary if thrombosis has occurred, either in the thigh or lower leg; (*b*) extensive varix, limited to a single venous stem; (*c*) varicosities which are a bar to passing civil-service, military, or naval examination; (*d*) cases in youth or middle life; (*e*) cases in which the development of the permanent varicosity was at least partially due to more or less removable conditions (flatfoot, garters, etc.).

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL SOCIETY'S ONE HUNDRED AND TWENTY-EIGHTH ANNIVERSARY—SIR W. CHURCH ON THE HOSPITALS COMMISSION—CLINICAL SOCIETY'S DISCUSSION ON TYPHOID IN SOUTH AFRICA—INFLUENZA—SMALLPOX.

LONDON, March 15, 1901.

THE Medical Society of London celebrated its one hundred and twenty-eighth anniversary, on the 8th inst., by a dinner. Sir W. Church was present and replied to the toast of the visitors. He took the opportunity of repudiating Mr. Burdett-Coutts' allegations and the inferences drawn from his statements by some newspapers. As to the statement that the commissioners hurried through their work, Sir William said they did hurry—they landed at Cape Town at 10 A.M. and began their work at 3 P.M., though they had had to find a room, to fix upon what witnesses to hear first, and to make all necessary arrangements. For thirty-four days they worked seven days a week, and the only recreation taken by any of them was to look at the mines of Johannesburg one afternoon after hearing evidence all the morning. Up to the time the army left the Modder for Bloemfontein the care of the sick and wounded had been extraordinarily good, and there never had been a campaign in any country where the arrangements had been so perfect.

The outbreak of fever had to be met by an inadequate staff. No one had an idea of the magnitude of the task, but he was glad to bear witness to the magnificent work of the members of the R.A.M.C. and the great powers of organization many of them showed. Lord Roberts had told them that for fourteen days after he reached Bloemfontein his first thought on waking in the morning was whether he had food enough for the army for that day, and much later the commissariat could keep only twelve hours ahead of the army's needs. In such circumstances the sick suffered certain deprivations. Then too it might be considered what the best civil hospital could do if suddenly overwhelmed with three times the number of patients for which it had provision of any kind.

A discussion on the epidemic of typhoid in South Africa was opened at the Clinical Society on the 8th inst. by Dr. Howard Tooth. His paper embraced his personal experience among the troops, and the origin, dissemination, prevention, and treatment of the disease.

The infection first took place near the Modder River, which was very muddy, the mud being so fine as to clog any filter. Some wells were sunk, but the troops persisted in drinking the river water, which was probably infected by towns above the camp. Bloemfontein was without doubt infected from the Modder camp, for men were taken ill on the march, and many infected at the Modder developed the disease at Bloemfontein. There it rapidly spread—perhaps the Riet River became infected, but other causes than water were present. The virulence of the bacillus is known to be increased by the presence of blood and the toxins of other organisms, even by those normally found in the alimentary canal, as the bacilli coli.

Some of the troops must have been immune, for the bacillus must have had access to their alimentary canal. Such bacilli must be thrown out of the system, or else circulate in the blood without producing the disease. Persons who have had typhoid may retain bacilli in their tissues for years. The water of the wells at Bloemfontein contained a suspicious amount of nitrates, and the water works were at first in the hands of the enemy. But other causes were at work. Sand storms must have been potent agents in dissemination, for at times the food would be covered with sand and dust. Flies, too, though not a serious plague at all times, multiplied rapidly. Personal infection from man to man seemed unavoidable in camp life, and, at the army age, men are specially liable to typhoid. Bad as the epidemic was, Dr. Tooth regarded it as a matter for congratulation that it was not worse. The precautions taken were, boiling and filtering water, sinking wells, disinfection of stools, etc. Out of two hundred and thirty-two cases admitted to the Portland Hospital, fifty had been inoculated, and their death rate was 7.4. Of the non-inoculated typhoid cases the rate was fourteen. The inoculated patients seemed to have milder attacks. Dr. Tooth seemed to think that the degree of reaction to preventive inoculation would be a measure of the natural immunity. His own blood, three months after he recovered from the disease, gave Widal's reaction, which was faintly marked quite lately. An inoculated person may be considered in the state of one who has had the disease, but we must remember a person may have it more than once; so that the toxic saturation point is a variable one. All that can be claimed for inoculation is temporary immunity; but, even so, Dr. Tooth thinks statistics would justify the profession in taking a more decided attitude.

As to treatment, Dr. Tooth made some important observations. He protested against leaving it too much to nurses. There were worse places than a comfortable tent in the open air, he said, and food might often be given more freely than is the custom; sterilized milk is expensive, condensed not very nutritious; he had given finely minced meat when the tongue was clean; the growth of bacilli is favored by the presence of other bacteria, and these again by undigested food; dry, brown tongue, disinclination for food, and frequent stools indicate most careful dieting; stimulants are useful only when the pulse is weak and rapid; phenacetin relieves headache but causes profuse sweating, so atropine should be added; the care of the mouth and tongue is important; pain in taking food may produce disinclination. For hemorrhage he used turpentine, hamamelis, and digitalis. From perforation few recovered; some cases were treated surgically, but without success.

Surgeon-General Jameson, director-general of the medical department, said that from year to year an epidemic of typhoid occurred at Ladysmith and Pietermaritzburg, and on the outbreak of the war he saw that such an event stared them in the face. He therefore had instructions drawn up to guide the medical officers, and he did not think anything needed to be added to his instructions.

It was unfortunate that the sanitary officer had been abolished in the field army, and he had, on his own responsibility, appointed Captain Hughes and equipped him with portable chemical and bacteriological laboratories and sent him to watch the epidemic anticipated. Sir R. Buller put Captain Hughes on his personal staff, but unhappily he was killed at Colenso—a national calamity. One of the chief difficulties to meet was certainly the soldiers' drinking whatever came in their way, of which he had had personal experience at Quetta and Alexandria. He described the method adopted by the Americans to meet the danger of the excreta.

Professor Wright spoke on inoculation. He said those who had severe reaction did not do so well as those who had smaller doses. A man who had had an attack of the disease was known to be more immune than one who had not. Every one after typhoid had good Widal's reaction, and in testing the blood we should get an equal reaction. Some persons recovered with reduced bactericidal power of the blood; hence came relapses. People with slight bactericidal power were more liable to relapses. He mentioned the case of an officer who had had two inoculations and four attacks in two years. It was necessary to bring the blood into the condition in which it was in patients who had recovered. The preventive serum should be inoculated twice with a sufficient interval for full recovery. Some statistics were given.

Sir Dyce Duckworth paid a high tribute to Professor Wright's modesty and caution, and held that the process should be tried by the civil community.

Surgeon-Major W. G. Macpherson said Dr. Tooth had shown the truth of all they believed before the campaign. The reason armies suffered so severely was that many men were dumped down on undrained and unsuitable places. The Americans had concluded that a system of water-carried drainage was the best preventive. He described the plan they had adopted and said an effort was being made to follow it in our army. As to flies, instructions were given for destroying their breeding-places. Deep trenches for excreta were better than shallow, and tube drainage was better than buckets. The discussion was then adjourned.

Influenza is on the increase in London. In the last four weeks the deaths registered from it were 16, 32, 35, and 39. The deaths from all respiratory diseases during the same weeks were 430, 493, 501, and 463. The last number is 97 below the corrected average.

Smallpox is still serious at Glasgow; the deaths for the last four weeks being 20, 15, 12, 20. Great efforts are being made to push vaccination and revaccination. A house-to-house canvass is being made with the offer to vaccinate all who will submit to the protection.

ENLARGEMENT OF THE SUBLINGUAL VEINS IN INFANTILE MYXŒDEMA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Recently I observed in a case of sporadic cretinism, or infantile myxœdema, a condition which, to my knowledge, has not been described; namely, a marked dilatation of the veins on the under surface of the tongue, amounting, in fact, to true varicosities, particularly when the infant would cry.

It seems to me that this condition is but the result of pressure excited by the hypertrophic tongue, thus render-

ing the return circulation very inactive. So great did the dilatation appear at the crying periods that one could not fail to be impressed with the safety in this case of delayed dentition. It can easily be imagined that during a severe paroxysm such a tense and dilated vein might be ruptured by a sharp incisor. Though not of great practical importance, it is a fact which appears to me worthy of clinical note.

I might add that, since the infant has been medicated with increasing doses of thyroid extract, this venous dilatation has gradually subsided, and there has been improvement of the general condition and diminution in the size of the tongue.

JACOB SOBEL, M.D.

1828 MADISON AVENUE, NEW YORK CITY.

SHOULD LEPERS MARRY?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: For my part, I do not think it advisable to allow lepers to marry, leprosy being a bacillary disease: the fewer contacts between the diseased and healthy populations that are permitted the less danger of contagion there would be. Unless a leper is already married, when he becomes a leper he should not be allowed marital intercourse with a healthy person, because he might contaminate his wife and children, if any should be produced; and he should not marry a leper because the thought is monstrous —as monstrous as for the tuberculous or syphilitic to marry. The old marital law of Japan prohibited marriage with a leper, and the divorce law recognized as a reason for the annulment of the relation even "the tendency to leprosy discovered too late." Moreover, the greatest obstacle to leprous sanitation in Japan has been the superstition that if leprosy appeared in a family, and any one should divulge the fact, and thus injure that house's reputation, retribution would surely overtake the informant. Hence they pity the family's misfortune, and keep its secret. This tradition doubtless has come to Japan through China and Corea from India. In Japan, as in India, lepers in their outcast villages have always propagated children among themselves. Thus the spread of the disease from parent to child has been enormous. The traditional government of the leprous population by the Buddhist hierarchy has been outside the statutory regulations, and the Buddhist priests have allowed marriages between leprous men and leprous women "for their moral good and happiness." In this way non-leprous children have constituted new foci for the germs of the disease throughout the empire. For by their year of contact with leprous parents in leprous villages they had been, as it was discovered afterward, inoculated with the disease. They were the germ carriers. Moreover, the bacillus is frequently found in the leper's testicles; it has also been found in the sperm, although the male germ, accompanied with a bacillary element, as in syphilis, has only few chances of life. In the uteroplacental transmission of leprous contagion there may be interruption of the development and death of the fœtus before term, or non-viability at birth, or birth at full term with accidents. In the first months, or first year, of life without a recognition of the disease, Zambaco Pasha claims to have observed the first two cases; he found nine children of lepers, before term, badly developed, very weak, with discolored deep-red skin. The children died a few days or weeks after their birth. The third case was not found by Zambaco, by Danielsen, or by Boeck, who saw only leper children five or seven months after birth. In "Kaposi Notes," Besnier thinks that the probability of leprous inheritance is weak even when father and mother are lepers. The heredity of the disease is not fatal, and children of lepers might be isolated and taken out of the country as soon as born. This would be the surest and best means of extinguishing leprosy. This, of course, would take from the leper the moral good of his marriage. Norway has had to do it, to cleanse herself of leprosy. Her children and grandchildren of lepers were shipped to the United States. Thus, the spread of the disease was checked. England, justifying herself by an assumed belief in non-contagion, is doing the same thing with India; 263,000 Hindus, more or less related to lepers, were shipped to French Mauritius; 118,000 were sent to British Guiana, 83,000 to Trinidad, and 14,000 to Jamaica. Bevan Rabe found in Trinidad 214 Hindu lepers. To-day Great Britain is shipping Hindus, inoculated with leprosy, to British East Africa, Uganda, and the Upper Nile.

Dr. Lucio admits heredity of leprosy, and considers the disease a family disease. Bosnet calls it heredocontagious. Hansen says that leprosy is a family disease, "not because it is hereditary, but because it is contagious and exists in the families where contagion is most easily produced." Zambaco also does not believe in heredity. "In the largest number of cases I have observed," he says, "leprosy was spontaneous, accidental, without heredity. Virchow believes in the heredity of the predisposition to leprosy but not in a congenital disease. The investigations of Boeck and Bidencop proved that the disease has indicated itself in ascendant line only in the fourth part of the Norwegian lepers. Von Souneron found in Madras only two cases of heredity in thirty-one cases of leprosy. Leloir does not take much stock, either, in the heredity doctrine. In his statistics, in one hundred and seven cases of leprosy there was demonstrated heredity in only forty-seven. He says the children who owe their life to a leper, male or female, or to the union of two lepers, are not always affected with the disease, especially if they part from their parents, and betake them to a land where there is no leprosy.

Leprosy begins generally between ten and twenty-five years, seldom before three and five years, more rarely at one or two, or at an advanced year like seventy.

The heredity of lepers has not been proved, and if it exists really, either in the direct form or as predisposition, this does not account for the greatest number of the cases observed. The rapid propagation of leprosy in leper countries cannot be explained by heredity. Perhaps the instances of family leprosies, adduced in favor of heredity, constitute only examples of family contagion, as believe Schilling, Drognat, Landré, Hansen, Neisser, etc.

Let us not forget that the period of incubation is unknown and sometimes long. Landré has known of fourteen years' incubation. To prove heredity it is not sufficient to quote families in which several members are lepers, because with the same criterium we could quote as hereditary such diseases as are acquired in a family by contagion, like scarlet fever, smallpox, etc.

In the statistics of Danielsen and Boeck, in sixty-eight anæsthetic lepers, leprosy was indicated, in ascendants, in fifty-eight cases; in two hundred and thirteen tubercular, there was heredity indicated in one hundred and eighty-nine, and for the others it developed spontaneously.

It results that it might be, strictly speaking, admitted that leprosy can be transmitted by heredity, considering, as I have said, heredity as heredocontagion. The greatest part of the cases of heredity indicated are simply cases of contagion. Children of lepers must leave their parents and their country as quickly as possible.

In conclusion, I beg to inform Dr. Carleton, of Sabathu Leper Asylum, India, that American physicians will always be found able to instruct Great Britain in the matter of her vast Indian leper problem.

ALBERT S. ASHMEAD, M.D.

NEW YORK, March 26, 1901.

LETTER FROM AUSTRALIA.

(From Our Special Correspondent.)

THE PLAGUE AND HEALTH BOARD REFORMS—ABUSE OF MEDICAL CHARITY—PRESCRIBING CHEMISTS—THE BRANCH BRITISH MEDICAL ASSOCIATION MEETINGS.

QUEENSLAND, AUSTRALIA, February 15, 1901.

THE matter with most small communities is that they consist of a number of individuals, each of whom knows more about everything than does any one else. The special knowledge of a special class is of little value to such people since they are unable to comprehend its existence; for them, indeed it does not exist. That the communities in Queensland towns are of such a kind has been well known during the recent plague scare which visited the shores of this state, veritably the shores, since no cases of pestis occurred inland. One is pretty safe in asserting that the majority of the freely educated inhabitants are still of the opinion that it was not plague, but something else which the doctors called plague for some reason of their own. ("D——n their ignorance!" as Dr. Johnson would have said.) Now that it has gone, never, let us hope, to return, the bitternesses engendered by the stubborn and stupid obstinacy of the ignorant may be "regulated to the lumbago of the past," but it has taught its lesson and brought its results. One of these is the new health act and the appointment of Dr. S. S. Ham as commissioner of health, with the reconstitution of the central board of health which becomes merely an advisory board to the commissioner. The latter is given great powers, and will doubtless institute many accessory reforms. He comes to Queensland with a good record.

Dr. Halford has been appointed health officer to the "joint epidemic board." He is a young and enthusiastic physician and should fill the office well. Previously to his appointment the city of Brisbane was served by a general practitioner, who received an income of £20 a year for his services!

The appointment of a medical man as inspector of charitable institutions (Dr. Hare, author of a valuable work on the cold-bath treatment of typhoid fever) promised to pro-

duce excellent results in the direction of the reduction of the abuse of charities by the well-to-do. So far, however, there do not appear to be any great results from the appointment, though it is possible that the inspector is doing more work than comes under the notice of the profession.

The record of the Queensland branch of the British Medical Association for 1900, represented by the report of the council, is a good solid one. A large number of meetings are held and much work is done. It is a matter for regret that the efforts of the branch were not successful against the prescribing chemists who succeeded in blocking the proposed new medical bill. Among the papers read at the branch meetings, one by Dr. Francis, vice-president, on intranasal pressure as a cause of headaches, and notes by the same member on a case of emphysematous otitis due to the presence of the bacillus aerogenes capsulatus (the first recorded case) were of particular interest, as also were some notes on plague by Dr. Turner, and the non-operative treatment of some forms of tubal disease by Dr. Hawkes. The branch practically represents the progression in Queensland, since its fusion with the older Queensland Medical Society, and promises to be a strong, united, and useful body.

I hope in a future letter to write in some detail of the hospitals of Queensland, or, perhaps, of those only with which I am personally acquainted.

Reviews and Notices.

Essentials of Histology. By Louis Leroy, B.S., M.D. Philadelphia: W. B. Saunders & Co. 1900.

A series of practical questions and answers, amply illustrated; will serve the purpose of the author.

Les Maladies Qu'on Soigne. Par A. Berck. Paris: F. Calot.

This is a small but very interesting surgical treatise. It comprises chapters on the surgical management of cold abscesses, adenitis, osteitis, coxalgia, Pott's disease, scoliosis, and congenital dislocation of the hip-joint.

Laboratory Directions for Beginners in Bacteriology. By Veramis A. Moore, M.D. Boston: Ginn & Co. 1900.

This little book is intended to serve as a guide to workers or beginners in bacteriology. It is very rudimentary.

Perfect Eyes: A Complete and Comprehensive Treatise on the Organ of Vision. With 39 colored plates and 40 others in the text. Sixth edition. New York: Benjamin F. Stephens.

"Perfect Eyes" is in its sixth edition. It appears without a preface or index. The book contains seventy-one pages, is written in a popular vein, and is very profusely illustrated. Technical terms are used but little. Semeiology is indulged in. Many inaccuracies in statement are met with in the text. The purpose of the book appears to be the advocacy of manipulation and local massage for the cure of all of the congenital and acquired abnormal conditions of the eyes. It really belongs in the category of "quack" literature, and is full of misinformation for those whom it is intended to reach.

Comfort and Exercise: an Essay toward Normal Conduct. By Mary Perry King. Boston: Small, Maynard & Co. 1900.

Comfort, the writer of this interesting little book defines as the right adjustment between self and circumstance, and she discusses the means best adapted to attain it in relation to education, occupation, home life, social life, and dress. In all these relations the essential of comfort is harmony—the natural fitting together and interplay of the intellectual, the spiritual, and the physical. It is especially with the latter that the author has to do here, the greater part of her work being devoted to the subjects of dress and exercise. The relation of apparel to morals must be more intimate than we thought if the writer is correct in her statement that "the warped and unintelligent characters of many men and women, much of the inhumane pettiness, bigotry, and spite, are due quite as much to the incessant and tyrannous irritation of clothes, as to any inherited depravity." The benefits of well-conducted gymnastic exercises are well set forth in the final chapters in which the right theory of exercise is demonstrated and its practice illustrated in the description of the ideal gymnasium. The essay is charmingly written, though the writer's earnestness leads her at times to the use of English which is almost too masculine in its vigor, and its perusal will entertain as well as instruct. We are sure the reforms urged in the book would benefit the health and increase the personal comfort of Woman—with a big W—but would it make the little women we know and love more charming and more lovable than they already are? Perhaps, but we somehow shrink from the thought of radically changing them, lest there be some shifting of "the adjustment between self and circumstance."

The Art of Breathing as the Basis of Tone Production. By Leo Kofler, Organist and Choirmaster of St. Paul's Chapel, Trinity Parish. Fifth revised edition. New York: Edgar S. Werner Publishing and Supply Co. 1900.

This book is of convenient size and embraces two hundred and seventy-six pages of rather closely printed text. A few illustrations appear in the body of the work. The writer, who is an enthusiast on what he terms "the art of breathing," has divided his work into three parts, the first of which is devoted to "items of interest to the reader," and contains a short biographical sketch of the author. The second part treats of the "theory of breathing," the third part deals with the "laws of tone production." In the sixteen chapters into which the three parts are subdivided, breathing gymnastics, tone production, the practice of phonetics, and methods of correcting faulty and defective articulation are fully considered. The work is based on the experience and observation of the author and on a knowledge, perhaps sufficiently complete, of the anatomy and physiology of the thorax and tone-producing organs. It is rather prolix, but contains much that is of value to those for whom it was written.

A Treatise on Diseases of the Nose and Throat. By Ernest L. Shurly, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine; Laryngologist and Late Chief of Staff, Harper Hospital, etc. Illustrated. New York: D. Appleton & Co. 1900.

This book, which is well printed and well bound, is one of seven hundred and forty-four pages; it contains seven hundred and eighteen cuts in the text and is embellished by six colored plates, each comprising a number of figures. A very full formulary is added. A consideration of the anatomy and physiology of the upper air passages is found in the first chapter. A chapter devoted to methods of examination follows, after which the various conditions and diseases of the nose and throat are discussed in logical order. The subject is treated in a modest, able, energetic, systematic, and sufficiently exhaustive manner. The diction is smooth and pleasing, the language simple and direct. A full acquaintance with the past and current literature on the subject is evidenced and the text is well up to date. Illustrations are found wherever they can be of service to elucidate the text, and nothing pertaining to this special branch of medicine has been passed without having been given careful consideration. One of the valuable features of the work is the discriminate but full consideration of therapeutic measures in connection with all of the various diseases discussed. This work deserves a place in the library of every medical man who has anything to do with the diseases of which it treats. It cannot fail to attain a large circulation.

Infant Feeding in its Relation to Health and Disease. By Louis Fischer, M.D., Attending Physician to Children's Service, New York German Poliklinik, formerly Instructor in Diseases of Children in the New York Post-Graduate Medical School and Hospital, etc. 12mo, pp. 350. Philadelphia and Chicago: F. A. Davis Co. 1901.

In these days, when there is so much discussion on infant feeding, it is a relief to meet with a thoroughly scientific work on the subject, dealing with broad general principles and applying them to the wants of all. The subject is compassed in a thoroughly practical way, not only on a clinical but a pathological and bacteriological basis. Breast feeding, hand feeding, and bottle feeding are discussed in all their bearings and indications. Commencing at the natural beginning, the anatomy and physiology of the gastro-intestinal tract are clearly considered. In this connection the original studies of relative gastric capacity from birth to one year of age are interesting and instructive as preparing the way for the general description of the processes of fermentation and absorption. The chemical ingredients of milk—fat, sugar, proteids, salts, and water—are exhaustively treated in their turn in connection with the actions of the common intestinal bacteria and with original drawing of colostrum milk. How to determine the nutritive value of breast milk, how to feed a baby at the breast, how to feed on mixed food, the diet of nursing women, and the indication and counterindication of drugs through the

nurse on the child are very clearly presented. The importance of the proper weaning of the infant is manifested by many practical details of management. The main interest in the work centres on the use of raw milk as the foundation of proper artificial infant feeding. The real emphasis is on pure raw milk. The author truly says: "If greater attention were bestowed on the condition of the cow, her udder, the stable, the bucket, and the milker's hands, then less sterilization and less pasteurization would be necessary." One of the fruitful sources of rickets and scurvy is due to lack of attention to the raw-milk question. As the design of the author is to teach the general practitioner how to feed infants away from laboratories and beyond the reach of patented foods, he gives the most elaborate and detailed directions for what he styles the "home modification of milk." The various digestive disorders from improper feeding are treated very fully and practically and form one of the many valuable features of the work. The dietary, giving the details for preparing the various cereals as diluents, cannot fail to find favor with the careful physician who desires accurate scientific facts and common-sense application of them. The work is profusely illustrated and contains some admirable and striking representations of different forms of rachitis and marasmus. Altogether the work is a model of its kind and cannot fail to appeal to the practitioner who desires accurate scientific data on such matters as bear on the proper care of the infant during the most trying period of its otherwise helpless condition.

A MANUAL OF OTOLOGY. By GORHAM BACON, A.B., M.D., Professor of Otology in Cornell University Medical College, New York; Aural Surgeon New York Eye and Ear Infirmary. With an Introductory Chapter by CLARENCE JOHN BLAKE, M.D., Professor of Otology in Harvard University. Second edition, revised and enlarged. With 114 illustrations and 3 plates. New York and Philadelphia: Lea Brothers & Co., 1900.

THIS excellent manual has reached its second edition. It has been thoroughly revised and brought up to date. The volume, which contains four hundred and twenty-two pages, is of convenient size, abundantly illustrated, and is embellished by two colored plates. It is beautifully printed and well bound. The introductory chapter by Dr. Clarence J. Blake, of Boston, is a very valuable feature of the book. The subject matter has been carefully considered and ably presented. Few books on diseases of the ear are as well adapted as this for the use of students and the general practitioner.

Society Reports.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 25, 1901.

GEORGE B. FOWLER, M.D., PRESIDENT.

The Importance of Aseptic Vaccination.—DR. WILHELM KARL KUBIN read a paper with this title (see page 524).

DR. JOHN H. HUDDLESTON said that a large proportion of the bad results reported by the British commission were nothing more than cellulitis. The sepsis observed in most vaccination cases was generally conceded to have originated after the performance of vaccination. It should be remembered that the possibility of sepsis increased very rapidly with the size of the area scarified. If the scarification was only a pin point in size, the resulting vaccination vesicle would still be a circle of considerable size. If the large scarifications formerly employed were used now with the active glycerinated lymph, the resulting vesicle would be extremely large. The rule should be to make the area as small as it was possible to do. With a scarification of one-eighth of an inch, post-vaccinal sepsis would be extremely rare. If a shield could be contrived which would keep its place, protect the wound, and not move up and down, it would be a most desirable thing; but certainly most of the shields now on the market did not meet these requirements, and were, on the whole, dangerous. The worst arms that he had seen recently had been almost uniformly those on which shields had been used. A loose shield moved up and down, broke the vesicle, and distributed the lymph. If, on the other hand, the shield were fixed so tightly to the arm as to prevent its moving, the tissues of the arm adjacent to the vaccination would become swollen and less resistant to infection. Most of the vaccines on the market had been found practically sterile, and hence the large number of very sore vaccinated arms still seen must be attributed to infection occurring after vaccination.

DR. GEORGE H. FOX said that one should be most careful to adopt aseptic measures in vaccination if only because every severely sore arm became an argument to be used by the opponents of vaccination. In his experience many of the sore arms had resulted from the use of the wire cages and the stiff pasteboards so generally sold in drug stores. These became veritable hot-houses and culture beds for germs, and the circulation of the surrounding tissues was impaired. He did not quite understand why most physicians were so careful not to disturb the vaccine vesicle, for this seemed to be a matter of importance only when one desired to study the formation of the vesicle or the stages of vaccination. He suggested that it might be better to treat the vaccinal lesions just as one would treat the lesion of contagious impetigo, *i.e.*, by removing the crusts and applying an ointment of ten grains of the ammoniated mercury in one ounce of cold cream or zinc ointment. He was inclined to think this would produce less irritation and inflammation than the ordinary mode of treatment.

DR. CHARLES W. ALLEN said that he had seen so much harm from shields that he now did not employ them, and hence, if he tried Dr. Kubin's shield, it would be only in an experimental way. Strong antiseptics should not be used on the arm prior to performing vaccination. In about ten thousand cases of skin disease, seen in the past two years, he had noted twenty-eight more or less generalized eruptions following vaccination, and also a number of accidental vaccinations. During the past year he had seen a good many deep and slowly healing ulcers after vaccination. He had attributed these largely to the use of poor vaccine, and this view had been strengthened by the fact that more recently he had observed as many, if not more cases, and yet there had been a much smaller proportion of these bad results. From 1897 to 1899 four thousand one hundred and sixty children had been vaccinated at the Good Samaritan Dispensary. Of these, fourteen per cent. had returned with some abnormal condition, and fourteen per cent. of these had exhibited eruptions, even generalized vaccinia—the existence of which had been denied by some observers. It was most important to remember that the very act of vaccination precipitated various eruptions, including that of syphilis and of the various exanthemata. His own practice was to paint a three-per-cent. solution of methylene blue in collodion, in a ring around the vaccinated area, and to cover this with cotton. When he desired to inspect the vaccination, it was necessary to remove only the centre and replace the dressing. Such a dressing could not possibly be displaced, and it answered the purpose of the usual vaccination shields without their disadvantages. He had been much interested in Dr. Fox's suggestion concerning the treatment of the vaccination vesicle as one would a case of contagious impetigo. He believed this would give just as good protection from smallpox as if the process had gone on to the formation of an ulcer.

DR. A. ERNEST GALLANT said that from 1887 to 1896 there had been about one thousand three hundred cases of infection after vaccination observed at the Good Samaritan Dispensary. They represented,

of course, all grades of severity of infection. The moderately severe ones had been treated with a dressing of five per cent. balsam of Peru in castor oil. When there were much redness and swelling, the application of ichthyol would cause a speedy subsidence of these signs of inflammation and infection.

DR. KUBIN, in closing the discussion, said that he could not see the reason for disturbing the pustule. It was a self-limited process, and when infection did not occur, interference did not seem to be called for.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, March 19, 1900.

E. FRANKLIN SMITH, M.D., CHAIRMAN.

Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.—DR. HEINRICH STERN read this paper. He said that it might appear a paradox, but was a fact that in the United States the mortality statistics afforded us the most reliable method of obtaining certain general etiological data. He had studied the mortality statistics pertaining to diabetes mellitus of New York City for eleven years (1889–99 inclusive), and had derived the following data therefrom:

Sex.—Of 1,867 deaths from diabetes mellitus, 931, or about 50 per cent., occurred in females. This proportion differed a good deal from the supposition that the malady was much more fatal in males than in females. Former mortality reports had shown that from two to two and one-half times more men succumbed to the affection than women. It was but consequential to assume that the death rate for diabetes mellitus stood in direct proportion to the frequency of the disease itself, and that in New York City about an equal number of both sexes were affected with it.

Infantile Diabetes.—He had found thirteen instances in which the disease terminated fatally below the fifteenth year of life. The total mortality from diabetes in infancy and early adolescence being 79, formed about 4.25 per cent. of the total deaths from this disease during the eleven years.

Race.—Of the fifteen instances of death from diabetes which had occurred among the colored population of New York City between 1889 and 1899, 9 were in males and 6 in females. Hebrews undoubtedly were more commonly affected with chronic glycosuria than was the nation among whom they dwelt: out of a total of 202 deaths in 1899, 54, or about 25 per cent. had occurred in Jews. Of those, 21 were males and 33 females. Among the Irish population 37 had succumbed to diabetes in 1899. Taking the Irish as a race—as the author had done with the Jews—and adding those who were born outside of Ireland of Irish parentage, or who were of Irish descent, one had a total mortality of at least 51—22 males and 29 females. This figure also formed over 25 per cent. of the total mortality from diabetes mellitus. The cardinal predisposing cause in the production of the diabetic state, in Hebrews and Irish, the author thought, was the breeding in and in, to which, in a very pronounced degree, both races still adhered.

Social Condition.—Diabetes mellitus was not a special visitation upon the rich, as was commonly supposed. Among the 202 males who had died from diabetes in 1899, 66 at least were working for a livelihood, or were dependent upon others, and lived in tenement houses.

Clinical Varieties.—For clinical purposes the various glycosurias might be ascribed to one or more of the following causes; (1) Excessive ingestion of glucose or alimentary glycosuria; (2) Diminution or functional disturbance, or excessive or abnormal disintegration of erythrocytes: glycosurias following the introduction of poisons and toxins, or the perverted function or removal of certain glands and organs—hæmatogenic glycosuria; (3) Traumatism—neurogenic glycosuria; (4) Interference with the glycogenic function of the liver to the extent that the ingested carbohydrates were not utilized normally—common or hepatogenic diabetes; (5) A general protoplasmic deterioration and plasmolysis—diabetic deterioration.

The primary cause of all hyperglycæmic conditions, excepting the alimentary form, seemed to be one and the same. The speaker assumed that the primary stimulus of hyperglycæmia acted by the medium of the blood; he considered only the hæmatogenic form, and the most typical of all diabetic conditions—the diabetic deterioration.

Hæmatogenic Glycosuria and Diabetes.—Bremer's method of diagnosticating diabetes from a drop of blood was not very likely ever to supplant the more approved tests for glycosuria; it had, however, drawn attention to a hitherto unknown factor in hyperglycæmia—the erythrocytes of diabetic blood did not stain with certain aniline dyes as did those of normal blood. Bremer found that the non-coloration did not depend on the presence of dextrose, as it did not ensue in artificially saccharated healthy blood on the application of the eosin-methylene-blue solution. He concluded that there must be a foreign substance in the diabetic erythrocytes, which called forth the unusual phenomenon. The reaction of diabetic blood upon certain aniline color stuffs, according to the essayist, seemed to be a purely chemical process. This interaction might be due to the presence of an abnormal element in, or the absence of a normal substance from, the diabetic blood, or to both eventual factors together. As early as 1896, the author had approached this subject. At that time he was inclined to Ebstein's theory, which supposed that the general oxidizing qualities of the diabetic organism were more or less impaired—an assumption not borne out by modern investigations. He inferred that there must be a certain connection between Bremer's phenomenon and the oxygen-carrying property of the diabetic red blood corpuscle. He considered carbon monoxide of catabolic origin the replacing factor of oxygen in the hæmoglobin. He had, however, considered himself that the changes in the cellular substance of the diabetic red blood corpuscle were neither the direct nor the indirect result of CO intervention. The almost characteristic behavior of the diabetic erythrocytes must be due to another factor, which might be either the result or the cause of the diabetic condition. This abnormal element was presumably of autochthonous formation, perhaps, though it took its origin from exogenetic influences. If the foreign substance had arisen from within the organism, it was either enterogenous or histogenetic. It did not seem to be due to a retention anomaly, as carbonæmia and carbon-oxidæmia *per se* failed to reduce the aniline-dye stains. If the substance were derived by resorption from the gastro-intestinal canal, it could not become an almost permanent factor in the blood, as this would presuppose a long-continued, uninterrupted absorption of the products of intestinal hyperfermentation and putrefaction, a condition hardly ever prevailing, and, in the author's experience, not frequent in diabetes. We had, therefore, to regard the substance (not considering at this moment its possible autogenesis) as a product of abnormal cell and organ activity or disintegration. Thus the foreign substance, whether it originated by perverted plasmolytic or nucleolytic processes, or by anomalies of internal secretions,

might safely be classified among the toxin principles. The possibility of an ectosystemic origin of the foreign substance deserved some attention. A number of observers had found the appearance of diabetes in formerly healthy persons after they had come into contact with diabetics. The transmissibility of the affection seems feasible, although no convincing proof had been given for it. One could surmise that the abnormal blood constituent represented the metabolic products of a specific bacterium, and that the potency of this toxin gave rise to the glycosuric phenomenon.

The Diabetic Deterioration.—A number of writers distinguished between a mild and a grave form of diabetes, but they contended that both were manifestations —differing in degree only—of the same directly underlying pathological condition. Seegen had been the first to recognize two distinct and independent clinical types of the diabetic affection. The present author had described a third clinical form of diabetes—the diabetic deterioration. These three clinical varieties of diabetes, emanating respectively from three distinct direct causes, seemed, however, to be but the consequence of one and the same fundamental disturbance. In the first form, the glycosuria disappeared after complete or partial exclusion of carbohydrates. The excreted dextrose was due to deficient glycolysis. In the second form, the glycosuria persisted after the complete exclusion of carbohydrates. The excreted glucose was due to proteolysis. In the third form, the continued excretion of dextrose concurred with larger amounts of nitrogen egested than were introduced with the nutriment. The excreted dextrose was due to plasmolysis. This third form of diabetes seemed to be the manifestation of a specific plasmolytic process.

In the healthy organism a dextrose-resembling substance might be normally yielded by plasmolysis, which, after it had undergone succeeding changes, was ultimately disposed of as CO_2. However, the production by plasmolysis of dextrose, or of its precursor, appeared to be an abnormal catabolic process, which caused permanent disintegration of the tissue protoplasm. This specific dissimilation of the living protoplasm, induced perhaps by the erythrocytic foreign element, was a limited hemimetabolic metamorphosis, so to speak, and bore the character of a deterioration; that is, the protoplasm might retain its appearance and might continue to exist, although it had permanently lost its molecular integrity. This plasmolytic dextrose-carbamid-yielding process the author had designated as diabetic deterioration—in other words, diabetic deterioration was a more or less limited molecular disintegration of plasmotic tissue substance into a carbohydrate body and a non-colloid nitrogenous compound. A logical and concomitant phenomenon of the hyperexcretion of nitrogen was the progressive inanition of the patient affected with the disease. The glycosuria was persistent, but its intensity did not seem to reflect the progress or the exact stadium of the disease.

Diagnosis and Prognosis of Diabetes.—Dr. Henry S. Stark was the author of this paper (see page 535).

Diabetes in Children.—Dr. Henry Dwight Chapin read this paper. He said that diabetes in children was a very rare disease, but Gerhardt had succeeded in collecting one hundred and eleven cases in children varying from eleven months to sixteen years of age. He had himself seen only two cases. The first one of these was in a boy of four years who had had more or less fever, associated with rapid loss of strength and the passage of from one hundred and five to one hundred and ten ounces of urine daily. The other child had presented an almost marvellously rapid emaciation, and the urine had contained about five per cent. of sugar. Both cases had proved rapidly fatal. The most marked symptom of the disease in childhood was rapid emaciation.

The Nervous System in Diabetes.—Dr. Pearce Bailey said that in the fifty years that had elapsed since the classical experiments of Claude Bernard the evidence in favor of the nervous system being the origin of diabetes had been weakened. All experimental glycosuria was temporary. The result of pancreatic extirpation had been uniformly fatal, and permanent glycosuria, following experiments on the pancreas, had been observed only when the pancreas had been severed from all connection with the nervous system. Traumatism was an important factor. Thus, in a series of two hundred and twelve head injuries, glycosuria had been observed in twenty, which included simple scalp wounds as well as fracture of the skull. Cases were on record to show that diabetes resulted from general traumatism, the latter acting probably directly upon the processes of metabolism. In many diseases of the nervous system diabetes was mentioned as a complication, but in the large experience at the Vanderbilt Clinic diabetes had been a rare complication. Of the affections in which it had been most commonly found were general paresis, multiple sclerosis, tabes, myelitis, neurasthenia, paralysis agitans, and hysteria. The speaker thought the cause of diabetes would probably be found in the glands rather than in the nervous system. Diabetic neuralgia might affect any nerve, but it very commonly affected the sciatic. Neuritis was common in diabetes, and the urine should be examined in every case of neuritis.

Cutaneous Complications in Diabetes.—Dr. S. Sherwell read this paper. He said that prominent among those cutaneous manifestations observed in connection with diabetes was generalized scleroderma of the functional variety. There was usually a distinct general pruritus and a peculiar "ribbed" and very characteristic appearance of the mucous membrane of the mouth. Eczematous manifestations in diabetes were quite common, and the intensity of the pruritus should lead to an examination of the urine, not only that voided in the morning, but also that from other hours of the day. Cleanliness and antiparasitic lotions would be found more beneficial than the ointments ordinarily prescribed. A 1 : 1,000 solution of the bichloride of mercury had proved very useful in his hands. Furuncles of the neck and of the gluteal region were also frequently observed in diabetics. Erythematous lesions, such as erysipelas and gangrene, were common in diabetes. The only cases of erysipelas of the mouth and upper air passages that he had seen had been in diabetic subjects. A form of vesicular and bullous disease—the so-called dermatitis herpetiformis—occurred in connection with diabetes. Another cutaneous manifestation of considerable interest was a tumor formation called xanthoma diabeticorum. He was also disposed to think that blastomycetic dermatitis might be included in this class.

Ocular Manifestations in Diabetes.—Dr. Neil J. Hepburn read this paper. He said that the most common changes in the eye seen in diabetes were cataract, retinitis, oculomotor paralysis, iritis, paralysis of accommodation, keratitis, hemianopsia, glaucoma, and detachment of the retina. The diabetic cataract was most often observed in young people. The retinitis was apt to be associated with punctate hemorrhages. The oculomotor paralyses were usually incomplete. The recurrence of stye in cases in which the refraction had been corrected should lead one to examine the urine for sugar.

Diabetes Mellitus in Surgery.—Dr. Robert T. Morris read this paper. He said that formerly surgeons looked upon diabetics as entirely unfit for surgical operations, but this opinion had been very greatly modified in recent times. The blood, when loaded

with sugar, abstracted moisture from the tissues, rendering them dry, and thus interfering with nutrition and with the repair of wounds. It was probable also that the alexins were not properly formed with the toxins to combat the occurrence of infection. Whether this was true or not, it was a well-known fact that the surgeon must be especially careful to guard against infection when operating upon diabetics. The sugar in the blood probably also interfered with repair by rendering the blood serum a good culture medium for bacteria. Gangrene certainly occurred in diabetics, but much less frequently than formerly. He thought it probable that the gangrene in these cases was the result of choking of the lymph channels by leucocytes, which were unable to do their work because of the lack of moisture. Diabetics were apt to have irritable kidneys, and the use of ether as an anæsthetic might increase their irritability to a dangerous degree. For this reason he favored the employment of nitrous oxide preliminarily to the ether. In many cases of traumatic glycosuria there was a disappearance of the sugar from the urine after a time, though the patient still suffered from polyuria.

Treatment of Diabetes Mellitus.—Dr. Abraham Mayer was the author of this paper. He said that the treatment naturally resolved itself into dietetic, hygienic, and medicinal. He was accustomed to divide his cases into the mild and severe forms. By the mild form was understood that form in which, by the removal of the carbohydrate food, the glycosuria was nearly or completely checked. It was a great error to exclude carbohydrates entirely from the food of diabetics except for the purpose of diagnosis or at the beginning of treatment. When the small quantity of sugar persisted along with such diet, it would be necessary greatly to reduce the proteids. Many diabetics would assimilate a large quantity of lactose without showing any increase in the sugar in the urine—in fact, milk formed a prominent part of the diet in his diabetic patients. The arrangement of the diet for diabetics in private practice was not an easy matter. The food should be adjusted to the weight and sex of the patient, and would vary, depending on whether or not he was engaged in a laborious occupation. The following dietaries indicated in a general way what should be the aim of the physician in this respect:

Mild Diet.—For an individual weighing 70 kgm.: 8 A.M., a cup of coffee and milk with saccharin; 25 gm. white bread and butter; 50 gm. of broiled ham. 10 A.M., one cup of bouillon. 1 P.M., six oysters or clams on the shell; soup with asparagus; 200 gm. of baked fish; lettuce; 100 gm. of roast veal; spinach; 20 gm. of cheese; 25 gm. of gluten bread and butter; one baked apple. 4 P.M., a cup of coffee and milk; two raw eggs. 7 P.M., a cup of hot milk; 10 gm. of smoked beef; 100 gm. of cauliflower with butter sauce; lettuce; 100 gm. of cheese; 25 gm. of gluten bread and butter.

Rigid Diet.—For an individual weighing 60 kgm.: 8 A.M., a cup of tea with saccharin; three eggs; 50 gm. of ham. 10 A.M., a cup of bouillon with one egg. 1 P.M., a cup of clam broth; 200 gm. of fried eels; asparagus with French dressing; 100 gm. of roast lamb with mint sauce; salad; 25 gm. of cheese; a demitasse of black coffee. 7 P.M., 3 scrambled eggs; 50 gm. of broiled ham; salad; 25 gm. of cheese; a cup of tea with saccharin. 10 P.M., a dozen small clams or oysters on the shell.

Medicinal Treatment.—He had frequently found an almost specific effect from opium in diabetics who were neurasthenic. Such persons should be given at first gr. ss. of opium three times a day, one hour to one hour and a half after meals. This might be eventually increased to three times this quantity, it being a well-known fact that there was a special tolerance for opium and its alkaloids among diabetics. He also made use of Fowler's solution of arsenic and of the bromide of arsenic, the latter in doses of gr. $\frac{1}{16}$ to $\frac{1}{20}$, three times a day, given in plenty of water, after meals. The relief from mental worries and nervous shocks was the *sine qua non* in the hygienic treatment. The patient should be warmly clad, and while the skin should be kept active and in good condition by frequent bathing, cold baths and sea bathing should not be indulged in. He did not believe in the specific virtue of the waters of any of the spas, but such waters often corrected disturbances of the stomach and bowels. Phthisis was a very common complication of diabetes, and caused the death of twenty-five per cent. of the patients. In cases of diabetic gangrene the diabetic treatment must be enforced. When diabetic coma had set in, blood depletion and the intravenous infusion of saline solution should be tried, though it was far better to avert than to treat this condition.

Glycosuria and Diabetes Mellitus in Relation to Life Insurance.—Dr. E. H. Bartley, of Brooklyn, presented a portion of his paper on this subject. He said that the presence of sugar in normal urine could be detected by some of our tests which were not the most sensitive. This was now a pretty generally accepted fact. With Fehling's, Trommer's, and Nylander's bismuth test the reaction was not ordinarily obtained, though it would be observed in about one-third of the specimens of normal urine examined by the Nylander test. Under these circumstances this test yielded not a black, but a grayish color. This brought up the question of when glycosuria should be considered synonymous with diabetes mellitus. He was of the opinion that the finding of as small a quantity as could be detected by any of the three tests mentioned should call for a second examination of the urine before the acceptance or rejection of the applicant for life insurance. He had never heard until this evening of dextrose failing to reduce the ordinary test solutions. As the urine of a diabetic did not at all times show the presence of sugar, the life-insurance examiner might pass a person who was really suffering from glycosuria. It was not uncommon for such an examiner to reject an applicant because it happened at the time of the examination that, as a result of an error in diet, or from some other cause, there was present a temporary glycosuria. He knew no way of distinguishing glycosuria or true diabetes by any chemical test. Some conception of this distinction could be learned by determining the total solid matter passed in the twenty-four hours. The total solids could be approximately determined by multiplying the last two figures of the specific gravity by the number of ounces voided. The normal quantity was usually about one thousand grains. The quantitative estimation of urea was a matter of considerable importance in the diagnosis. In simple glycosuria there was not usually an excess of urea in the twenty-four hours. In life-insurance work it was ordinarily impossible to obtain the total quantity of urine for the twenty-four hours. This quantity could be approximated by having the applicant remain at the office for one hour, emptying the bladder at the beginning, and again at the end of this time. Ordinarily, about two ounces of urine would be voided, but in diabetics this quantity would often be increased to three or even six ounces. Some allowance must also be made for the time of day. The fermentation test was not altogether reliable because the administration of turpentine and other similar substances often gave rise to a condition of the urine which produced fermentation. When the quantity of sugar was very small, sulphate of copper should be added to the urine, the latter boiled, and then sodium acetate added. This removed almost all of the sub-

stances which interfered with the usual copper test. This solution was then treated with the ordinary sodium hydrate, set in a water bath and brought nearly, but not quite, to the boiling-point. This mixture should then be allowed to cool. During the cooling process the oxide of copper was deposited if sugar was present. Hardly anything else but sugar would give this reaction under these conditions.

Dr. H. D. Chapin asked Dr. Bartley what he considered to be the significance of a trace of albumin existing coincidently with sugar in the urine.

Many Locomotive Engineers Diabetic.—Dr. Andrew H. Smith called attention to the remarkable frequency of diabetes in locomotive engineers. According to the statistics of the Brotherhood of Locomotive Engineers, the proportion of diabetics in this class was five times as great as among the average of people. This, the speaker thought, was due to the very intense mental concentration incident to their work. He also thought that a lesser degree of mental attention continued for a considerable period would probably produce a similar effect, and this would account for the large number of financiers who were affected with this disease. As diabetic patients should be protected from all unnecessary worry, Dr. Smith advised that such persons should be discouraged from measuring their own urine or keeping any notes regarding its condition.

Dr. A. Rose spoke of the effect of carbonic acid gas in the treatment of diabetes, and the rationale of the method.

Dr. James K. Crook said that many hypotheses explaining the pathogenesis of this mysterious affection had been elaborated, but none of them fully met the objections or satisfied the demands of the present generation of investigators. He had himself been strongly impressed with the probability of the nervous origin of the disease. It appeared to be established that in every case of essential diabetes there was more or less hyperæmia of the liver, due to a paralysis of the vasomotor nerves of the organ. It was well known in the treatment of the disease that agencies producing a dilatation of the superficial blood-vessels, thus relieving hepatic congestion, effected a diminution in the amount of sugar in the urine and a temporary improvement in the symptoms. Many years ago Claude Bernard had demonstrated the fact that irritation of the floor of the fourth ventricle, corresponding to the roots of the pneumogastric nerve, would produce hyperæmia of the liver, followed by transient glycosuria. Subsequent observers had shown that mechanical excitation of other portions of the vagus and sympathetic nerves was followed by the same results. Still later it had been learned that various influences operating upon any portion of the sympathetic tract, or involving the peripheral distribution of the vagus, would produce temporary glycosuria. Among these might be mentioned embarrassments of respiration, due to asthma, to strangulation, to the use of anæsthetics, and the action of certain irritant poisons, like woorara, strychnine, and phosphoric acid. Certain psychic influences —grief, shock, anxiety, etc.—produced the same results through the medium of the vagus and sympathetic nerves. The speaker thought the long-continued operation of nervous strain was responsible for the frequency of diabetes among locomotive engineers, as had been demonstrated by Dr. Smith. It had further been observed that traumatisms of the brain and spinal cord were often attended by glycosuria. A considerable proportion of these neurogenic cases passed into true diabetes. The relation of the pancreas had not been fully worked out, but it had been the speaker's opinion that the intimate connection of this organ with the sympathetic system was responsible for whatever influence it possessed in the pathogeny of diabetes. However, as opposed to the theory of the nervous origin of this disease, there existed several important pathological and clinical facts. Autopsies in diabetic cases had failed to show the pathological alterations which ought to be present in some portion of the nerve centres or supplying cords. Again, serious organic diseases of the brain and spinal cord were not frequently attended by true diabetes; nor, if we except Basedow's disease, were functional nervous troubles associated with the affection with notable frequency. Furthermore, it had been observed that many of the diseases of the liver itself, even those producing the greatest amount of hyperæmia, were quite free from the manifestations of diabetes. Notwithstanding these apparently contradictory facts, however, the speaker thought that the positive implication of the nervous system in many cases of true diabetes, plus the not infrequent involvement of the pancreas, constituted the most important factors upon which to found a satisfactory explanation of its pathogenesis.

Dr. Stern said that he had studied very carefully the mortality statistics of New York City and had found out of one hundred and two males dying of diabetes that sixty-six had been in the tenement houses. He had seen many cases of diabetes in which the urine had not responded to the usual tests for sugar in the urine.

Dr. Stark said that fully one-third of the cases presented albumin in addition to sugar in the urine, but it was of no special significance unless accompanied by other indications of nephritis.

Dr. Mayer said that he did not find albumin in such a large proportion of cases, and looked upon it as of considerable significance, because it indicated the destruction of the epithelial covering of the Malpighian tuft.

Dr. Bartley, in closing the discussion, said that he had always looked upon the occurrence of albumin as an indication of serious mischief. Both the copper and the bismuth tests were fairly reliable if employed in urine which had been subjected to the preliminary treatment. He had insisted that dextrose could not be present in the urine without responding to the tests for this substance; he had not intended to say that he had never seen diabetes in which the urine had failed to respond to the tests for dextrose.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 30, 1901:

	Cases.	Deaths.
Tuberculosis	286	195
Typhoid fever	25	11
Scarlet fever	709	38
Measles	313	8
Diphtheria and croup	268	47
Smallpox	41	10
Varicella	75	0

Tobacco Alkaloids.—According to Dr. Thoms there are two alkaloids present in cigars, nicotine and pyridine, the latter being derived from the former. The stump contains four times as much nicotine as the smoke, and as the average cigar contains only 1.12 per cent. of nicotine, comparatively little of either alkaloid ever reaches the mouth. The only constituents that could be harmful are carbon monoxide, produced to the extent of 20 c.c. for each kilogram of tobacco, and an ethereal oil. The former can probably be ruled

out. The latter, consisting of pyridine, a phenol, and probably furfurol, but very difficult of analysis, is highly poisonous, causing the symptoms commonly associated with tobacco poisoning.—*London Globe.*

Health Reports.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended March 30, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, Los Angeles	March 19th	15	
San Francisco	March 2d to 9th	8	
District of Columbia, Washington	March 18th	16	
Florida, Jacksonville	March 16th to 23d	2	
Illinois, Anna	December — to March 18th	50	
Chicago	March 16th to 23d	10	
Kansas, Wichita	March 16th to 23d	12	
Kentucky, Lexington	March 16th to 23d	2	
Louisiana, New Orleans	March 16th to 23d	14	2
Michigan, Bay City	March 16th to 23d	2	
Detroit	March 16th to 23d	6	
Minneapolis	March 16th to 23d	6	
Winona	March 16th to 23d	10	
Nebraska, Omaha	March 9th to 23d	12	
N. Hampshire, Manchester	March 16th to 23d	3	
New Jersey, Hudson Co	March 21st	6	
Newark	March 16th to 23d	1	
New York, New York	March 16th to 23d	41	6
Ohio, Cincinnati	March 15th to 22d	2	
Cleveland	March 16th to 23d	43	1
Toledo	March 16th to 23d	1	
Pennsylvania, Pittsburg	March 16th to 23d	9	
Steelton	March 16th to 23d	6	
South Carolina, Greenville	March 8th to 16th	2	
Tennessee, Memphis	March 16th to 23d	26	
Nashville	March 16th to 23d	13	
Utah, Salt Lake City	March 16th to 23d	40	
West Virginia, Huntington	March 8th to 16th	12	
Wheeling	March 8th to 23d	2	
Wisconsin, Milwaukee	March 16th to 23d	2	
Porto Rico, Ponce	March 11th	13	
Smallpox—Foreign.			
Austria, Prague	February 23d to March 9th	10	
Trieste	March 2d to 9th	2	
Brazil, Rio de Janeiro	January 1st to 31st	36	
Belgium, Antwerp	February 23d to March 9th	8	
Ceylon, Colombo	February 8th to 16th	1	1
Ecuador, Guayaquil	February 2d to March 2d	..	14
Egypt, Cairo	February 25th	..	1
France, Paris	March 2d to 9th	..	7
Roubaix	January 1st to 31st	..	1
Germany, Leipsic	February 16th to 23d	..	1
Great Britain, England, London	March 2d to 9th	1	
Newcastle-on-Tyne	March 2d to 9th	2	
Scotland, Edinburgh	February 2d to 9th	3	
Glasgow	March 8th to 15th	..	20
India, Bombay	February 19th to 26th	..	7
Calcutta	February 8th to 23d	..	243
Karachi	February 10th to 24th	23	10
Madras	February 16th to 23d	..	7
Japan, Yokohama	February 16th to 23d	1	
Korea, Seoul	February 2d to 9th	Prevalent.	
Russia, Odessa	February 23d to March 9th	20	3
Riga	January 1st to December 31st, 1900	..	174
St. Petersburg	February 23d to March 9th	12	1
Warsaw	February 23d to March 2d	..	8
Straits Settlements, Singapore	February 8th to 16th	..	2
Syria, Jaffa	August, 1900, to March 6th, 1901.	4	1*
Jerusalem	August, 1900, to February 4th, 1901	1,600	†

* In German colony.
† Thirty-five or forty per cent.

Yellow Fever.			
Cuba, Havana	March 8th to 16th	2	2
Cholera.			
India, Bombay	February 16th to 23d	..	6
Calcutta	February 8th to 23d	..	44
Madras	February 16th to 22d	..	2
Straits Settlements, Singapore	February 8th to 16th	..	4
Plague—United States.			
California, San Francisco	January 6th to March 2d	10	10
Plague—Foreign.			
Africa, Cape Town	February 16th to March 4th	55	11
Brazil, Rio de Janeiro	January 1st to 31st	15	9
China, Hong-Kong	February 2d to 9th	..	2
India, Bombay	February 19th to 26th	..	1,118
Calcutta	February 8th to 23d	..	520
Straits Settlements, Singapore	February 4th	..	1

Cost of Hospitals.—The enormous cost of erecting buildings for the care of the afflicted is illustrated in the case of the proposed lunatic asylum for Edinburgh. The estimates amount to about £380 ($1,900) per bed or upward of £380,000 ($1,900,000) for the thousand beds. This is exclusive of a site costing about £21,000 ($105,000), of a railway for the conveyance of materials for building, etc., at a cost of £33,000 ($165,000), and of a water supply estimated at £16,000 ($80,000)—*The London Hospital.*

Lady Medical Residents.—It always appeared, remarks the *Medical Press*, to be an anomaly that in the Royal Free Hospital, which is reserved to female medical students, the resident appointments should have been monopolized by men. The reasons for this favoritism have never been clearly stated, possibly because, like the snakes in Ireland, "there aren't any." Be this as it may, it has been decided that in future appointments are to be allocated to qualified women who are entitled to the advantages which these posts offer in the direction of gaining practical experience. The only difficulty which is anticipated is that sisters and nurses may object to taking orders from "uppish" young ladies; but we have known this to happen toward "uppish" young men. With a little tact no friction should occur, and the Royal Free Hospital, peopled by female students and officered by medical women, should be in a fair way to become a medical Lesbos.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

AFFECTIONS CHIRURGICALES DU TRONC. By Dr. Polaillon. 8vo, 746 pages. Illustrated. Octave Doin, Paris.

DIET AND FOOD. By Alexander Haig, M.D. Third edition. 12mo, 112 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

RUDIMENTS OF MODERN MEDICAL ELECTRICITY. By S. H. Monell, M.D. 12mo, 165 pages. Illustrated. Edward R. Pelton, New York, N. Y.

INFANT-FEEDING IN HEALTH AND DISEASE. By Louis Fischer, M.D. 8vo, 359 pages. Illustrated. F. A. Davis Company, Philadelphia, Pa.

THE HISTORY OF MEDICINE IN THE UNITED STATES. By Francis Randolph Packard, M.D. 8vo, 542 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

DISEASES OF THE NOSE AND THROAT. By D. Braden Hyle, M.D. 8vo, 646 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

PROGRESSIVE MEDICINE. By Hobart Amory Hare, M.D. 8vo, 440 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

CHLOROFORM. By Edward Lawrie. Sm. 4to, 120 pages. Illustrated. J. & A. Churchill, London, England.

A SYSTEM OF PRACTICAL THERAPEUTICS. By Hobart Amory Hare, M.D. 8vo, 926 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

MANUAL OF VENEREAL DISEASES. By F. R. Sturgis. 8vo, 216 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

MANUAL OF THE DISEASES OF CHILDREN. By John Madison Taylor, M.D. 8vo, 859 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

A TREATISE ON APPENDICITIS. By George Ryerson Fowler, M.D. Second edition. 8vo, 235 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

RETINOSCOPY. By James Thorington, M.D. 89 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

PULMONARY CONSUMPTION, PNEUMONIA, AND ALLIED DISEASES OF THE LUNGS. By Thomas J. Mays, M.D. 8vo, 539 pages. Illustrated. E. B. Treat & Co., New York, N. Y.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION, 1900. Volume XVI. 8vo, 210 pages.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D. Second edition. 8vo, 457 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

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Original Articles.

REMARKS ON ENTEROPTOSIS.[1]

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ENTEROPTOSIS, or Glénard's[2] disease as it has been justly called, has been known since 1885. Although fifteen years have passed since the subject was first broached by Glénard, there still exist many controversies and unsettled questions in regard to it. A discussion on this topic appears the more appropriate, as it is of great practical bearing. Before treating this subject and stating my views, it will be essential to give an exact definition of the term enteroptosis. Enteroptosis (ἔντερον intestine, πτῶσις descent) means a falling down of the intestine. Glénard applied this term, however, to signify not only a ptosis of the bowel, but also conditions in which several organs of the abdominal cavity have left their normal places and sunk lower down. Thus, according to Glénard, enteroptosis characterizes generally a prolapse of one or (usually) more abdominal viscera. A descent of each organ separately is called by its own name, with the addition of the suffix "ptosis," thus gastroptosis, nephroptosis, coloptosis, hepatoptosis, splenoptosis, metroptosis, etc.

Ewald[3] used the term enteroptosis in the same sense as Glénard. Stiller[4] applies the word enteroptosis in a much wider sense, for he says: "Enteroptosis and nervous dyspepsia are identical; atony is its most constant, often its only symptom."

Kuttner and Dyer,[5] Rose,[6] Lockwood,[7] and McPhedran[8] employ the term gastroptosis to signify a prolapse of the stomach, combined with that of other intestinal organs. Although gastroptosis is a very significant sign of enteroptosis—for accompanying the descent of the stomach there must also necessarily be a ptosis of the colon—I am not of the opinion that we should use this term for Glénard's disease. The expression gastroptosis lays too much weight upon the stomach, which may lead to a wrong impression of the disease and its treatment. I am in favor of the word enteroptosis as originally outlined by Glénard. This will then include a descent of several organs of the abdominal cavity (stomach and colon, one or both kidneys, and occasionally the liver, spleen, etc.). It thus signifies a general tendency for the abdominal organs to prolapse. While, however, I am perfectly in accord with Glénard in regard to the use of the term enteroptosis in its anatomical sense, I think that, clinically, this well-known writer ascribes too many ailments to this condition. In my paper on enteroptosis[1] I have already referred to the facts that enteroptosis may exist without giving rise to any symptoms whatever, and again that enteroptosis may be accompanied by all kinds of gastric and intestinal affections. This view has been corroborated by Kuttner and Dyer, and lately also by Lockwood.

Etiology.—In my papers on enteroptosis, movable kidney,[2] and floating liver,[3] I have already discussed this subject of etiology of prolapse of the abdominal organs. The corset seems to be an important factor in the causation of these anomalies. In addition to what I have already published about this modern piece of wearing-apparel, I would like to mention the following writers as bearing testimony to the ill effects of the corset:

Dickinson[4] has made an extensive study of the influence of the corset upon the chest and abdomen, and I take pleasure in citing a few of his conclusions: "The estimated total pressure of the corset varies between thirty and eighty pounds. The capacity for expansion of the chest was found to be restricted one-fifth when the corset was on. The thoracic character of the breathing in women is largely due to corset wearing. The abdominal wall is thinned and weakened by the pressure of stays. The liver suffers more direct pressure, and is more frequently displaced than any other organ. The pelvic floor is bulged downward by tight lacing, one-third of an inch."

Kellogg[5] is also a firm believer in the injurious effect of the corset. He expresses himself in the following manner: "Certainly no other reason can be given for the abnormal waist of the civilized woman than the fact that this portion of the body has been subjected to abnormal pressure in such a manner as to prevent natural development, and to compel the acquirement of a deformity." According to his views, first, downward displacement of the abdominal and pelvic organs takes place; secondly, the muscles of the trunk do not develop. In one hundred and fifty cases of pelvic disease, the stomach and bowels were displaced in one hundred and thirty-eight cases. "The so-called abdominal respiration is unnatural and unhealthful—indeed, it has been in many cases productive of serious injury." Kellogg is against all sorts of corsets. "The only correct principle is to suspend everything from the shoulders by means of a

[1] Read before the New York Academy of Medicine, December 20, 1900.

[2] F. Glénard: "Application de la méthode naturelle à l'analyse de la dyspepsie nerveuse." Lyon méd., March 1, 1885.

[3] C. A. Ewald: Berl. klin. Wochenschr., 1890, p. 277.

[4] B. Stiller: "Die Lehre von der Enteroptose und der nervösen Dyspepsie auf Grund des Costalstigmas." Berl. klin. Wochenschr., 1899, Nos. 34–36.

[5] Kuttner and Dyer: "Ueber Gastroptose." Berl. klin. Wochenschr., 1898, pp. 420, 452, 471.

[6] A. Rose: The Postgraduate, March, 1900.

[7] George R. Lockwood: "Gastroptosis." MEDICAL RECORD, December 1, 1900.

[8] A. McPhedran: "On Prolapse of the Stomach—Gastroptosis." The Canadian Journal of Med. and Surgery, December, 1900, p. 307.

[1] Max Einhorn: "Enteroptosis." Med. News, September 19, 1896.

[2] Max Einhorn: "Movable Kidney and its Treatment." MEDICAL RECORD, August 13, 1898.

[3] Max Einhorn: "Floating Liver and its Clinical Significance." MEDICAL RECORD, September 16, 1899.

[4] Robert L. Dickinson: "The Corset: Questions of Pressure and Displacement." New York Med. Journal, November 5, 1887, p. 507.

[5] J. H. Kellogg: "The Influence of Dress in Producing the Physical Decadence of American Women." Transactions Mich. State Med. Soc., 1891, p. 41.

waist which will equally distribute the weight upon natural bearings, and at the same time give latitude for the greatest freedom of waist movement."

Bouveret[1] says briefly: "A corset is the most frequent and the most effective cause of enteroptosis."

Wolkow and Delitzin,[2] in their extensive experimental studies in regard to the etiology of movable kidney, make the following statement in reference to the influence of both corsets and belts upon the development of this condition: "1. The use of the belt may dislocate the kidney downward, may fix it, and even move it upward, according to the direction of pressure exerted by the belt. The use of a high belt is of greatest harm. A belt in the plane just below the twelfth rib fixes and even supports the kidney, and in this respect seems to exert a favorable influence. 2. The corset fixes the kidney as long as it is laced, but may increase the mobility of the kidneys by altering the form of the perivertebral spaces in a manner unfavorable for the fixation of the kidneys. It thus acts as a recurrent trauma, and must generally be counted among the unfavorable factors in relation to the so-called mobility of the kidneys. 3. The most plausible explanation of the influence of the belt and corset is found in their action upon the shape of the perivertebral spaces."

The corset is certainly not the only cause. Enteroptosis is occasionally found in very young women who have never worn a corset, and also in men. A constitutional weakness has been assumed by several writers. Thus Tuffier says: "Nephroptosis is one of the symptoms of a probably congenital weakness of the tissues." The theory of a congenital weakness of the tissues has found considerable support in the teachings of Stiller. This able clinician discovered that almost all of the patients with enteroptosis presented a floating tenth rib. Normally, as is well known, only the eleventh and twelfth ribs are floating, while the tenth is attached by means of cartilage to the thorax. This or the costal stigma of Stiller, although an important sign, cannot be considered an absolute proof of enteroptosis. While it is found with but very few exceptions in Glénard's disease, it can also quite frequently be discovered in other conditions which have nothing in common with enteroptosis. It is, however, of value as indicating that in enteroptosis very frequently some congenital anomalies are encountered.

Schwerdt[3] considers enteroptosis a constitutional disease. Concerning the etiology, the corset, according to him, plays an important rôle, by encouraging inactivity of several thoracic muscles. "This is the first harm the corset does. Secondly, it restrains the mechanical and chemical functions of the digestive and respiratory apparatus, and thus lessens nutrition. Thirdly, it causes diseases of the blood, by encroaching upon its unlimited mobility, its first and most essential biological property. In the fourth place, it contributes largely to the maintenance of equilibrium, but at the same time injures important functions of our nervous system, viz., the sense of equilibrium and the muscular sense, which, like everything organic, can be kept in perfect condition only by constant use."

A weakened condition of the abdominal walls appears to be a primary and most important factor in the causation of enteroptosis. This relaxation of the abdominal parietes leads to a diminished tension within the cavity, and thus also to disturbances of equilibrium of the abdomen. In regard to this point, Wolkow and Delitzin express themselves in the following manner: "The muscular layer of the anterior abdominal wall is not only of physiological, but also of anatomical significance for the fixation of the abdominal viscera. Take away the influence of the abdominal layer and the equilibrium of the abdominal organs will be disturbed. In very many cases the intestinal convolutions assume a deeper position, and, in consequence of the hermetic condition of the abdominal cavity, a retraction of the meso- and epigastrium takes place. The kidneys descend, rotating with their lower poles to the front, the right usually in a higher degree than the left. In this condition kidneys that could not be felt become accessible to palpation, those that could be palpated before sink deeper and are more plainly to be felt. Kidneys that could be reached only while the patient was standing can now also frequently be felt in the reclining position. The cause of the greater accessibility of the kidneys is to be sought partly in the thinness of their abdominal covering, partly in a dislocation of the intestinal convolutions away from the kidneys. In all these relations there are essential individual differences, so that in some cases, in spite of a marked thinness of the abdominal wall, the kidneys cannot be reached, probably in consequence of other conditions which increase the mobility or the difficulty of palpation of this organ."

The same writers again make the following remarks: "Nephroptosis is only a prominent symptom of a certain pathological condition, a symptom that is most apparent and which alone causes great functional disturbance. This symptom is an infallible index of an existing alteration of the intra-abdominal equilibrium, and, looked at from this standpoint, the study of so-called mobility of the kidney assumes special importance."

Monteuuis[1] likewise lays much stress upon a weakened state of the abdominal walls.

He says: "Owing to a lack of tone and resistance in the abdominal muscles, the relations of the viscera to each other are not preserved. In consequence of occasional causes—such as coughing, vomiting, which frequently escape notice in looking for the etiology of the condition, on account of their being so much out of proportion with the affection which they produce—grave changes in the abdominal equilibrium take place. This tendency of the abdominal wall may be natural; it certainly is developed by the use of the corset. Its exaggerated constriction results, in fact, in the emaciation, atrophy, and subsequent relaxation of the abdominal wall."

Although in many instances the weakness of the abdominal walls takes its origin in a congenital disposition to this anomaly, there is no doubt that cases are met with in which a congenital factor certainly does not come into play. To the latter category belong those instances of enteroptosis which develop after rather sudden great losses of flesh, no matter what their cause, and also after abrupt changes in the volume of the abdominal cavity.

Frequency.—In as far as enteroptosis is accompanied, in most instances, by a movable kidney, the latter can also be taken as an index for the occurrence of the former. It is quite interesting to note that the occurrence of either enteroptosis or movable kidney can be gauged only by clinicians who are well versed in the examination of these anomalies. In 1882 the well-known surgeon Lawson Tait[2] denied the existence of a movable kidney. I cite his own words: "I have had a large number of cases sent to me as instances of floating kidney, but they have all turned out to be distended gall bladders and ovarian tumors

[1] Bouveret: "Neurasthénie," Paris, 1891, p. 46.

[2] Wolkow und Delitzin: "Die Wanderniere," Berlin, 1899, p. 311.

[3] C. Schwerdt: "Enteroptosis und intraabdominaler Druck." Deutsch. med. Wochenschr., 1896, Nos. 4, 5.

[1] A. Monteuuis: "Les déséquilibrés du ventre," Paris, 1894, p. 18.

[2] Lawson Tait: "Movable Kidney." British Med. Journal, 1882, vol. ii., p. 1178.

with exceptionally long pedicles. My scepticism is, therefore, excusable."

The frequency of enteroptosis has been stated by Glénard as being about one to four in female patients suffering from digestive disorders. With regard to nephroptosis, Glénard, whose big statistics include all the cases he saw up to 1893, encountered among 3,788 patients 481 cases of nephroptosis, or 12.7 per cent. Of these there were 2.7 per cent. in men and 22 per cent. in women.

Wolkow and Delitzin found among 221 women 66 cases of movable kidney (30 per cent.). While most writers agree that enteroptosis, as well as movable kidney, as such, are principally found in women, and only a small percentage is found in men, McPhedran[1] and Stiller have a different view on this subject. McPhedran says: "The causation of gastric and other visceral prolapses is a complex one. It is said to occur with much more frequency in women than in men. With this my observations are not in accord. Of the last 45 cases carefully examined, 26 were in females and 19 in males. In 6 of the males and 12 of the females the ptosis was marked." Stiller, discussing the same subject, remarks: "My own experience shows that the number of cases in males is only ten to fifteen per cent. less than in females." The reason for this discrepancy of the latter writer's view with that generally accepted, lies in the different conception of the word enteroptosis. As already mentioned above, Stiller calls every case of functional and nervous disorder of the digestive apparatus enteroptosis.

In my previous papers I have been able to corroborate Glénard's statement with regard to the frequency of enteroptosis, and also with regard to its much greater prevalence among women. Thus, among the patients with digestive troubles examined during the month of January, 1896, there were found 6.2 per cent. of enteroptosis in males and 34.8 per cent. in females.[2] The frequency of movable kidney amounted, as stated by me in another paper,[3] to 1.81 per cent. in male, and 20.6 per cent. in female patients with digestive disorders. Inasmuch as statistical material gains in value the greater the number from which the deductions are made, I took the trouble to examine all my private patients of this year (January 1 to December 1, 1900) with regard to the occurrence of visceral ptoses. The greater contingent of my cases consisted of patients with digestive disorders. The total number amounted to 1,912 patients—1,080 males, 832 females. Among these there were encountered 347 cases with ptoses of the abdominal viscera, 70 among the men and 277 among the women. Among these there were 240 cases of enteroptosis, 20 in men and 220 in women.

Most of the cases of enteroptosis were accompanied by a movable kidney, namely, 212; 18 in men and 194 in women. The saying of Trastour: "Movable kidney is the habitual satellite of enteroptosis" appears thus to be correct. Among the cases of enteroptosis with movable kidney, 23 had also a descent of the liver, 3 men and 20 women. Enteroptosis with floating liver, unaccompanied by movable kidney, was noted in 12 cases, 1 in a man and 11 in women. Enteroptosis alone (the kidneys and liver being in their places, the only symptoms being a descent of the stomach and a strong pulsation of the abdominal aorta) was found in 15 cases, 1 male and 14 female. Movable kidney alone, not accompanied by general enteroptosis, was encountered 57 times, 21 in males and 36 in females. Floating liver alone was found in 39 cases, 25 male and 14 female.

SPLANCHNOPTOSIS.	Total Number	Males	Females	Total Per cent	Males Per cent	Females Per cent
Patients treated Jan. 1. Dec. 1, 1900.	1912	1080	832			
1.—Cases of Splanchnoptosis.	347	70	277	18.15	6.5	33.25
2.—Enteroptosis.	240	20	220	12.5	1.9	26.5
(*a*) Enteroptosis alone.	15	1	14	0.8	0 1	1.7
(*b*) Enteroptosis and Movable Kidney.	190	15	175	10.0	1.4	21.1
(*c*) Enteroptosis, Movable Kidney and Hepatoptosis.	23	3	20	1.2	0.3	2.4
(*d*) Enteroptosis and Hepatoptosis.	12	1	11	0.6	0.1	1.3
3.—Movable Kidney alone.	57	21	36	3.0	2.0	4.3
4.—Hepatoptosis.	39	25	14	2.0	2.3	1.7
5.—Hepatoptosis and Movable Kidney.	7	4	3	0.4	0.4	0.36
6.—Gastroptosis.	2	—	2	0.1	—	0.25
7.—Hepatoptosis and Gastroptosis.	1	—	1	0.05	—	0.12
8. Splenoptosis.	1	—	1	0.05	—	0.12

The first table shows the different varieties of splanchnoptosis and their relative frequency in men and in women. The second table gives the relative numbers of movable kidney in the two sexes and also the degree of mobility, as well as the relation of frequency of movable kidney on the right or left or both sides.

Symptomatology.—It is well known that enteroptosis may exist without giving rise to any symptoms whatever. In most instances, however, various morbid manifestations are encountered. The latter are not always due to enteroptosis alone, but rather to coexisting disorders of the digestive tract. In the following lines I shall try to describe the symptoms, which must be assigned to the enteroptosis alone. The patient often complains of a faint feeling or a certain weakness after rising. There is frequently a feeling of considerable fatigue after slight exertion, principally after walking. In women the sensation of fatigue is also combined with pronounced backache. A feeling of weight is occasionally experienced in the lower half of the abdominal cavity, while a dragging sensation is felt in the epigastric region. Flatulence is often encountered, constipation is present in most of the cases, and frequent micturition in a considerable number. Aside from these direct symptoms, it is safe to say that any disease of the digestive tract, complicating

[1] A. McPhedran: "On Prolapse of the Stomach—Gastroptosis." The Canadian Journal of Med. and Surgery, December, 1900, p. 367.

[2] Max Einhorn: "Enteroptosis." Med. News, September 19, 1896.

[3] Max Einhorn: "Movable Kidney and its Treatment." MEDICAL RECORD, August 13, 1898.

enteroptosis, does not show the same tendency to yield to the usual remedies as normally. The abnormal position of the abdominal viscera produces a weakening effect upon the resisting-power of the organism and its energy in combating maladies, especially when the latter exist in them. This explains why the greater part of patients with enteroptosis are troubled with one or the other variety of stomach or bowel disorder, or both. Cases of enteroptosis, lasting a long period, frequently lead to pronounced anæmia, in consequence of subnutrition. The latter gives rise to a host of nervous manifestations (neurasthenia).

As a good instance of the subjective symptoms of enteroptosis, I beg to describe the following case:

December 2, 1900.—Moses C——, thirty years old, has been suffering for a long time from constipation. He has had this since childhood, as far back as he can remember. He has never vomited, but suffers from distress in the stomach. This organ feels as though suspended and filled with a heavy weight. Often it feels as if it were bobbing up and down, quivering once or twice. He declares that he is conscious of having a stomach. He can eat everything, but sometimes even a glass of water will produce a feeling of distress. He sleeps well, but has no appetite, and is troubled a good deal with flatulence. On rising he feels bad, having sometimes nausea.

Present condition: A very nervous, slim young man. The heart and lungs are normal. The stomach reaches two fingers below the navel; the liver is somewhat descended, about one finger below the right costal margin. The right kidney, on deep inspiration, can be palpated in its lower third. Chemical examination of stomach contents one hour after the test breakfast shows the presence of free HCl and a total acidity of 80. Weight, one hundred and thirteen pounds.

Objective Symptoms.—Patients with enteroptosis are, as a rule, thin and slender, and often appear younger than they really are. The abdominal walls are generally flaccid, and the abdominal cavity appears to be too commodious for its contents. Palpation is extremely easily executed in these patients, there being, as a rule, no rigidity of the muscles. When the patient stands, the lower part of the abdomen shows a round protrusion, which begins at the navel, while the epigastric region presents a caved-in appearance. This is principally found in female patients. In the latter, a pendulous abdomen may be encountered, especially in patients who have had children. In the same class of patients diastases of the recti muscles are occasionally met with.

The stomach occupies a low position—gastroptosis—that means the greater as well as the lesser curvature has been pushed downward. The abnormal position of the stomach can be easily demonstrated by the following three procedures:

1. Splashing sound. 2. Inflation of the stomach with gas. 3. Gastrodiaphany. The most convenient and easiest means is the splashing sound. On tapping, principally upon the left side of the abdomen below the margin of the ribs, in a partly filled condition of the stomach, there will be no sound audible immediately below the ribs, while somewhat farther down in the region of the navel, above and below it, the splashing can be distinctly heard. The area over which this splash can be produced will indicate the position of the stomach. Inflation of the stomach with gas, as well as gastrodiaphany, will certainly distinctly show the descent of the stomach; but these procedures, being a little more complicated, will be reserved for doubtful cases.

Strong pulsation of the abdominal aorta is frequently encountered, and is probably due to the partial uncovering of this vessel by the slipping down of the stomach. The transverse colon, the cæcum, and part of the ascending colon, as well as the sigmoid flexure, can often be distinctly palpated. The transverse colon is frequently found in these cases as a ribbon-like body running horizontally above the navel. This Glénard designated as "corde colique transverse," and

MOVABLE KIDNEY.	Total Number	Males	Females	Total Per cent	Males Per cent	Females Per cent	Relative Frequency of Mobility of the Right, Left, and Both Kidneys.
Patients treated Jan. 1. Dec. 1, 1900.	1912	1080	832				Total Cases of Movable Kidney 282
1.—Right Kidney.	218	39	179	11.4	3.6	21.6	
(*a*) 1. Degree.	54	12	42	6.8	1.1	5.0	
(*b*) 2. "	58	11	47	3.0	1.0	5.6	77.3%
(*c*) 3. "	71	8	63	3.7	0.7	7.6	
(*d*) 4. "	35	8	27	1.8	0.7	3.2	
2.—Left Kidney	6	—	6	0.3	—	7.2	2.1%
(*a*) 1. Degree.	6	—	6	0.3	—	7.2	
3.—Both Kidneys.	58	3	55	3.0	0.3	6.6	
a—Right Kidney (Left Kidney 1. Degree less movable)	32	2	30	1.7	0.2	3.6	
(*a'*) 2. Degree (Left 1. Degree)	1	—	1	0.05	—	0.12	
(*b'*) 3. " (" 2. ")	17	2	15	0.9	0.2	1.8	
(*c'*) 4. " (" 3. ")	14	—	14	0.7	—	1.7	
b—Both Kidneys movable same Degree.	24	1	23	1.3	0.1	2.8	20.6%
(*a'*) 1. Degree.	7	—	7	0.4	—	0.84	
(*b'*) 2. "	6	1	5	0.3	0.1	0.6	
(*c'*) 3. "	4	—	4	0.2	—	0.5	
(*d'*) 4. "	7	—	7	0.4	—	0.84	
c—R. Kidney 1. Degree; L. Kidney 3. Degree.	2	—	2	0.1	—	0.25	

concluded from the size of the cord, which is considerably smaller than we should expect the colon to be, that there is a condition of enterostenosis, or a narrowing of the bowel. Ewald and others are of the opinion that the ribbon-like body felt, does not represent the colon, but the pancreas. My own view, however, coincides with that of Glénard. For in some instances the *corde colique* is found in the region of the navel, or even somewhat below it—where the pancreas never exists—and again occasionally in palpating this transverse band a gurgling sound is heard. Furthermore, it can sometimes be traced to the ascending colon.

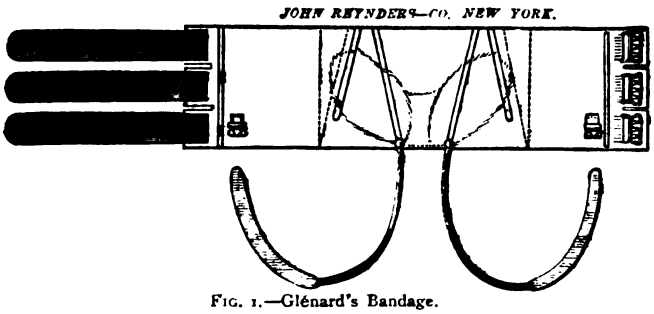

FIG. 1.—Glénard's Bandage.

The right kidney is often found movable, occasionally both kidneys are, seldom the left kidney and the spleen. The liver may also partly or wholly descend, and thus a more or less considerable surface of this organ will be accessible to palpation. In females a prolapse of the uterus is not infrequently found. Apparent tumors of the abdomen[1] are occasionally encountered in patients with enteroptosis. The method of examination for movable kidneys and floating liver is well known, and can also be found described in my previous papers.

Diagnosis.—The diagnosis of enteroptosis is quite easy. It is only necessary to think of this condition, and it is not likely to escape detection. The subjective symptoms above detailed, in conjunction with the result of a thorough examination of the abdomen by the usual physical methods, will reveal the presence of enteroptosis. Another auxiliary in diagnosis of this condition is the so-called Glénard's "belt test." The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both his hands, at the same time supporting and partly lifting it. The patient is now asked if this procedure gives him relief. If so, it speaks in favor of the presence of enteroptosis.

FIG. 2.—Bandage with Holes over the Iliac Crests, and Straps around the Legs, as generally used by the writer.

Prognosis.—The prognosis of enteroptosis is good. When appropriate treatment is instituted, an amelioration in the condition of the patient quickly takes place. Whether a full *restitutio ad integrum* can take place is not yet definitely settled. With regard to this point it is interesting to note that, as early as 1883, Henderson[2] reported a perfect cure in a patient with movable kidney, within the short period of two and a half months. His remarks are very appropriate even now: "Nowadays, when the surgeon boldly invades the great cavities of the body—clearing out tubercular vomicæ, freeing an impacted gall duct, stitching a displaced kidney to the lumbar muscles, and in other ways threatening the position of the physician in his own domain—it behooves the latter, in friendly rivalry, as well as for the general good, to show that his art does not end with the diagnosis of abnormal conditions, but also extends to their successful removal." From my own experience I would say that a perfect cure of enteroptosis is possible. I know of positive cures—that is to say, the stomach has returned to its normal position, and a movable kidney has disappeared—in more than a dozen cases of my own. As a good instance of such a cure, I will describe the following case, which was very recently under my observation:

Miss Mary G——, twenty-six years old, was troubled with her digestive organs as far back as she could remember. She had always suffered from severe constipation. Her appetite was poor; she frequently had slight pains some time after meals. She often felt somewhat faint some time after rising, and was hardly able to walk any considerable distance, on account of

FIG. 3.—Hard Rubber Abdominal Supporter.

the great fatigue and backaches which overcame her. On examination I found that the chest organs were intact. The stomach extended four fingers' widths below the navel, while the lesser curvature could be found two fingers above the navel. Both kidneys were movable, the right in the fourth and the left in the second degree. After being treated for about two months with ample feeding, intragastric faradization, and an abdominal bandage, she steadily improved. I will also add that during this time she took a great deal of out-door exercise (bicycling, rowing, walking, golfing, etc.). In this short period she gained fifteen pounds in weight, felt well in every respect, was strong, could eat everything, and her bowels moved quite regularly. A new examination of the abdomen showed that the stomach now extended only down to one finger above the navel, while neither of the kidneys could be palpated.

Treatment.—The principal part in the treatment of these cases consists in the application of a well-fitting abdominal supporter, ample nutrition, and exercise. The bandage should support and partly lift the lower part of the abdomen. The accompanying illustrations show various abdominal supporters commonly used. It is immaterial what kind of a bandage is used if it only fulfils the above purpose. The bandage should be provided with windows over the iliac crests, also with straps at the thighs, which prevent its slipping up. Special pads for a movable kidney or a floating liver are, according to my opinion,

FIG. 4.

[1] Max Einhorn: "On Apparent Tumors of the Abdomen." MEDICAL RECORD, November 24, 1900.

[2] F. Henderson: "A Case of Movable Kidney Permanently Cured." The Glasgow Medical Journal, vol. xx., 1883, p. 329.

of no value. A. Rose recommended the use of adhesive plaster over the lower part of the abdomen, instead of the bandage. In some instances this procedure may be tried.

Ample nutrition is certainly important, perhaps more so than the bandage. This must be effected by all means. The diet may, in instances in which the condition of the gastric secretion is known, be adapted more or less to it. But this is not so essential as the knowledge that we should make our patients eat more than is absolutely necessary for the maintenance of the balance of the body. As a rule, frequent meals, plenty of bread and butter, good, plain food, with no very indigestible substances, are indicated. I usually have the patients take milk, and bread and butter between meals. In this regard I differ somewhat from Glénard,

FIG. 5.—Teufel's Abdominal Supporter.

who is of the opinion that milk is especially harmful in this class of patients.

Exercise is another important factor in strengthening the constitution generally, and the abdominal muscles particularly. Out-door sports seem to be especially adapted for this purpose. Massage has also been warmly recommended. According to my opinion, however, this is of value only in cases with mild enteroptosis, but not in greatly anæmic patients, or in the advanced cases, for it often creates too much irritation, and may even give rise to inflammatory processes in the abdominal cavity, especially if vigorously executed.

Electricity seems to be especially adapted, when administered intragastrically, to cases in which there are manifold functional disturbances of the stomach.

Of medicaments, iron and arsenic are often indicated in anæmic conditions, while the bromides may be given to allay great nervousness. All the digestive disturbances should be managed according to the general rules. This applies also to the constipation which is so frequently found in enteroptosis. Too many laxatives, however, should not be given, nor is there any need of a laxative treatment in cases in which regular movements are present.

Anatomical Researches in Regard to the Cæcum and its Appendix.—Giuliano Perondi, from studies upon cadavers, found among other things that the most frequent seat of the cæcum was the inferior iliac region, and that it was nearly always completely invested by peritoneum. The form of the appendix was usually cylindrical, sometimes cylindrico-conical, and occasionally rosary-like. Out of fifty cases, it was subperitoneal in five, intraperitoneal in forty-two, partly sub- and partly intraperitoneal in two. The average length was 7.6 cm. (in one case 16.5 cm.), average breadth 0.5. The ileo-appendicular fold was usually inserted inferiorly on the appendix or near it. No folds or fossæ were found in any case behind the cæcum, but always behind the beginning of the ascending colon.—*Il Policlinico*, February, 1901.

SMALL HOSPITALS AND THEIR ADMINISTRATION.[1]

By LOUIS N. LANEHART, M.D.,

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THERE remains very little to be said in justification of the hospitals of large cities. No longer is their death rate so large that there is need to call them in solemn irony "houses of recovery," to controvert the natural repulsion of the general public. The black night of ignorance when hospital beds were built for economy's sake to contain four patients, but often held six—with smallpox, surgical and general illness, indiscriminately jumbled together—has vanished before the double light of bacteriology and humanity; and hospitals are now recognized as giving honest service as well to the patients as to the education of the profession. The association of the medical men of the highest standing with the large hospitals, as well as the low death rate, the large number of patients returning to sing its praises to their neighbors, all assure the city hospitals a place in the respect and affection of the community.

Not so, however, with the rural hospitals. They are frequently looked upon askance by the members of the medical profession not in immediate association with them, and are not altogether free from the suspicion of grave inefficiency by the laity as well. There are of course a number of these hospitals that are far from being ideal institutions, yet I know of no instance in which the physicians and the community have not been made better by the presence of even these. But there assuredly are those whose work is of the highest character—quite equal to the average large city hospitals; yet because of their location in the country they do not receive the appreciation due them.

The small country hospital usually has its origin in the ambition of medical men wishing to have at command means for the proper study of their cases, and who are also dissatisfied with the wholly inadequate methods pursued in the care of the sick poor. A few physicians in the community who are possessed of this ambition for better work will unite with the more progressive of their friends and patients to form a hospital association.

It is difficult to conceive of any community of moderate population where modern medical methods are dominant, in which a hospital is not needed. All medical men know that most cases of illness are best taken care of in a hospital, but it is often difficult to make the people understand this, especially those living in the country; there is the natural dread that ignorance has of institutions, the natural fear that helplessness feels among strangers. This antipathy is less, however, toward a hospital in their immediate neighborhood than toward the city hospital. The nervous strain of the great city is exhausting to a weak patient, especially to one unused to its rush and roar. Not only is the absence of fear in favor of the home hospital, but to journey a long distance is in itself often fatal.

While the proportion of homeless sick is not so great in the country as in the city, yet there is a sufficient number of them to merit consideration, and the number of homes unsuitable for the care of the sick is very large. The burden of the farmer's wife is usually heavy enough to make the care of severe illness a breaking-strain.

The nearest hospital is none too near to convey cases of painful accident and patients requiring immediate operation. With an efficient staff, including special consultants who are willing to serve in rare and obscure cases, the small hospital should receive

[1] Read before the Medical Society of the State of New York.

not only all the hospital patients of its community, but the hearty support of its physicians and of the benevolently disposed.

Granted, then, that the small hospital is, in spite of the polite incredulity of the city man, both desirable and necessary, the question of its organization arises. In establishing a hospital, no matter how small, it should be regularly incorporated, in order that it may receive gifts and bequests and hold property; and in this State it must receive the approval of the State board of charities.

The number of trustees or members of the board of managers should be sufficiently large to insure a wide-spread interest; thirty is a convenient number. They should be chosen from the members of the association. At the first election after the board is chosen three groups of ten each should draw by lot slips indicating terms of one, two, and three years' service. At the following elections, ten should be chosen to succeed the retiring group for a term of three years; this insures a certain permanence in the character of the board. All persons become members of the association on the payment of a certain sum yearly, or life members on the payment of a much larger amount.

As women are the leisure class in this country, they often have both natural inclination and time to do efficient work on hospital boards; the majority of the board of trustees, therefore, will probably be well-to-do and experienced women of the surrounding countryside. It is also essential, however, that there should be some active business men on the board, and that hospital is a wise one that gives a goodly representation to physicians on the board of management. It seems to be a general impression among those who have had considerable experience with hospital work that more hospitals have failed through the overzealous administration of women managers than from any other cause; if this be so, it has been due to the men's shirking work, and giving women responsibilities for which they have had no training in their past experience. *A priori* reasoning undoes the most brilliant woman's mind. Certainly, with a little common sense the immense power and influence of women will be directed in the channel where they will be of invaluable good to the hospitals.

The president of the board need be neither the most prominent nor the wealthiest member of the community. If either of these, his influence is apt to be greater than his knowledge of hospital matters warrants. Just a tactful man of good reputation and intelligence, who is not easily offended or agitated, is what is most desired. He should, however, have time to devote to administration, and any department tending to slackness should feel his stimulating hand.

Women make the best members of the house, wardrobe, visiting, and training-school committees. The chairman of each committee should have a place on the executive committee; the president, vice-president, treasurer, secretary of the association, and chairman of the medical staff should be the other members; and if, as is generally the case, these last-named are men, the result is usually an exceedingly well-balanced committee. The success of a rural hospital depends largely on the matron; as no resident physician is at first practicable, the matron will have a double responsibility. She should be of good education and manners, of unquestionable character, and of executive ability and decision; a graduate preferably of a training-school that has a wide reputation for excellence. She should be absolute in authority within the hospital, under the direction of the executive committee only. Should the members of the various committees have ground for complaint or criticism, they should, through their chairman, report the matter to the executive committee for action. It is just here that the undisciplined woman of social habits may seriously injure an institution which really has her good will. Not sure enough of herself and her ground of complaint to risk bringing her criticism to the executive committee, she will yet foregather with friends, even more inadequately informed, and go over her surmises and inferences till thousand-tongued rumor spreads damaging reports throughout the countryside. It should be continually impressed upon the members of the various committees that any matter serious enough to warrant public criticism should first, for the good of the institution with which they are connected, be reported to the executive committee for investigation.

Under the matron must be an adequate corps of nurses. Here the rural hospital will encounter difficulties. Trained nurses who are successful are scarcely to be had by the resources of a small hospital, and the distracted management, after an enlightening experience with those available, will usually hail the suggestion of training their own nurses. The comparatively new profession of trained nurse appeals to many women to whom self-support is necessary or desirable, and to others financially independent it often offers as an avocation. With an efficient matron there should be no great difficulty in obtaining for training young women from twenty to twenty-seven years of age, of a credited character, of good physical condition, and of sufficient, say high-school, education. Good service will be secured in this way, for the nurses will realize that their future depends upon the work of each day, and the course of three years assures the identification of a nurse with her hospital and certifies her loyal service.

The medical staff would at first sight present some difficulties in the formation of a rural hospital. It must be large, as all the patients the hospital may hope to receive until its reputation is established will come from the staff's collective practice. The staff should be composed of progressive men from every section of the constituency; the men whose work and character are a guarantee of the high standard of the hospital, men who will use the opportunities of a hospital rightly; men who love their science for its own sake. The purely commercial medical man should have no place on the staff. Among the number selected for the staff there will generally be so great a diversity of tendency and interest as to meet all the requirements of good work. Two or three thoroughly trained surgeons are necessary at the beginning; a bacteriologist, a pathologist, and a neurologist are necessary, and can generally be found or developed. If added to these are men who can do, or can be taught to do, creditable eye and ear, throat and nose work, the hospital may be considered to be on a firm foundation. To the physicians forming the staff the hospital is of incalculable benefit, although they sacrifice time and money for it; without it, to attain the full measure of their growth would be impossible. Especially do country physicians need this association. The country physician with his large territory to cover, his necessarily general practice, can come very little into association with other medical men, and can have little opportunity or stimulus for original work.

In every intellectual pursuit, isolation is stagnation, and though the old-time country doctor of the good sort developed a kindly common sense and a quality of personal authority that were a saving power, the lesser men slipped from little knowledge to greater humbug without the saving grace of competition and inevitable discovery. Dr. Osler, in a recent address, speaking of hospitals, says: "The little farm well tilled is the best." It is with the most profound satisfaction that some of the country doctors connected with these small hospitals realize that in them and

through them they may obtain all that is best in their science.

Of course, it is impossible to have all the physicians of good repute of the community on the staff, but the relations of the staff to those not on the staff should be of so cordial and fraternal a character that all could, if they wished, be equally benefited by the hospital. The private rooms of the hospital should be at their disposal for the treatment of their cases, and they should be invited to all operations on ward patients when no objection is made by the patient. This condition does not prevail in all small hospitals, but in the Nassau Hospital, with which I am connected, the staff most cordially invite such co-operation with all physicians of good standing.

When such an association has been formed, the enthusiasm of the idealists is usually dashed when they find that for a building they are permitted to occupy any inadequate house whose owner can let it for no other purpose. However, obstacles strengthen the muscles, and a few years' healthy endurance will usually see a new hospital building projected. Here is the opportunity of the rural hospital; space and air are the great points of superiority of the rural over the city hospital.

A site must be chosen at a point most accessible by railroad and highway to the district to be reached, and as remote as possible from swamps, factories, and other contaminating agencies of air, earth, and water. The building-committee will journey through the regions of the impossible, and will then, if wise, emerge with a plan on the pavilion system, with wards of one story, separated by twice the height of each; well ventilated and lit by windows on at least two sides; better on three. The standard arrangement of wards will be followed; and a good practical operating-room, easily sterilized, must be planned. According to the resources of the hospital will be the administration rooms, matron's quarters, and nurses' rooms. They must be adequate; for good work cannot be continuously done without sufficient rest and relaxation. Heating, ventilation, store rooms must be provided for the economical and proper administration of the hospital.

So we have the rural hospital organized and equipped. Its use and success will depend upon the honest service it renders. The administrative details are the machinery; the better they work, the less grinding there is; but the reputation and prosperity of the hospital will depend finally on the real service it renders.

If the medical men give it their best, they will gain an enlarged capacity and an increased ease in their work; they will have the immense satisfaction of realizing that as far as the profession has gone, so far are they in real knowledge and in theory; and that most valuable adjunct of a medical man, personal quality, will grow, with exercise, to its fullest. As with the rest of humanity, the medical man shrivels with self-seeking, and reaches his largest growth in service to his kind.

There is still another service for the rural hospital to render its community. Little by little it should come to be the educational centre from which emanate modern ideas of hygiene. Farmers and dairymen should be encouraged to come to demonstrations regarding milk and water; popular talks on infection should be publicly given from time to time. With patience the hospital should in time come to see from its influence its country towns take pride in cleanliness; its country houses flushed with air and sunshine, and, possibly before the millennium, country cooking may present the aspect of simplicity and wholesome nourishment. This will not come at a bound, but must be one of the results of the hospital's winning confidence by its honest service and the loyalty that comes from the members of its committees and those pledged to its support.

The support of such a hospital must come from the people who, either personally or by report, come to know its value. Fortunately for the success of such an undertaking, the stress of city life is leading the very rich and substantially well-to-do to spend the greater part of the year upon their country estates. The success of this plan of life may be seen in the well-set-up, fresh-faced aristocracy of England, and its secondary effect, the personal interest that the gentry of England take in their local hospitals, is already shown to be the natural kindly outcome of such a centring of life in the country near our great cities. These quick brains see at a glance the enormous advantage of a well-built, well-run, local hospital, both individually and in its reaction on the doctors and the community, and often contribute generously in money, time, and care to its success.

To be substantial, the support of the home hospital must be an object of importance to all its neighbors. This applies particularly to churches, lodges, and also societies organized for charitable purposes. Committees should be appointed by these bodies to visit the hospital and gain accurate knowledge of its work and needs. Young peoples' auxiliary societies should be formed in the various villages; children organizing societies to utilize their enthusiasm for giving entertainments for the benefit of the hospital should also be thought of.

In one particular the rural hospital claims especially the attention of the city surgeon. It is the constant custom of physicians to send their convalescing patients to the country, that fresh air and quiet may do their healing work toward complete recovery. In cases of ordinary illness this is undoubtedly of great avail; but are there not many surgical patients whose recovery would be more speedily accomplished if they could have the benefit of these quiet and health-giving influences before their operations and while recovering from shock? Is it not worth the consideration of the professional brotherhood whether some mutually advantageous arrangement cannot be come to whereby surgeons would bring certain of their patients for operation to the neighboring rural hospital? It is easy to raise objections, more or less real, to this plan; but the serious question remains, Are there not patients who would distinctly benefit by such an arrangement? That the solidarity of the profession would be aided by such an interchange is beyond doubt, as is the stimulating effect on the local doctor. The strain would seem to fall upon the city surgeon; but the city surgeon of high repute shares the burden of other holders of treasure, and is usually willing to give himself for the good of his profession and the greatest interest of his patients. The real question then remains, Are the quiet and fresh air as potent forces for good as our general practice indicates, and if so, can the rural hospital practically co-operate with its city neighbors?

But without question there is one connection between the rural hospital and the city physician which is in every way desirable. Every city man has under his care from time to time a nervous patient, for whom he knows that proper care and quiet are the sole requisites for recovery. But this is not so easy to arrange as to prescribe; for the institutions to which such patients can go often regard them with a commercial eye, and benefit rather by their remaining than by their recovery. The interest and point of view of the rural hospital, however, would be identical with that of the patient's physician. Here, then, seems to be one connecting link toward the desirable connection between the city hospital man and his country cousin.

The greatest good the rural hospital can accomplish,

however, is among its own community. There, by its persistent demand for the best, it will in time educate its public till the common requirement will force even the casual medical man to a near approach to hospital standards.

X-RAY PHOTOGRAPHY.[1]

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The most important thing in *x*-ray photography is an apparatus which generates powerful *x*-rays, for it is both your camera and your sunlight; the rest of the process is easy enough. Unless you have an apparatus which can produce rays powerful enough to penetrate the bone itself, you can never get fine bone details in your skiagraphs, and your pictures will not be first class, no matter how skilful you may be in your photographic technique. I have seen much written about the great care necessary in carrying out all the steps in the photographic process, and the long and careful development of the plate, but unless the *x*-ray apparatus is a superior one, all the skill in the world cannot make up for weak rays, and what holds good in ordinary photography will not hold good in *x*-ray photography. In the ordinary plate exposure in a weak light, say, with the plate underexposed, all the points of the object or picture have at least had a certain exposure, which careful development may encourage and bring out; but with the *x*-ray, unless the radiation is strong, the bone is not penetrated, and certain important details have had no exposure at all, and cannot be brought out in the development, and I take it that a skiagraph which simply gives mere bone outlines is not first class, and should not satisfy the skiagrapher.

This being admitted, every effort should be directed, first, toward obtaining and working properly an efficient apparatus, and the rest will be easy enough. I shall, therefore, attempt in this paper to give the results of my own experience in this matter, so far as it goes, and to indicate the direction in which progress seems to be advancing.

I first began my *x*-ray work with a ten-inch spark coil, energized by eight storage cells, using on it the Apps vibrator, and the simple Queen tube. I got certain limited results, no matter how carefully my plates were treated, and they were turned over to a skilled photographer who had taken many prizes for superior work. I changed to a fifteen-inch spark coil, using on it the independent vibrator, and the self-regulating tube, the coil energized by twelve storage cells.

On first testing this coil I was greatly disappointed to find that I could not get a spark over ten inches from it, for I was under the impression that my *x*-ray intensity depended upon the spark length, and that a fifteen-inch spark was a third better than a ten inch. There was a great difference, however, in the character of the spark. In the first coil it was thin and intermittent, while in the new coil it was thicker, brighter, often multiplied, and quite continuous. Now, when I came to test the *x*-ray and photographic effects, I was rejoiced to find the greatest difference in my results. It was very evident that though the spark was no longer than in my first coil, the amount of current going through the tube was vastly more. The platinum became red more quickly, the tube would get hotter, there was a brighter cathodic illumination, and not only was the time of exposure of the plate much shortened, but I was getting negatives of greater brilliancy and sharpness, and a great deal of bone detail, no matter how thick the bone, provided it could be brought close to the plate.

This taught me that mere spark length was no index of *x*-ray efficiency, and that other factors had to be considered. The long spark heresy has had its day, or will soon have. Then came Wehnelt's invention which, by its great increase in the number of interruptions, also increased enormously the amount of current going through the tube, and with it a great increase in *x*-ray power as tested by the photographic plate, for by the fluoroscope alone the increased efficiency was not so apparent. Using the Wehnelt interrupter on coils of two-inch or three-inch spark length only, the increased current would melt the heavy platinum of the tube if continued for any length of time. It was, moreover, soon apparent that the Wehnelt interrupter did not increase the spark length, but that the difference was solely in the quantity of current going through the tube. Examine with a magnifying glass the photograph of the Wehnelt interrupter spark, and you can make out a great many individual sparks; in one I counted at least fifty. The valuable invention of Mr. E. W. Caldwell was in the same direction, and from what I can learn it is an improvement upon the Wehnelt model, though I have had no experience with it. However, the principle involved is the same; namely, by increasing enormously the number of interruptions there is a corresponding increase in the quantity of current, per unit of time, going through the tube, and a proportional increase in *x*-ray and photographic power. It should teach us the lesson that, in coil manufacture after a certain length of spark has been attained, every effort should be toward increasing the amperage, and up to the limit of the tube's endurance, and that a ten-inch or twelve-inch spark is certainly quite enough if your spark is a fat or multiplied one, that is, has a relatively high amperage. Mr. Elmer G. Willyoung, in a letter to me, writes:

"I have always felt the prime question of the design of coils to be the supply of a sufficient amount of energy at an E. M. F. great enough to break through. Excessive spark length in my opinion has nothing to do with the matter, and is in fact quite useless, inasmuch as the pressure at the terminals is bound to be cut down by reason of the tube resistance being lower than the full air-gap resistance which the tube replaces. As a matter of fact the average fifteen-inch coil being operated on a tube is not more than an eight-inch coil; usually not that. That is to say, the discharges that pass through the tube are not over parallel gaps greater than eight inches at the outside. Since now the total E. M. F. being generated must be the same (or practically so) as when the full spark gap without tube is used, it follows that the resistance of the circuit is only one-half, roughly, what it should be at full spark length and plain air gap. But the E. M. F. at the terminals of the tube is undeniably an eight-inch E. M. F. Hence the average fifteen-inch coil and the average tube is equal to an ordinary eight-inch coil giving out twice the amperage that such coil would ordinarily give. For as you know, the line of coils is generally designed to give the same amperage for every coil, the only difference being the E. M. F. Hence I argue, and this has always been my position, that the most valuable coil would be one designed for a suitable spark length, say eight inches or ten inches at the outside, but wound with a heavy wire so as to pass heavy currents. The difficulty from the manufacturer's point of view is that the 'big spark length' heresy is so rooted that it is almost impossible to shake it. Each succeeding man wants to outdo his predecessor; eighteen-inch coils and then twenty-inch, and here recently I hear of some one who is having a twenty-five-inch coil made. I have absolutely refused to make anything larger than the fifteen-

[1] Paper read before the American Electro-Therapeutic Association, September 27, 1900.

inch, except on the sole responsibility of the purchaser, nor have I been willing to assume any of the experimental expense, inasmuch as I have not cared to put anything of this kind on the market since I have no real belief in it."

With these inventions before us, and the evident direction that progress in technique has taken, I cannot understand that continued use by some of the frictional machine, in place of the powerful coil. The electrical excitation of the static machine depends upon the potential induced at its terminals, so that when used on a tube where the resistance and vacuum are low (the tube, by the way, best adapted for photographic work), there is not enough current generated, and although the spark gap in series with the tube, by increasing the resistance also increases the output of the machine, more energy is lost in the spark gap than is utilized in the tube. Even if you get a twenty-inch or thirty-inch spark it is too thin to do the work, it is *tensio et præterea nihil*, voltage and nothing else, and you do not get a sufficient quantity of current through your tube to produce the best results. My experience may be limited, but I have yet to see really fine skiagraphs of the more difficult parts of the body, with good bone detail, done with a static machine. The German authorities who have written for us the best works yet on *x*-ray technique—I refer especially to Donath [1] and Gocht,[2] only mention the static machine to condemn it. Donath's photographic work has been phenomenal, as he does an adult hip in twenty seconds, and he does it well. I can recommend his book most highly. It deserves an English translation to give it a wider circulation.

According to Donath, a soft tube of great constancy, and capable of a rapid taking up and giving out of great energy, is necessary for a negative of strongest contrasts; otherwise the heating of the tube through long passage of the current reduces its capacity even to its destruction. The use, therefore, of the intensifying screen (Verstärkungsschirm) accomplishes much, by shortening the time of exposure. He also insists that increasing the frequency of the interruptions in the coil likewise accomplishes the same result. It must be admitted that, for the proper exposure of the negative, a certain quantity of current is, or, let us say, a certain number of interruptions are, necessary for each case, and that the time of exposure is shortened in proportion as the number of interruptions increases.

Experiments with the Wehnelt or Caldwell interrupter fully confirm this. In skiagraphy their value is very great, though the danger of destroying the tube increases in proportion, and requires, therefore, very careful and very quick handling. This makes them useless for fluoroscopic work, as the time necessary here would quickly destroy the tube. Donath's experiments with soft tubes show that, unless there is a thick cathode and a strong backing of the antikathode, a blue light appears in fifteen to twenty seconds, and the tube is done for. This interrupter must, therefore, be regarded as unsuited for longer exposures, on account of this danger to the tube. Within certain limits, however, the reduction of the time is so great that the tube hasn't time to change its vacuum, and there is hardly a trace of warming in the tube from the strongest driving in the time necessary for the exposure, provided, of course, the antikathode is well backed. With the more difficult negatives of the pelvis which Donath was able to make in the laboratory of Dr. Wehnelt, at Charlottenburg, the conditions were less favorable, at least for soft tubes, which, at the end of an exposure of twenty seconds, showed a tendency to "go under," with the characteristic blue light. While he did a pelvis of a thirteen-year-old boy in seven seconds, the pelvis of an adult woman required a rated exposure with a medium hard tube, constant for the first few seconds, but becoming soft at the end of the exposure.

I have introduced this experience of Donath to show that increased interruptions increase the amount of current through the tube, increasing at the same time the *x*-ray and photographic efficiency, although, unless we modify our tube construction, the new interrupter may be too much of a good thing, and that for safe working the interruptions must be decreased. I am inclined to think that Mr. Caldwell's model is a more practical instrument and can be more easily regulated and handled, although, as I have said, I have had no experience with it.

As we can measure quantity of current by electrolysis and chemical reaction, so, I believe, the amount of chemical change in the silver salt in the photographic plate is also an index of the amount of current going through the tube, and the difference in the photographic effects of high and low vacua is simply the difference in the quantities of the currents in the two instances going through the tube, and this difference must be considerable. Progress in *x*-ray efficiency must be along this line; in fact, it is already well started in this direction, for the real improvements have been in coil construction, and rapid interruptions, and stronger tubes to stand the increased currents, and it is very evident that we have not yet reached the limits of human endeavor in this direction. We shall have better coils, better interrupters, and better tubes to meet the greater strain.

Using the Queen independent vibrator, I always work it to its highest point of interruptions, removing the bob from the spring to accomplish it, and straining the spring so that I frequently break it, having always a new one ready for the emergency. In this way, with my coil I imagine I get an approach to the Wehnelt effect. I have to use a tube with an extra thick platinum. In the ordinary Queen tube I have melted the glass insulation close up to the platinum reflector, and reduced my vacuum almost to destruction.

The Queen independent vibrator, if modified in certain small details, to facilitate the replacing of the spring, I regard as altogether the best interrupter at our disposal, and although it cannot give me the very short exposures of the Wehnelt interrupter, my tubes live longer and are not destroyed, and the difference to the patient skiagraphed amounts to nothing; for one desirous of having his hip properly shadowed does not mind an exposure of five to ten minutes.

The Queen self-regulating tube I must also regard as the best attainable, with present views on tube construction. I have one I have been using two years, and it is still a good tube. My experience with other tubes has not been anything like so favorable.

To recapitulate briefly this part of my paper:

A change from a coil giving a thin ten-inch spark to a coil giving a very fat and multiplied spark of ten inches produced startling differences in my photographic results. With the former coil, although my plates were developed by a skilled photographer, the results were ordinary, while with the latter coil the first plate from it which I developed myself, without any previous photographic experience, gave me a negative of great brilliancy and fine detail. The difference was the amount of current going through my tube. The time of exposure and the time necessary for developing were both shortened—with the old coil it took thirty minutes to get an ordinary hip, while with the new coil it took eight minutes, and I got, moreover, a negative which brought out the parts more clearly and

[1] "Die Einrichtungen zur Erzeugung der Roentgenstrahlen und ihr Gebrauch." Von Dr. B. Donath, Berlin, 1899.

[2] "Lehrbuch der Röntgen-Untersuchung zum Gebrauche für Mediciner." Von Dr. Hermann Gocht, Stuttgart, 1898.

with more detail, and, if I used a fluorescent screen, I got the same hip in one and a half minutes, though by this method the outlines are never so sharp. If Prof. J. J. Thomson and Sir George G. Stokes are correct in their theory of the nature of the *x*-ray, namely, that the radiation is a series of electric impulses given out from a point on the platinum reflector where the charged molecules strike with great velocity, and give up their charges — and in my humble judgment their writings are more worthy of credence than any I have seen—then, I think, it must follow that the heavier the current going through the tube, the heavier the charges on the molecules, and the greater their velocity, the more powerful the *x*-ray effects. Be this as it may, and however beautiful the theory, my own experience compels me to put down as the first and most important desideratum in *x*-ray work, the employment of a coil of moderate spark length, say ten or twelve inches, so wound as to give a large quantity of current in the secondary, and with all the current going through the tube which the tube can stand, which means the use of a high order of interrupter, like the Caldwell or the Wehnelt, or the Queen independent vibrator.

Using the heavy current, a proportionately lower vacuum is practicable, and the photographic effects are greater. In other words, within certain limits, with any stated vacuum, its penetrative power is increased by increasing the quantity of current. Always use, therefore, the lowest vacuum which will penetrate the parts.

In my own work I have endeavored to bring out the bones with all the internal structure possible, on a white background, with the flesh and the superficial details wiped out; in other words, I wipe out the non-essential parts and bring out the bone with all the contrast possible. Most of the skiagraphs which have come to my notice have not carried out this idea, for the flesh is still in evidence, and the printing papers employed are not the best adapted for strong contrasts. It is easier for the imagination to supply the flesh to the bones than to leave the bone details to the imagination. It is the bones we are after.

I secure absolute immobility of the part skiagraphed by binding it firmly to the plate and by placing a heavy weight on the limb to prevent even any movement from the arterial pulsation. The heavy weight accomplishes two things, it presses the bone as near the plate as possible, a most important requisite, and it also, as I say, prevents any possible movement from the pulse. This is all done in a way to make the patient as comfortable as possible. In choosing the side which is to be against the plate, select that which brings the bone the nearest to the plate, for the closer to the plate the sharper the outlines and the better the internal detail. The proper exposure must vary with each apparatus, and has to be learned after careful trial. I believe that, usually, plates are underexposed. I judge so from the prints and from the accounts of long development. There is a common belief that *x*-ray plates all require a very slow development. Some of the best plates I have ever had have come out almost as rapidly as the ordinary photographic plate. My own experience is that three to five minutes is quite sufficient, and when the plate takes longer it has usually been underexposed. If the *x*-ray is weak and the bone itself has not been penetrated, there can be no bone details, no matter how carefully the plate is developed for there is nothing to develop; the *x*-ray plate is entirely different from the ordinary underexposed plate, for here all the detail has had at least some exposure which can be brought out.

I have tried about all the developers, and have come to regard the hydrochinon as perhaps the best. I seem to get deeper, denser, and more brilliant negatives from it, while the detail is just as good as with the metol. I use for convenience the hydrochinon powder. I wash the plate two hours, following Carbutt's advice, using also his formula for the fixing with the chrome alum.

The plate is always intensified, no matter how strong the negative is, for otherwise some of the flesh will come out in the print. The intensification is so strong in some of my plates that they have to be held up to the direct sunlight to make out the detail, and the printing on "velox" paper has to be done in daylight, and even then requiring one or two minutes' exposure. In intensifying I use Carbutt's formula of one-half ounce of corrosive sublimate and one-half ounce of ammonium chloride in twenty ounces of water. The plate is washed again for half an hour. A solution of ammonium chloride, one-half ounce in twenty ounces of water, is flowed over the plate for half a minute; it is washed again for five minutes, and then immersed in an ammonia solution, two drachms of aqua ammoniæ in one pint of water, until black. It is then washed again for five minutes, and dried.

Such a negative will print out on "velox" paper, without any flesh, and with a fine black-and-white contrast.

There is often great difficulty in getting the "velox" print from a highly intensified negative, on account of the great difference in different parts of the negative, due to the different thicknesses of the parts skiagraphed, certain parts being overexposed while others are underexposed. This can be largely overcome by passing the hand rapidly to and fro over those parts which require less exposure, or by using a shaded screen. Again, it is often very difficult to print in certain fine details without getting the rest of the print too dark. For example, in a sagittal view of the knee, the patella will have to be printed separately first, before printing the rest of the negative, and, being some distance from the great bones which form this joint, this can easily be done.

Even in the hip joint almost all the flesh can be wiped out if the negative is a strong one, and has been, in addition, strongly intensified. I have found that the "carbon matt velox" is by all odds the best, as being less sensitive than the "special velox," a very necessary quality when we are striving to get the bone on a perfectly white background.

Although the "velox" print is a difficult one to make, and you will have to throw away many a print, when you do succeed you have a beautiful picture which will be easy to reproduce in your publications. I must admit that, in printing large negatives, seventeen by twenty inches, I have used "solio," but had I to prepare for publication such a print I should still use the "velox," despite the labor and loss it might entail. In my skiagraphic study of the normal membral epiphyses at the thirteenth year,[1] I have had a carpus enlarged two and a half times to show what can be done in the way of preparing large skiagraphs for use in the laboratory and the lecture-room. If your original negative is fine, you can get beautiful skiagraphs which make the internal detail even more evident, though the outlines may not be so sharp. I show you a carpus, an elbow, and an ankle so treated, and the effect seems to me to be fine. You get the bone designs drawn for you in strong lines—a charcoal drawing on white paper. In this process a positive is taken from the intensified negative and from the positive the enlarged negative, which is again intensified before printing from it. For diagnostic purposes the fluorescent screen of potassium platino-cyanide, the Verstärkungsschirm of the Germans, is a most valuable addition to your *x*-ray outfit, especially when you have a very thick part to skiagraph. This salt gives a bluish light and acts with greater rapidity on the photo-

[1] Annals of Surgery, November, 1900.

graphic plate. The time of exposure is greatly shortened—about one-fourth the time being necessary. The outlines are not so sharp, but a greater drawback is apparently unavoidable spots in the screen, due seemingly to a lack of uniformity in the coating. In the negative these come out as bright spots, which will have to be gone over very carefully to print well from. When our aim, however, is a correct diagnosis, this fault is trivial. With a screen made for me by Ernecke, of Berlin, I get an ordinary hip in one and one-half to two minutes.

A field of usefulness for the *x*-ray which has not yet been thoroughly worked up, and which I am sure promises much in the future, is the study of normal osteology and bone development, and, in my skiagraphic study of the normal membral epiphyses at the thirteenth year, I have attempted to show what the *x*-ray can do for us here. It is especially in this line that enlarged skiagraphs, suitable for the laboratory or the lecture-room, will prove most instructive, as giving in strong, bold lines the internal bony structure along with their outlines, and, most important of all, in their exact spacings and relationships. I show you these three enlargements to give you an idea of what may be accomplished in this direction. I have found that there is but one way to accomplish this properly; namely, by first making a positive, and from this taking an enlarged negative, which is again intensified before printing from it.

The direct enlargement on bromide paper from the original negative, though a much shorter and simpler process, does not yield as good results, on account of not eliminating the flesh, and you cannot, therefore, get the bones alone on a white background. I show you an elbow, enlarged by the bromide process, and although the details are fine, the general effect is not so striking as in the longer process of positive and enlarged negative.

Since reading the above paper before the American Electro-Therapeutic Association, I delivered a lecture at Cornell University on my *x*-ray study of bone development, and my "velox" prints were rephotographed for transparencies for the stereopticon. There can be no better test of a printing paper than this, for they came out on the screen with all the detail and contrast magnified. A good skiagraph, when printed out without any flesh, lends itself admirably to this mode of exhibition, and can be made most instructive. I have long felt that the *x*-ray would prove most valuable in anatomical study and demonstration, and this test convinced me of its great utility. I refer the reader to my paper in the *Annals of Surgery* for November, where these plates have been reproduced, and though the plates are inferior to the original "velox" prints they are sufficiently good to show what can be done in this line of work. It is the fine black-and-white contrast—and without any sacrifice of the detail—which makes the "velox" paper so well adapted to this form of photographic work. I am convinced that the black on the white is better than the white on the black when the prints are made from positives, as carried out in a recent German atlas[1] which has come to my notice. Beautiful as this atlas is, I believe it would have been more effective if printed from negatives instead of positives.

Oxyurides.—Rid the rectum of fecal matter by means of a full injection. Then inject a two-per-cent. solution of nitrate of silver, to be left in for five minutes, and then the excess is neutralized with salt solution. —De Guy.

[1] "Atlas klinisch-wichtiger Röntgen-Photogramme," herausgegeben von Prof. Freiherr von Eiselsberg und Dr. K. Ludloff, Berlin, 1900.

SOME FACTS OF RESPONSIBILITY IN SPIRIT AND DRUG TAKERS.[1]

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A CRIME is committed by a person while under the influence of alcohol or drugs; a will is written while the person is using spirits to excess; an important contract is made and signed in this same condition; a course of criminal conduct is followed, and the actor is using spirits or drugs constantly to excess.

Such cases come into court. The counsel turn to the physician for help. There is some abnormality in each instance. The acts are without the pale of reason, and the continuous use of spirits clearly disturbs the natural common-sense line of conduct of the person. The lawyer turns to the rulings of judges in similar or allied cases, and the physician to text-books of medicine and medical jurisprudence. Both fail; and while the lawyer finds rulings that apparently apply to such cases, he is conscious that they do not comprehend or recognize the real facts at issue. The more closely he studies these facts, the wider seems the discrepancy between them and the theories of the law. The judge recognizes this inconsistency, but is forced to follow lines of previous rulings, and only along certain narrow limits dare he venture to express opinions at variance with other judges. The legal theories of these cases are the outgrowth of the moral teachings of past centuries. These teachings are that inebriety is but a development of the moral depravity innate in every life, always ready to grow and develop, and particularly ready through wilful neglect and gratification of the lower animal instincts; also that inebriety is always a phase of savagery or an inborn tendency to lawlessness, giving up restraint and control, indulging all the passions regardless of society or the interests of others. The remedy is punishment, involving pain, and in this way building up the moral to control the lower animal.

Dogmatic statements and theories, that are obviously unsound and in conflict with the fact, comprise the largest part of so-called authorities on this subject. The physician turns to a study of the cases, and seeks to find out the facts as they are presented in real life. Here a new world of truth confronts him. The inebriety of the prisoner or the person in question is found to be due to a physical condition that is both inherited and acquired. This physical condition is literally a disease, and is practically an obscure or pronounced form of insanity. In some cases the drink craze is a symptom of insanity. When the symptoms of a large number of cases are studied and compared, they are found to follow a uniform line of origin, progress, and development.

Tracing the effect of alcohol on the system, one perceives that its continuous use in excess at intervals, is always followed by degrees of brain and nerve palsy, paralysis, congestion, and impaired and diminished activities. Alcohol in the system to excess is always followed by incapacity of the senses and judgment, with lessened power of control. The degree will vary widely with the amount taken and the state of the health, but impairment and disability is a physiological consequence, to which the exceptions only prove the rule.

The legal theory on which the present administration of the law is based, assumes sanity and sufficient mental soundness to act rightly. The remedy for contrary conduct is more severe punishment to awaken a sense of accountability.

Practically, this theory presupposes a degree of

[1] Read before the Pan-American Congress, Havana, February 5, 1901.

psychological knowledge and a capacity to distinguish lines of health and disease that is far beyond any present attainments of science. The conclusion from a medical study of these cases is that every case is one of physical degeneration and progressive disease. The correct medical jurisprudence of inebriety would embrace, first, a question of the facts in each case, and their meaning—facts of heredity, of growth, of culture and health; facts of disease, of injuries, of degenerations, local and general; of the influence of surroundings; of occupation and climate; and all the history, physiological, pathological, and psychological. From these facts only can any clear, intelligent conception be formed of the act and its motives. When this can be settled, then the legal question of what shall be done, and what disposition will more accurately serve the cause of justice, will appear. The legal punishment of inebriety theoretically aims to check and prevent illegal acts by inebriates. But practically and literally the very opposite effects follow. Experience of all the courts in this country and Europe proves that capital punishment for murder committed by inebriates never deters other inebriates from committing similar crime. In this diseased, mental condition they are more often incited to commit similar offences by the recital of crimes of violence. Notwithstanding this fact, inebriates are tried and executed daily all over the country.

Fines and imprisonments for illegal and criminal acts are not only absolutely worthless as deterrents, but increase the very conditions which they are intended to check.

The physiological fact in these cases is that legal penalties, which are supposed to appeal to the higher moral brain, make no impression; for the reason that the higher brain is so impaired and palsied that it cannot recognize or respond to these influences.

The question of the legal responsibility of a man charged with the commission of a crime, in any given case in which spirits have been used before and during the act in question, must be decided from a study of the mental health of the man. If there is a reasonable doubt of mental soundness at the time the act was committed, the degree of responsibility will be lessened. If there is evidence of delusions, or strange unusual beliefs which influence conduct and warp judgment, or if his mind acts in an impulsive, unreasoning way, apparently under an irresistible impulse, incapacity is an established fact. The question of capacity to distinguish between right and wrong in all these cases is difficult to decide.

The immediate effect of alcohol is to obscure and break up the power of discrimination between right and wrong.

The use of alcohol is always followed by an increase of the heart's action, and later, a corresponding diminution of the flow of blood. This increased heart's action is followed by unsteadiness of brain force and activity. The increase of the heart's action extends to all parts of the body, giving the appearance of greater power; then, after a time, there is lessened power and energy until stupor comes on.

In all men who use alcohol there occurs this alternation of exhilaration and depression; and when this is repeated for years, positive damage follows. First of all, the senses become impaired; and this condition always darkens knowledge and misleads the judgment. This follows from the fact that accurate perceptions are wholly dependent upon definite and normal sensations. When the senses are disturbed and impaired, perceptions are correspondingly disturbed; they are unable to present the facts to the mind as they really exist in the surroundings.

The fine shadows, the uncertainties and doubts which attend many human transactions, escape the notice of the inebriate; hence he imagines they do not exist. The more alcohol he uses, the more positive things appear; they have the quality and energy of absolute demonstration. He never doubts or hesitates. Such a man is a dangerous witness in criminal courts, through his defective knowledge, and because he has a morbid positiveness that often carries conviction. In reality an inebriate witness testifying to events observed while sober is more reliable than a sober witness testifying to events observed while intoxicated.

The inebriate state is one of anæsthesia, manifested by the rude grasp of the hand, a loud voice, and a certain exaggeration of manner, as if the one affected were trying to assure himself of the reality of his senses.

The senses of touch, of sight, of hearing, of smell, and the muscular sense all show disturbance and point to a degree of paralysis, which manifests itself in illusions, hallucinations and perversions, impeded articulation, staggering gait, and diminished functional and organic activity. This is literally in a degree paralysis, and weakens the control of volition. No effort of will can remove or lessen these incapacities from alcohol. Weakness, prostration, and debility respond in some measure to the calls of volition, but paralysis from alcohol, never. Hence the responsibility of the inebriate is lessened and differs from that of all other narcotic states, in direction and degree.

It can be readily seen how impossible it is for the mind to receive accurate knowledge of events and persons exterior to it when this degree of paralysis extends to the higher operations of reason and co-ordination, in which both the facts and the conception of them are faulty and perverted. The co-ordinating brain centres are enfeebled, and cannot analyze the impressions of the senses, and this extends to those higher operations of the brain, called morals. The paralysis of the lower ranges of brain activity quickly dulls and breaks up those fine distinctions of duty and the consciousness of right and wrong. It is a physiological law of growth and development that the highest elements of brain activity and power are formed last. This is called the character, the "morals" of the man, and from the use of alcohol it appears to be the first to suffer and be destroyed.

The inebriate, like the man intoxicated, exhibits confused, halting ideas and beliefs about morals and his duties to his fellow-man. His ethereal sensibilities and conceptions of duty and obligations undergo a progressive degeneration, while the coarser organic operations of the mind and body seem but little disturbed. Hence the acts and thoughts that are supposed to be malicious and brutish indicate merely a suppression of the higher co-ordinating centres. This is seen practically in many cases in which persons of refinement in thought and act, after the use of alcohol have become coarse in language and manner, and brutal in conduct. Often the inebriate is amazed when told what he has said and done while under the influence of alcohol, showing how far he has been dominated by the alcoholic paralysis. But if the drinking is continuous, he is unable to review his thoughts and acts, and both the mind and body undergo a debasement that is marked. Morally, mentally, and physically, he slowly or rapidly grows crippled and deformed. The inebriate is a moral paralytic. His intellect is disordered, and among the insane none are more dangerous, for the reason that he has no fixed mentality or conception of himself and his relations to others. He may, before the use of alcohol, have formed habits and conceptions of life that cling to him automatically, and thus enable him to act in the ordinary grooves of normal life, for a while, without

marked debasement. He may, as a professional man or as an artisan or farmer, pursue his vocation with reasonable success; but let some supreme crisis intervene, let some emergency throw him out of his automatic range of life, and his true state will be revealed. His damaged brain may be seen either in crime or the insane confusion of all his thoughts and acts.

Beyond all question, these results are caused by alcohol alone; and its effects on the brain and nervous system are anæsthetic and paralyzant. The heart, the senses, and then the higher brain centres slowly succumb to paralysis, while the victim's capacity to realize his true condition and adjust himself to it grows less and less. His conception of right and wrong, of duty, of obligation and responsibility, grows more and more confused. The victim may for a while perform his daily routine in accordance with his surroundings, but he is a mere mental waif, drifting at the mercy of his surroundings and the uncertain conditions of life.

The fact I wish to make prominent is not the legal irresponsibility of these cases, but that the present legal standard is wrong and contrary to all the teachings of science. The superstition that insists on full measure of accountability in all cases in which spirits are used, and assumes that the use of alcohol is a voluntary act of the brain, both conscious and capable of control, is a sad reflection on the intelligence of the present age.

The interpretation of the law that boundary lines of responsibility and irresponsibility can be marked out in case of inebriety is a delusion. The effort to find a dividing-line where sanity and insanity join, or where the brain could or could not have controlled its acts or realized their nature, is an impossibility. The strange theory which seems to be fixed in the legal conceptions of inebriety, that alcohol can be used to excess at intervals or continuously, and the person retain the full possession of his faculties and have the same power of control as in health; also that no history of excessive use of spirits before or during the commission of the act has any bearing on the case, unless associated with marked symptoms of insanity, are all errors that make justice impossible in these cases.

To-day a large percentage of all medico-legal cases is associated with inebriety, and the legal responsibility of inebriates is decided from theories formulated centuries ago. The real responsibility and accountability in these cases is very different from the conception of them formed in courts of justice.

The teachings of modern science open up a new world of facts that indicate clearly the physiological nature of all brain activities; facts that show the influence of heredity, of injuries, of strains, of drains, of failures, of diet, of surroundings, of culture, of ignorance, and all the vast ranges of influences and forces which enter into the acts and character of every person.

It is from this evidence that the questions of responsibility and capacity to act sanely at any time and under any circumstances can be solved. No legal responsibility in inebriety can be solved from any other point of view or other theories. It is a pure question of facts—not theories of law or rulings of judges. What is the history of the man and the act in question? Ascertain these clearly, and the problem is solved. Fail to do this, and confusion, injustice, and wrongs follow. The legal responsibility of inebriates, as determined by courts to-day, is a farce. A new jurisprudence is demanded. A new scientific study and recognition of the facts in the cases of these inebriates and their disabilities are called for. This need is felt in every court of justice by clear and thoughtful men.

AN UNUSUAL CASE OF PARTIAL RECOVERY FROM EMBOLISM OF THE ARTERIA CENTRALIS RETINÆ.

By EDGAR S. THOMSON, M.D.,
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Cases of partial recovery of vision after embolism of the central artery of the retina, while rare, have been observed and described by several writers. The following case is unusual, so far as I know, in the extent of recovery. I am indebted to Dr. Webster for the first part of the history. His notes, in part, are as follows:

October 4, 1895. M——, banker, aged fifty-nine years. Last evening he was reading and got up to light a cigar. When he sat down again he found that he could not read and, feeling a fulness in his left eye, he covered his right with his hand and found he could not see at all with his left, except at a little margin at the upper and outer corner. R. V. = $\frac{20}{40}$ +, with correcting lens. L. V. = fingers at 2 feet in superotemporal periphery.

Ophthalmoscopic examination: Embolism of the central retinal artery. The descending artery is nearly obliterated, the ascending much reduced in size; above the disc is an area of thin exudation. The macular area is reddish, but not "cherry" red, and there is a large, pale, soggy-looking area.

Treatment: Blue glasses, and strychnine gr. $\frac{1}{60}$ three times a day.

October 7th. L. V. = $\frac{8}{200}$, in superotemporal periphery. The descending artery begins to fill a little. The area above the macula is more milky. I gave, in addition, bichloride of mercury gr. $\frac{1}{33}$ twice a day. He has a mitral regurgitant murmur and the urine contains hyaline and epithelial casts.

October 9th. The patient sees objects down to the centre of the field. L. V. = $\frac{10}{200}$.

October 21st. L. V. = $\frac{20}{200}$ (superotemporal area).

When I saw him, April 8, 1898, his vision was nearly normal in that eye in the upper half of the field. My record of that date was: R. V. = $\frac{20}{200}$: $\frac{20}{30}$ W. + 5 D. s. L. V. = $\frac{20}{200}$: $\frac{20}{40}$ W. + 5 D. s. (in the upper half of the field). The entire upper half of the field was restored down to within ten degrees of the macula. There was no perception of light at the macula nor in the lower half of the field.

With the ophthalmoscope, the upper part of the retina appeared slightly atrophic, finely stippled with pigment, and the vessels reduced to mere threads. The upper half of the nerve was white. The lower half of the nerve was normal in color and there were no pigment changes in the lower half of the retina. A row of six large arteries could be seen springing from the lower edge of the disc and running down over the lower half of the retina. The patient lived for nearly a year after this, without further loss of vision, so far as I know, and died suddenly of heart disease.

At the first glance one might have thought that these were cilioretinal arteries, but the fact that the vision was primarily reduced in the area supplied by these vessels shows conclusively that they were branches of the central artery. Cilioretinal vessels spring from the anastomosis around the nerve known as the "circle of Zinn," and when one of these is present in an eye affected by embolism the area of the retina supplied by it is unaffected from the start. There is usually but one cilioretinal vessel and it most commonly springs from the temporal side of the disc and courses over toward the macula.

Microscopical examination has been made in several cases and the existence of the cilioretinal vessel demonstrated (vide W. Adams Frost: "The Fundus Oculi," p. 52). In any normal eye, however, we can infer that a vessel comes from the circle of Zinn only by the sharp hook-like turn it makes as it leaves the

disc. Very frequently the central artery of the retina bifurcates and gives off branches in the substance of the nerve, and undoubtedly this was the condition in the case reported. The embolus was dislodged within a day or two and driven onward into the superior branch, before the lower part of the retina had had time to atrophy.

In cases of embolism modified by the presence of a cilioretinal vessel, atrophy of the nerve is apt to follow, and the eye becomes totally blind in all parts of the field. This was the case in an eye observed by W. Adams Frost ("The Fundus Oculi," plate xli.).

The fact that total atrophy of the nerve had not occurred in the case under discussion, three years after the embolism, further indicates that the vessels were branches of the central artery.

When the embolism is far enough back to cut off the whole artery, atrophy of the nerve is almost certain to follow, as in the case examined microscopically by Marple (New York Eye and Ear Infirmary Reports, January, 1895), while if the embolus moves forward to the level of the retina, optic atrophy is not likely to occur. The attempt has been made to cause the embolus to move forward into a smaller branch, as occurred spontaneously in the present case, by performing a paracentesis corneæ, with the hope that the reduction of tension would allow the pressure of the blood current to dislodge the embolus. Schmidt-Rimpler advises massage of the nerve by passing a strabismus hook back through the orbital tissues and hooking the optic nerve, when it can be massaged gently by passing the hook backward and forward. He cites one case in which he succeeded in restoring good vision by this procedure. Unfortunately, however, these methods have been almost uniformly unsuccessful in the hands of others. When there is nothing to lose and much to gain, the attempt is certainly justifiable, but of course, after a day or two, the embolus has become adherent to the vessel wall, the retinal degenerative processes have begun, and no treatment can be of use.

16 East Forty-third Street.

Experimental Work in Hepatic Hæmostasis.—Luigi Baldassari carried out his experiments on rabbits and dogs. Under chloroform anæsthesia the animal's abdominal wall was opened, and a deep wound was made in the convex portion of the hepatic lobe selected, which bled very freely. The margins of the wound were then separated, and a piece of decalcified bone was introduced and sutured in place, exercising a certain amount of pressure. The abdominal walls were then sutured and the animal was allowed to recover consciousness. After a time, varying from a few days to a month and a half, the animal was killed, and a careful examination made. Hæmostasis was in every case found to have been perfect, and the wound completely healed. Forty-five days after the operation the bone was found to have been absorbed, leaving only a faint grayish line on the hepatic tissue.—*La Riforma Medica*, February 21, 1901.

Bloodletting in Pneumonia. — Corradini Rovatti reports a case in which bloodletting gave immediate relief to the patient, causing a diminution in the sharp pains at the base of the left lung, causing the pulse to become strong, full and more rapid, and lowering the temperature from 40° C. to 38° C. A deep and refreshing sleep followed the procedure, and although the patient remained in a condition of weakness for several days, he was practically cured by this measure. Bloodletting overcomes passive congestion with the cyanosis, dyspnœa, etc., attending it, and also in infective diseases of the respiratory tract eliminates a large part of the toxic substances from the circulation. It also brings relief to an overworked heart, facilitates breathing and oxidation, and increases the elimination of urine. In all cases of pneumonia in robust subjects, bleeding should be practised.—*Gazetta Medica Lombarda*, February 17, 1901.

Some Unusual Symptoms in Typhoid Fever.—Umberto Baccarani writes in detail of these symptoms seen in several cases, which, briefly stated, were: Delirium and insomnia in the prodromal stage; enterorrhagia at as early a period as the fifth day of the disease; the palmo-plantar symptom, or yellow coloration of the palms of the hands and soles of the feet; the *pulsus paradoxicus* disappearing during inspiration and reappearing with expiration; splenic cough, produced by palpation of the spleen; salivation; urethritis; desquamation, and finally, pruritus. The author calls attention to a point in the treatment, namely, the administration of small enemata of boiled water during the early days of constipation, to remove fecal accumulations which probably cause a slight rise of temperature.—*La Riforma Medica*, February 23 and 25, 1901.

Chronic Purulent Otitis Media.—G. Ostino says that there is not simply one disease known as chronic purulent otitis media, but there are various forms of the affection, each one of which may require a different treatment, according to the degree of the lesion. Conservatism should be the rule wherever possible. Macewen's advice to open the mastoid cells even in cases that could be treated through the auditory canal, because asepsis of the middle ear is impossible, was refuted by the aural surgeons at the International Congress in London, 1899, who reported hundreds of recoveries either by medical antiseptic or caustic treatment, or by operations of a simpler nature, such as extraction of the malleus and incus, atticectomy, scraping the bone, etc., in cases in which Macewen would have operated.—*Giornale Medico di Regio Esercito*, February 28, 1901.

The Healing of Cerebral Abscesses.—Passow records the case of a man in whom an acute otitis had caused a mastoiditis and the formation of a perisinous and a small cerebral abscess. As frequently occurs, the symptoms were insignificant compared with the seriousness of the disease. Even the extensive destruction in the mastoid process could not be diagnosticated with certainty before the operation. Only the irregularity of the pulse aroused the suspicion that the process had reached the cranial cavity. The cerebral abscess itself had not caused any conspicuous symptoms, as it was only in its incipiency. The course of healing was extremely favorable. The discharge from the brain abscess ceased on the second day. While still in the hospital the patient developed depression with hypochondriasis, and committed suicide seventy days after the operation. Previous to death he had contracted a fresh otitis, leading to mastoid trouble, and the latter was operated for in the usual manner. At the time of his suicide he had been discharged from the hospital, and was being treated as an out-patient. Autopsy revealed the following conditions in the brain: The skull cap was thick and the dura in several places adherent to the bone. In lifting the brain a piece the size of a large pea remained attached to the tegmen tympani. This left a defect in the brain, from which a barely visible cicatrix, 1.5 cm. long, without pigment, softening, or fibrous tissue, could be traced into the brain substance. On detaching the dura from the tegmen tympani the opening made by the operation was recognized and found filled with loose cicatricial tissue. The gauze in the mastoid wound was impregnated with serous but not with purulent secretion. Careful examination of the mas-

told nowhere revealed diseased bone. The wound had closed considerably. The middle ear was in normal condition. The fact was noted that the tegmen tympani on the healthy side was exceedingly thin and cribriform. Incidentally, a small lenticular osteoma with sharp, notched edges was found in the falx cerebri.—*Archives of Otology*, vol. xxx., No. 1, February, 1901.

Static Electricity in Medicine.—Augusto di Luzenberger concludes a long study of the subject by saying that the matter has not been thoroughly understood by the majority of writers, who are inclined to attribute a purely suggestive value to electricity. Those who possess good electrophores and have used them methodically in treatment, carefully observing the results, not simply contenting themselves with a haphazard application, are fully convinced of the therapeutic value of the procedure. This consists of stimulation of the nutritive exchanges, and in certain modifications of circulation and secretion. There is also a stimulating trophic action on the tissues of the organism. To attain good results, however, the practitioner must be familiar with his machine, understanding exactly the strength which he is using and the various ways of modifying it to obtain desired effects. In short, the scientific precision used in galvanic applications must be used in the applications of static electricity.—*Giornale Internazionale delle Scienze Mediche*, February 15 and 28, 1901.

The Relationship between Chronic Renal Disease and the Condition of Excitement and Depression in the Insane.—W. B. Gow finds: (1) That granular kidneys are more frequent in the insane than in the sane. (2) That in the insane they do not give rise to the usual physical signs and symptoms. (3) That the frequency has a distinct connection with the mental condition of the patients. The condition favoring the occurrence of granular kidney is that of motor excitement. (4) That a low blood pressure is found in similar cases, whereas in melancholia and delusional insanity the blood pressure is raised. In these latter a normal or merely congested condition of the kidney is found. (5) That in general paralysis the kidneys are sometimes granular, sometimes congested, but they probably vary with the condition of the blood pressure, which has, up to the present, not been satisfactorily investigated. (6) That the cause of the lowered blood pressure, or the lowered blood pressure itself, is probably the real cause of the increased frequency of granular kidney in cases of motor excitement.—*New Zealand Medical Journal*, February, 1901.

Report of a Case of Pylorectomy for Carcinoma.—Stuart McGuire reports a case in which the malignant growth began in the pyloric valve and extended about four and a half inches in the walls of the stomach. The diseased portion was excised, care being taken to cut through apparently healthy tissues at least one inch from the neoplasm. The divided end of the stomach was then united from above downward with three rows of silk sutures until an opening was left only at the inferior angle equal in size to the lumen of the cut end of the duodenum. An anastomosis was then effected between the two by means of a Murphy button. The patient made a good recovery. Six weeks after the operation he is improving steadily in weight, has a good appetite, sleeps well, has regular movements from the bowels, and is getting strong rapidly. Mandl, reporting twenty-five cases, states that sixteen per cent. of the patients died from the operation, twenty-eight per cent. from recurrence, and fifty-six per cent. are still living. One patient operated on in August, 1890, still lives. This good showing is undoubtedly due to better technique, earlier recognition of the presence of cancer, judicious selection of cases, and experience.—*The Clinic Bulletin*, January–February, 1901.

Pyelitis from Eberth's Bacillus.—Carlo Comba reports the case of a child who was suffering from typhoid fever. The acute stages of the disease were passed and the patient seemed on the way to recovery, when a new group of symptoms appeared, consisting of a sudden rise of temperature, intense and persistent pain in the right lumbar region, radiating to the pelvis. This condition lasted eight days. An examination of the urine revealed acute pyelitis of the right side. Eberth's bacillus was found in large amount in the urine. The treatment consisted of milk diet, baths at 32°–34° C., strophanthus, caffeine, Sangemini water in great quantity, and salol. During convalescence daily injections of 1 mgm. of nitrate of strychnine were given.—*Rivista Critica di Clinica Medica*, March 2, 1901.

Retroflexion and Retroversion of the Pregnant Uterus.—H. Keitler reports some case histories which lead him to conclude that retrodisplacements of the pregnant uterus are caused not only by impregnation of an already retroflexed or retroverted organ, but may also be the result of changes in the position of a gravid anteflected uterus. The two forms of malposition may at first be interchangeable and the deformity may become definitely fixed as one or the other only, after persistence of the retrodeviation. The prognosis of the two conditions is also somewhat different and attempts at accurate diagnosis are therefore always indicated, since there is no hope that a retroversion will ever spontaneously correct itself, whence active therapeutic measures should be instituted early, though even in retroflexions an unassisted cure should not be counted on.—*Monatsschrift für Geburtshülfe und Gynäkologie*, March, 1901.

Use and Abuse of the Galvano-Cautery in Nasal Surgery.—C. D. Conkey lays down the following rules: 1. The objections raised against the cautery are founded upon its improper use. 2. As a matter of routine practice it should not be used upon the roof of the nose, the middle turbinate, the vault of the pharynx, the soft palate, and the uvula. 3. Upon the septum only when much hypertrophied or deeply congested, and then the burn should be neither deep nor extensive. 4. Upon the lower turbinate it may be used to great advantage, confining the applications as much as posible to thrusts, and avoiding large electrodes. 5. In the throat it may be used to the greatest advantage upon the tonsils, pharyngeal hypertrophies and follicles, and at the base of the tongue to destroy dilated blood-vessels and hypertrophied glandular tissue, but using it so as to avoid contact with the epiglottis.—*Medical Age*, March 10, 1901.

A Contribution to the Study of Intestinal Sand.—Sir Dyce Duckworth and Archibald Garrod report a case of true enteric lithiasis, in a woman of thirty-three, having a gouty predisposition with a family history of disorders of the bowels. The sand consisted of minute granules 0.05–0.2 mm. in diameter, yellow or brown, not crystalline, and of various and irregular shapes. The material was analyzed, with the following results: Water, 12.40; organic matter, 26.29; inorganic matter, 61.31. One hundred parts of inorganic residue contained: Calcium oxide, 54.98; phosphorus pentoxide, 42.35; carbon dioxide, 2.20; residue containing traces of magnesium and iron, 0.47. Urobilin was abundant, and there were traces of unaltered bile pigment. An unknown pink pigment was also extracted from the sand.—*Medical Press and Circular*, March 6, 1901.

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REGULATION OF MARRIAGE.

In past ages and among some of the highly civilized and cultured peoples who ruled over a large part of the old world, two thousand and more years ago, there was a practice of killing those children soon after birth who were not esteemed sufficiently robust to fight the battle of life with credit and benefit to themselves and the community at large. This custom was especially carried into effect in Greece. In Sparta, under the Lycurgan laws, every child born was inspected, and if in the opinion of the ephors it did not attain to the required standard of physical excellence it was forthwith despatched. The result of these summary methods of maintaining the health and physique of the race was shown in the magnificent bodily and mental superiority of the Greeks to, perhaps, the inhabitants of any civilized land at that period. In primitive nations similar modes of weeding out the unfit have been and are still in vogue.

But times have changed, and with them customs, and in civilized countries it would hardly be in keeping with these enlightened days to revert to so barbarous a practice. The belief has for long existed that something should be done to prevent, or at any rate to check, the propagation of weakly and unhealthy progeny. The question is one that concerns all classes of society, and the medical profession most intimately, inasmuch as its members are depended upon to educate the general public on the matter as well as to suggest remedies. It would be superfluous to remark that the subject is beset with manifold and intricate difficulties from whatever standpoint it is regarded. Sociologists everywhere have brought forward plans to overcome the evil, most of which have been well meaning, but utopian and impossible.

Dr. Harvey Campbell, in the London *Lancet*, September 10, 1898, wrote an able article, urging that people must be taught to understand the bad effects that will accrue to the race from marriages among the diseased, and said he was of the opinion that when they had thoroughly grasped the significance of the fact they would of their own free will forbear from procreation. He is a believer in natural selection, but is conscious that it cannot do its work effectively in civilized countries; its action is constantly defeated, and many weakly individuals are saved, who, if they were forced to struggle for existence, or to rely in any way upon their physical powers, would fall inevitably by the wayside. The consequence of this is that disease is not only perpetuated but increased.

There can be no doubt that Dr. Campbell is right as to the deterioration of the race part of his argument, but even the most sanguine will be sceptical with regard to the realization of his hope that the people will voluntarily redeem themselves. A large number of persons in this country hold strongly to the view that the State should step in and forbid by law the marriage of the unfit. But before dealing with this phase of the question it will be well, perhaps, briefly to review the diseases which, from their communicable nature and from their baneful effects upon the offspring of those afflicted, should be made from this point of view the objects of prohibitive measures.

First in the list may be placed insanity, idiocy, and epilepsy. As to the marriage of congenital imbeciles, chronic epileptics, or those who have been insane, probably no rational individual will be found to object to prohibitive legislation in their case. Some go even further and contend that a person who is descended from insane stock has no right to propagate his species. The statistics regarding insanity are startling in their impressiveness, and would appear to give weight to this contention.

In the annual report of the British Commissioners in Lunacy for 1898, giving the percentage of cases of insanity in patients under cognisance of said commissioners for five years—1893-97 inclusive—hereditary influence was attributed as a cause in 20.4 per cent. of male and in 25.9 per cent. of female patients. Records from other sources show even a higher percentage.

Next tuberculosis may be considered. Tuberculosis, at a conservative estimate, kills from eight to ten per cent. of the human race, and the marriage of individuals suffering from this malady will result in the propagation of a progeny predisposed to contract the same disease.

Venereal diseases, again, are responsible for an untold amount of suffering to those infected—often innocently—and for innumerable tainted offspring. To gonorrhœa alone are due most of women's pelvic troubles, and it is owing to syphilis that abortions and still births are so common, many marriages occurring while syphilis is in a communicable stage.

These, then, are the diseases which many physicians in different parts of the country think should be prevented as far as possible by law if necessary. It is admitted on all hands that marriage is the most fruitful cause of transmitting and perpetuating the aforesaid maladies. Therefore, it is urged, do not allow such afflicted individuals to marry. Several attempts have already been made in the United States to bring about this radical reform. The most far-reaching bill of this description as yet projected is that known as the Chilton bill, which passed the Minnesota senate on March 23d, and which, it is fully expected, will become law. This measure purposes to restrict the marriage of persons afflicted with physical or mental disorders, but, while aimed at this class, will affect all those wishing to marry, as every candidate for matrimony must undergo a physical examination by a

competent medical practitioner, and receive from him a certificate of sound health before the ceremony can be performed.

The action of the Minnesota legislature is interesting as an experiment, and, in addition, is instructive, as showing the trend of public and professional sentiment on the matter. Possibly the time is not yet ripe for placing restrictions on marriage; but a beginning should be made in some way.

In any event the working of such a law as the one in question will be watched with great interest. Even if its provisions in many instances should be covertly violated, every attempt at enforcing the law would prove a valuable educational measure, and carry with it a proper deterrent influence.

LEPROSY IN THE HAWAIIAN ISLANDS.

THE above is the title of an exceptionally interesting paper read by Dr. Charles Edmond Davis before the Medical Society of the County of Albany on March 14, 1900, and before the Medical Society of the State of New York on January 29, 1901, and published in the Albany *Medical Annals* for February. Dr. Davis describes in graphic language a visit of inspection to the lepers on the island of Molokai. Upon this island are two leper colonies, the first of which is at Kalawao, on the eastern side of the island, and the second and larger one on the plain to the westward. The site chosen for these settlements is admirably adapted for the purpose, being surrounded on the north, east, and west by the sea, with the base or south side situated beneath a precipice, from one thousand to three thousand feet high, thus insuring almost perfect means of isolation. The settlement was opened in 1866, and a hospital and a home for lepers were erected. Molokai is amply provided with everything that the lepers can need, containing stores, markets, dispensaries, and cottages for their use. There are seven hundred and sixteen buildings in the settlement, and the greater part of the afflicted population live in cottages. The government supplies the lepers with liberal rations, each one's monthly allowance consisting of beef, seven pounds; salmon, five pounds; fresh fish, seven pounds; pai'ai, a native food prepared from Colocasia esculenta, and often called "poi," one bundle of twenty-one pounds net; rice, nine pounds, with one pound of sugar; bread, eight pounds, with one pound of sugar. They are all also granted a sufficient outfit of clothes every six months. The total cost of the settlement, including the maintenance of the receiving station at Kakili, is in the neighborhood of $90,000 yearly. Dr. Davis in his paper gives a vivid although pathetic account of his visit to various homes and cottages on the island, and describes some of the cases in detail; but the most instructive portion of his article to medical men is that which treats of the origin, spread, bacteriology, and treatment of the disease in the Hawaiian Islands. As elsewhere, its origin appears to be quite obscure.

The theory that it was brought to the islands by sailors in the days of whaling ships is discredited, as in Java and in other islands of the archipelago leprosy was known to exist before the sailors had the chance to disseminate it. The fact is also known that the Hawaiians had communication with the Chinese as early as 1778, and with natives of other islands as early as the thirteenth century, when leprosy was so prevalent in Europe. It would, therefore, seem when the mass of evidence has been sifted that leprosy was introduced into the Hawaiian Islands by oriental races. Whence it came or by what means it was first brought to these islands will probably be never clearly understood; but this much stands out with prominence that in the year 1864 the spread of the disease in Honolulu and other places aroused general alarm, and through the unwearying efforts of the missionaries the legislature of the kingdom of Hawaii in 1865 enacted a law to prevent its spread, and in the same year a hospital with suitable buildings was established and opened at Kalihukai, on the island of Oahu, and distant from Honolulu about three miles. This station was designed for the reception, inspection, and treatment of persons afflicted with leprosy. Mild cases, after the diagnosis had been made, were treated there, and the severe or incurable cases were to be transferred to the site recently purchased at Kalawao, on the island of Molokai.

In 1866, according to the government report, the number of lepers on the different islands was 274. From 1895 to 1897 the total number of lepers on these islands was 337, while during the same period the number sent to the leper settlement was 256. At the present time there are at Molokai 1,073 lepers. The causes of the spread of leprosy are without doubt many, to careless arm-to-arm vaccination the dissemination of the disease has been attributed by some. Since, however, non-humanized virus has been used on the island for the past fourteen years, this means of spreading the complaint has been effectually prevented. Kissing and nose-rubbing, the native form of salutation, cohabitation, and the reception of the secretion of lepers through abrasions of the skin are, says Dr. Davis, also stated to be causes of communication. These, and especially sexual intercourse, he holds to be the not unlikely means of communicating infection. The mosquito, house fly, and other insects have been charged with carrying the disease, but, although in the light of recent discoveries it would be unwise to sneer at the theory, yet until the lepra bacillus has been more closely investigated, a definite opinion would be premature. After referring to Dr. Arning's celebrated experiment on the direct inoculation of leprosy, and after discussing the several forms prevailing, Dr. Davis touches upon the curability of the disease, and states that in the Sandwich Islands it is regarded as incurable, the conclusion being that of those best qualified by investigation and experience to pass an opinion. Every drug but Jatropha gossyhiplia, suggested by Dr. E. A. Carmichael, has been used lavishly in the Hawaiian Islands, with no distinctly curative effec

With the acquirement of the Hawaiian and Philippine Islands and Cuba, the United States has taken upon herself great and new responsibilities; and she

must, as far as is possible, protect her people and prevent the introduction of diseases peculiar to those lands. In all the afore-mentioned islands leprosy is more or less prevalent, and, as well pointed out by Dr. Carmichael, in its early stages extremely difficult to detect. Therefore the most stringent restrictive measures should be put into force to prevent the departure of emigrants from any port, in countries over which we exercise sway, where leprosy is endemic. The necessity for these precautions being taken has been insisted upon many times in the MEDICAL RECORD. Papers like those of Dr. Davis do good by keeping such views before the public, and by impressing upon the minds of those in power the need of carefully guarding the inhabitants of this country against the ravages of imported diseases. There are those who think that by the most rigorous segregation leprosy may in time be stamped out. The United States would be setting a splendid example to the nations if she were to attempt this task in her latest possessions.

DEATH CERTIFICATION.

PROBABLY in the vast majority of cases in which death occurs in the sequence of disease, for the treatment of which the patient has been under the care of a physician, the latter is not present at dissolution, on the occurrence of which a certificate is generally issued without actual knowledge of death or a view of the dead body. Such a course is almost unexceptionally unattended with ill results, but it cannot be denied that it opens a loophole for deception or crime which, although of rare occurrence outside of the novels, is occasionally practised, as is shown in a recent experience detailed by an English practitioner in *The Lancet* for March 2, 1901, p. 659, which confirms the oftquoted statement of the greater strangeness of truth than of fiction.

A man, thirty-five years old, applied for treatment for relief from difficulty in micturition. Several days later the physician was summoned to the patient at his room, where he was found in a weak condition, with a temperature of 103° F. He complained of severe pain in the loins and of constant headache, stated that his feet and legs swelled when he was out of bed, and that for some time he had been passing urine frequently in small amounts. The man was visited regularly in bed for eight days. Repeated examinations of the urine disclosed constantly the presence of albumin, hyaline and granular tube casts, and on one occasion also blood. At one visit the patient was found collapsed, deadly pale, almost pulseless, and suffering from a severe rigor. He explained that a fire had occurred in an adjoining room during the night, and that he had jumped out of bed almost naked to assist in extinguishing it. He then stated that he should have to send for his brother, and he gave the letter to his landlady to mail.

On the following day the man appeared drowsy and exhibited convulsive movements in the extremities. On the next morning the physician was visited by a man bearing a general resemblance to the patient, and stating that he was the brother of the latter, who had died during the night after a convulsion. The man paid the doctor's bill and received the death certificate. The suspicions of the landlady had, however, been aroused by the fact that no assistance had been called for during the night, and also that the room which contained the body had been locked up. The physician reassured her by agreeing to observe his usual habit of inspecting the corpse, though he was not required so to do either by law or by professional custom. On his arrival at the house the brother was not in, and the room in which the body lay was entered forcibly. On the bed the outlines of a human body surrounded by a coverlet were dimly visible in the darkened chamber. On closer inspection, however, it was found that the supposed corpse was made up.

Later in the day it was learned that the patient was a senior medical student carrying a policy of life insurance for two hundred pounds. When the "brother" was confronted with the facts he confessed to being at once patient, corpse, and brother, and he explained that he had entered upon the plan for the purpose of making his relatives believe him dead, as he had just been released from prison. He admitted that he had added albumin to his urine, although ill, while his elevation of temperature was genuine. After the physician's last visit, the man had gotten out of bed, shaved off his mustache and reappeared as his own brother.

Apart from the unusual interest of this remarkable case, it is not without practical bearing in pointing out the desirability of legislation making it necessary that after death the body shall be viewed in every instance by a properly qualified person, and that not alone the cause but also the fact of death should be certified.

THE RELATION OF THE PITUITARY BODY TO ACROMEGALY.

ALTHOUGH lesions of the pituitary body have been found in the majority of cases of acromegaly in which post-mortem examination has been made, they have not been detectable in a considerable proportion of cases, while, in still another group, disease of the pituitary body has been unattended with symptoms of acromegaly. It must, therefore, be considered an open question whether the clinical manifestations are the result of the anatomical lesion, or whether both may not be due to a common cause. Some experimental observations made by Friedmann and Mass (*Berliner klin. Wochenschrift*, 1900, No. 52, p. 1213) go to show that the pituitary body can be removed by operation through the mouth, without necessarily causing death or being followed by the development of symptoms of acromegaly or of changes in the thyroid gland. The success of the operative procedure suggests the possibility of its application in human surgery, not alone for the removal of tumors of the pituitary body, but also for the purpose of providing a channel for the escape of effusions, as in the various forms of meningitis.

There is at present an unusal prevalence of a malignant type of scarlet fever in New York and vicinity.

News of the Week.

American Gastro-Enterological Association. — The fourth annual meeting will be held in the banquet hall of the "Shoreham," Washington, D. C., Wednesday, May 1, 1901.

Dr. Frederick A. Packard has been elected a trustee of the University of Pennsylvania, in succession to the late Dr. J. M. Da Costa. He is a graduate of the department of arts of the University of the year 1882, and of the medical department of 1885, and is physician to the Pennsylvania Hospital and the Children's Hospital.

Prof. A. Jacobi's Reception.—Our distinguished townsman celebrated the completion of his fiftieth year as a physician by entertaining his many friends at the Academy of Medicine on the evening of April 5th. He was graduated at the University of Bonn, April 4, 1851. The celebration of his seventieth birthday by a notable dinner last year is still fresh in the minds of his professional brethren. As an evidence that he has lost none of his youthful enthusiasm he read an elaborate and highly finished paper on "German Text-books of Half a Century Ago."

National Association for the Study of Epilepsy. —The first annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will be held in Washington, D. C., May 14th and 15th next. Many papers of value from European and American students, and full reports of the progress that is being made in the care and treatment of epileptics in this country, are promised for this meeting. The president of the Association is Hon. William P. Letchworth, LL.D., Portage, N. Y.; first vice-president, Frederick Peterson, M.D., New York City; secretary, William P. Spratling, M.D., Craig Colony, Sonyea, N. Y.; any one of whom, upon request, will give further information of the coming meeting.

Heroism of a Royal Army Medical Corps Officer. —The president and council of the Irish Medical Schools and Graduates Association entertained, on Saturday, March 16th, a distinguished company at dinner at the London Hotel; Cecil, Lord Roberts being in the chair. The occasion was the presentation to Captain Charles Dalton, R.A.M.C., of the Arnott Memorial Medal for his bravery at Chieveley, South Africa, on January 23, 1900. Mr. David Arnott is the donor of the medal, which he presented in memory of his late father, Sir John Arnott. It has fallen to the lot of Captain Dalton to be the first to win this distinction. The 14th Hussars, to which regiment the doctor was attached, were taking part in a reconnaissance near Chieveley, and it became known that an officer of the South African Light Horse was lying wounded within the zone of fire. Captain Dalton forthwith obtained permission to go and dress his wounds. This he was proceeding to accomplish when the Boers fired a volley at them, at one hundred yards range, paying no attention to the Red Cross flag carried by the doctor's orderly. The result was that the orderly was shot dead and the doctor received a bullet wound in the abdomen.—*The London Sketch.*

Pure-Beer Bill for Great Britain.—This bill was read for the second time in the English House of Commons on Wednesday, March 27th. The *London Daily Telegraph* points out that, under the scheme in its present form, beer is divided into two classes—malt beer and part-malt beer. Malt beer is described as the product of barley malt, with the addition of hops, yeast, water, and such substances for the preparation of beer as may be approved by the commissioners of inland revenue. Part-malt beer means any beer other than malt beer. While brewers who employ malt substitutes will be allowed to call the product beer, they will be obliged to sell it under a designation which indicates that other ingredients have entered into its composition, and thus the main purpose of the champions of pure beer will be accomplished.

The Loomis Sanatorium Charitable Annex.—The Loomis Sanatorium, Sullivan County, N. Y., has recently had built an addition in the form of a charitable annex. The patients in this part of the institution are charged five dollars a week and receive—over and above their board, lodging, medical attendance, medicines, and laundry—the same treatment in the way of scientific cure and supervision as in the main sanatorium. The deficit between the five dollars a week charged to the patients and the actual cost of maintenance is made up by a maintenance fund raised annually by a subscription. Dr. J. Edward Stubbert, physician in charge at the main sanatorium, visits the annex once a week as consulting physician, while two of its resident house physicians constitute the regular visiting staff, making daily visits and keeping daily office hours at the annex. The nurses are furnished from the training-school at the main sanatorium. The annex has a capacity for twenty-four patients, and at present contains twelve. It is hoped that funds may be raised to enlarge the institution, so that many more patients may be cared for. The various medical examiners for the main sanatorium will also examine applicants for admission to the annex, but the rules for receiving only incipient cases are even more rigidly enforced in the case of the latter establishment than in that of the former.

American Academy of Medicine.—The twenty-sixth annual meeting of the American Academy of Medicine will be held at the Hotel Aberdeen, St. Paul, Minn., on Saturday, June 1, 1901, at 11 A.M. (executive session; the open session beginning at 12 M.), and continuing through Monday, June 3d. The principal features of the meeting will be a symposium on "Institutionalism," and another on "Reciprocity in Medical Licensure." Series of valuable papers on both topics have been promised, as well as interesting papers on some other subjects. The president's address (S. D. Risley, M.D., of Philadelphia) will be delivered on Saturday evening, June 1st, and the annual social session will be held on Monday evening, June 3d. Members of the profession are always wel-

comed to the open sessions of the Academy. The secretary (Charles McIntire, M.D., Easton, Pa.) will be pleased to send the programme, when issued, blank applications for fellowship, etc., when requested to do so.

New York Academy of Medicine.—At the next meeting, April 19th, there will be a symposium on "Dull and Mentally Deficient Children," conducted by the section on pediatrics. A goodly number of speakers will present different phases of the subject, and the occasion promises to be a most interesting one.

Christian Science in Berlin.—The *Deutsche Evangelische Kirchen-Zeitung*, the leading Protestant organ in Germany, bitterly complains that of late "the so-called 'Christian Science' has been imported from America, and is now being spread by Americans residing in Germany, particularly in Berlin." The paper declares that the movement is making rapid progress among the higher, and even the highest, classes, although exclusively among women so far.—*New York Times.*

Cutaneous Manifestations in Diabetes.—Dr. S. Sherwell, of Brooklyn, writes: "I would respectfully ask (a thing not often necessary) for a correction of a report in your journal of April 6, 1901, p. 557, of my remarks in connection with the consideration of cutaneous manifestations in diabetes. I did not use the expression 'generalized scleroderma,' but 'generalized xeroderma,' a somewhat different thing. As also I referred to the appearances within the mouth and upper air passages 'of the gummy *mucus*' (not mucous membrane), reminding one of the 'ribbed sea sand, or ooze,' left by a retreating tide—thus, as will be seen, infusing a tender poetic touch into an already sweet theme."

Anti-Spitting Crusade.—The crusade against promiscuous expectoration in public places and street cars is proceeding with great spirit, and, it may be presumed, with a fair measure of success. A number of persons who indulge in this filthy habit, careless of the health of others and of the ordinary decencies of life, have been arrested, and the majority of them fined. This energetic action on the part of the president of the board of health must be highly commended, as the notices of the board were more "honored in the breach than in the observance"—were practically, in fact, regarded as a dead letter. The fining of offenders should be a salutary warning to others who may be accustomed to spit wherever they feel inclined.

Public Schools' New Roof Gardens.—It is proposed to remodel the roofs of many of the public schools, in order to facilitate an experiment which is to be tried this summer in connection with the vacation schools. It is intended to teach the pupils of the public schools gardening. Looking around for a suitable place for practical study, the attention of the superintendents was drawn to the roofs of the different school buildings. The greatest difficulty to be overcome in such a garden would be the high winds and their consequent menace to the safety of the plants. This danger is to be guarded against by arranging wind breaks, in the shape of high walls. To make the school roof garden practical, as many of the plants if set out at the usual time would hardly be started before the summer vacation began, forcing-frames will be built. In them seeds may be planted even in midwinter. These frames under glass are to be arranged around the sides of the roof and protected from the winds by the high walls of the building. This will enable the children to raise plants on the roof from early March until midsummer. A row of boxes filled with soil will be added, in which new seeds can be sown, or to which the growths in the forcing-frames can be transplanted. A real true garden, as the children say, can thus be established. Not only annuals, but perennials, will be grown.—*New York Herald.*

Medical Decorations.—A supplement to the *London Gazette*, March 19th, announces that King Edward has appointed Sir William Henry Broadbent, M.D., to be Knight Commander of the Royal Victorian Order and A. R. Manley, M.D., to be a member of the fourth class of the same order. Dr. Manley is a country practitioner in Norfolk, the county in which Sandringham, the former country seat of the king, when Prince of Wales, is situated. Dr. Manley had been for many years surgeon apothecary to the Prince of Wales, and had attended him and his family when in Norfolk. Dr. Manley has been given the same position with the king.

Home for Inebriates.—Senator Trainor introduced, on April 5th, a bill to incorporate the Inebriates Home for New York City. By the provisions of the bill, the city of New York is authorized to pay the home a sum not exceeding five per cent. of the annual revenues of the liquor-tax law, for the care and support of habitual drunkards committed to the home by any magistrate, and for the founding, equipping, and maintaining of the home; or the city authorities may contract with the home to care for destitute drunkards and pay for their care out of the excise revenues. The home may take private patients at private rates, and the expense of their care and support is not to be charged to the city fund assessment.

Dr. Vaughn on Women Medical Students.—Dean Victor Vaughn, of the University of Michigan, has given vent to an expression of opinion with respect to female students of medicine which will doubtless raise the ire of those who hold that women are as well fitted to engage in the liberal professions as are men. Of course Dr. Vaughn restricts his remarks to embryo lady doctors. Speaking before his class in hygiene and taking as his text "Women's lack of originality," Dr. Vaughn said: "Once a year I like to tell my opinion of women engaged in the study of medicine. In text-book work generally a woman student will make a better recitation than a man, but when it comes to relying on personal judgment she nearly always fails in efficiency. There are brilliant exceptions to the rule, but when a young woman is thrown on her own resources in a laboratory she fails to come up to the standard set by the students of the opposite

sex"; which means that a woman, although industrious and able to retain facts learned from books as well as a man, is lacking in self-reliance, and is, therefore, placed at a disadvantage when it comes to research or practical work.

Two Women Doctors in South Carolina.—Two young women have just been graduated from the Medical College of South Carolina. They are the first women graduates of the institution and also of the State.

Smallpox and the Glasgow Exhibition.—In view of the exhibition, says *The Hospital*, so shortly to be opened in Glasgow, strenuous efforts are being made to arrest the smallpox epidemic, more especially by vaccination. A large number of students are being employed to go from house to house in the poorer districts to vaccinate the inhabitants. Primary vaccination can be effected only by registered medical men, and a large number of these are also being invited to join the crusade.

Dr. W. W. Keen.—A portrait of Dr. Keen, professor of the principles and practice of surgery in Jefferson Medical College, has just been presented by the students of Jefferson Medical College to the college, the presentation address being made by Dr. J. Chalmers Da Costa, and the speech of acceptance by Mr. William Patten, president of the board of trustees. Dr. Keen has been granted a year's leave of absence, and contemplates a tour of the world.

College of Physicians of Philadelphia.—At a stated meeting held April 3d, Dr. James Tyson read a "Memoir of the Late Dr. William Pepper." Dr. S. Ormond Goldan, of New York, read by invitation a paper entitled "Nitrous Oxide and Oxygen as a Surgical Anæsthetic; Description of a New Apparatus for Administering these Gases; Report of One Hundred Operations, the Narcosis Lasting Half an Hour and upward; Remarks Regarding the Use of Nitrous Oxide as a Preliminary to Ether in General Anæsthesia." Dr. Goldan made a plea for the careful training of hospital physicians in the administration of anæsthetics, and also for the selection of that anæsthetic agent best adapted to meet the indications in the individual case. He showed that the combination of nitrous oxide and oxygen may be employed with safety and with the avoidance of many of the dangerous and disagreeable effects of other anæsthetics. While the cost is considerable, this fact would not weigh in the matter of saving life. The discussion was participated in by Dr. John D. Thomas, Dr. Thomas R. Brown, of Baltimore, who spoke especially of the use of nitrous oxide and ether, and Dr. John G. Clark.

Precautions against Rinderpest.—Rinderpest has been reported to exist in the Philippine Islands. Secretary Wilson has accordingly recommended to the secretary of war that every precaution should be taken to prevent its introduction into the Hawaiian Islands and the United States by the agency of animals conveyed on government transports. He further requested the secretary of the treasury that special measures be enforced on the Pacific coast, to prevent the landing of susceptible animals without their being turned over to the Department of Agriculture for quarantine, under the supervision of the Bureau of Animal Industry. Rinderpest is the most deadly disease to which cattle are prone. It is contagious in a high degree, and in times gone by has frequently swept through Europe, destroying nearly all the members of the bovine tribe. In Africa during the past two or three years the disease has been very conspicuous by its ravages. In many districts of that continent it killed from ninety to ninety-five per cent. of all cattle. Inoculation has somewhat restricted the scope of its devastations, but it still remains a serious, if not the most fatal, disease to cattle.

To Create a Board of Parole.—Senator Wilcox's bill, providing for the creation of a board of parole, to parole prisoners confined in the State prisons and the Eastern Reformatory at Elmira, was passed.

Bill for a Superintendent of Forests.—The assembly passed the senate committee bill, providing for the appointment of a superintendent of forests, who is to have general supervision of the forest preserve and forestry interests of the State.

Physicians for the Newfoundland Sealing-Fleet.—For the first time in the history of the Newfoundland sealing-fleet, says the Canadian correspondent of *The Lancet*, physicians accompanied it. The fleet numbers about six thousand sailors, and left St. John on March 9th.

Philadelphia Academy of Surgery.—At a stated meeting held April 1st, Dr. John A. Wyeth, of New York, read a paper entitled "Amputation at the Hip Joint for Sarcoma; the Tendency to Recurrence." The discussion was participated in by Dr. W. B. Coley, of New York; Dr. J. C. Bloodgood, of Baltimore; and Drs. W. W. Keen, John B. Deaver, and Simon Flexner, of Philadelphia. The meeting was followed by a reception at the Hotel Bellevue.

Compulsory Vaccination Sustained by the Supreme Court of Pennsylvania.—The city of Philadelphia and the State of Pennsylvania are to be congratulated upon a decision rendered by the supreme court of that State, sustaining the ruling of a lower court, to the effect that an act making the vaccination of children a prerequisite to admission to the public schools is constitutional and valid. The wisdom of the court is exibited not less in its decision than in the grounds therefor. "We think," the opinion says, "that the court below did not err in the ruling referred to in the assignments. In Duffield *vs.* Williamsport School District we held that school directors, in the exercise of a sound discretion, may exclude from the public schools, pupils who have not been vaccinated. Whether a resolution excluding from the school, pupils who have not been vaccinated, is a reasonable one is to be judged of in the first instance by the school directors. In the present state of medical knowledge and of convincing opinion of those having charge of the public health, the courts

will not say that such a resolution is an abuse of official discretion." The decision was the outcome of a mandamus suit brought in the city of Philadelphia by the father of a child that was denied admission to a public school on account of not being vaccinated in accordance with a rule of the board of education and an act of assembly. The demurrer of the plaintiff was overruled by the court of common pleas, and this decision has now been sustained by the supreme court.

Smallpox in Ontario.—The situation as regards smallpox in this Canadian province is stated to be serious. Ontario is on the verge of a smallpox epidemic. The disease is widely disseminated, being located in fifteen centres, and something like one hundred cases have been reported, with two deaths.

Navy Department, Bureau of Medicine and Surgery, Washington D. C.—Changes in the medical corps of the navy for the week ended April 6, 1901. Dr. A. E. Peck appointed assistant surgeon from March 24, 1901. Medical Director W. K. Scofield placed on the retired list, April 28, 1901. Surgeon G. Pickrell granted sick leave for three months from April 2d. Assistant Surgeon E. M. Blackwell detached from the *Abarenda*, upon reporting of relief, and ordered home to wait orders. Assistant Surgeon R. C. Marcour detached from Havana naval station and ordered to the *Abarenda* after temporary duty on the *Philadelphia*, May 4th. Assistant Surgeon E. Davis granted sick leave for three months. Medical Director G. F. Winslow detached from Boston navy yard, April 18th, and ordered home to wait orders. Medical Director E. Bogert, retired, ordered to the Boston navy yard, April 18th. Passed Assistant Surgeon E. R. Stitt, commissioned surgeon from June 7, 1900. Pharmacist J. Cowan detached from the *Glacier* and ordered to the *Manila* and to additional duty at the naval hospital, Cavite. Surgeon C. F. Stokes detached from the *New Orleans* and ordered to the *Solace* upon her arrival on the Asiatic station.

Timber Preservation.—The *New York Tribune*, Sunday, March 31st, says: "The forestry division of the agricultural department is engaged in drafting a working-plan looking to the conservation of the timber on a tract of three hundred thousand acres in the neighborhood of Millinocket, Me., belonging to a private paper corporation. It is part of a general policy to be inaugurated by the department for the conservation of timber land throughout the United States to secure a perpetual crop of timber in the areas under consideration. The private concern will pay all the expense of the work, except the salaries of the government experts, who are directed by Professor Gifford Pinchot, chief of the division."

Amending Christian Science Bill.—Assemblyman Bell, in view of the opposition to the above bill in its present form, has proposed to amend it in order to remove all opposition. This action on the part of Mr. Bell has, according to the *New York Tribune*, Sunday, March 31st, displeased the members of the Medical Society of the County of New York. Mr. Bell sent word that he would like to hold a conference on the subject with Drs. Frank Van Fleet and Robert T. Morris and a delegation of Christian scientists. Dr. Van Fleet said it looked as though a mistake had been made in allowing Mr. Bell to present the society's bill. He added that the bill would go through in the form in which it was originally drafted or Mr. Bell would be responsible for the alterations.

American Losses in the Philippines.—The losses of our troops in the Philippines since August 6, 1898, are as follows: Killed, 741; died of wounds and accident, 472; died of disease, 2,295; total deaths, 3,508; wounded, 2,638; grand total, 6,146.

Death of a Well-Known Australian Physician.—Dr. Leo E. F. Neill died suddenly of pneumonia at Sydney recently. The deceased had a brilliant career at Sydney University, where he was graduated with honors in medicine in 1890. He was then resident physician at the Prince Alfred Hospital for two years; after which he visited America, and made himself familiar with the methods obtaining in the leading hospitals there. On his return to Australia he settled in Sydney, and quickly made his mark.

Death of an Eminent Foreign Medical Man.—Dr. Manassein, of St. Petersburg, one of the most distinguished physicians in Russia, died quite recently. He was born in Kazan in 1841, and after studying medicine in Moscow and Dorpat travelled abroad to various foreign universities. At Tübingen he worked under Professor Hoppe-Seyler, and was entrusted by him with the charge of the "castle laboratory." On his return to Russia Dr. Manassein became assistant to Professor Balkin, and in 1876 was appointed clinical professor. His chief work lay in experimental pathology. For many years he was editor of the chief Russian weekly, the *Vrach*.

Obituary Notes.—Dr. R. Erskine Johnson, one of the resident physicians in the State Hospital for the Insane at Danville, Pa., died on April 3d, at the age of thirty-five years, after having been struck several times by a patient whose temperature he was in the act of taking. Post-mortem examination showed that death had resulted from a wound of the aorta made with a knife blade.

Dr. Charles Roy King died at Torresdale, Philadelphia, on April 5th, at the age of eighty-eight years.

Dr. William Stites died on February 22d at his home, Washington, N. J., aged sixty-eight years. He was graduated from the University of Pennsylvania in 1868. He was the prime mover in organizing the Washington board of health, and for many years was its president. He was also division surgeon of the Lackawanna Railroad up to last December, when he resigned. He was a member of the Warren County Medical Society, the Lehigh Valley Medical Association, and the Tri-County Medical Association, having been president of the first-named organization in 1892. He was also quite prominent in Masonic circles, having been a member of Temple Chapter No. 12,

R. A. M., and a Past Master of Mansfield Lodge No. 36, F. and A. M., and was a devoted and helpful member of the Methodist Episcopal church of Washington.

Dr. William Taliaferro Hord, medical director of the United States navy, retired, died at his home in Washington on April 1st after a seven weeks' illness. Dr. Hord belonged to a distinguished Virginia family. He was born in Maysville, Ky., on March 3, 1832, his father being Judge Francis Triplett Hord. Dr. Hord was educated at the University of Pennsylvania, and was appointed an assistant surgeon in the navy in 1854. He served with distinction during the war, being with Gen. William Nelson from Pittsburg Landing to Corinth, and in the South Atlantic blockading squadron, and in the operations about Charleston. A widow and two sons survive him.

Dr. Alfred Spearman, of Milwaukee, died at Philadelphia April 1st, as the result of a surgical operation, at the age of sixty-nine years. He was born at Smyrna, Del., and was graduated from Jefferson Medical College in 1852.

Dr. John H. Grove died at Philadelphia, on April 6th, at the age of seventy-six years. He was graduated from the medical department of the University of Pennsylvania in 1849, and at the outbreak of the Civil War became a brigade surgeon in the United States volunteers, with the rank of major. He later became lieutenant-colonel, and he served until 1865. He was medical director of St. Agnes' and St. Mary's hospital and a member of numerous organizations.

Progress of Medical Science.

New York Medical Journal, April 6, 1901.

The Comparative Pathology of the Jews.—Concluding article by M. Fischberg. The ideas advanced are summarized in the following propositions: (1) The death rates of the Jews, at all ages, are relatively and absolutely lower than those of the people among whom they live. (2) The marriage rates and birth rates of the Jews are smaller than those of the Christians; the Jews increase in number more rapidly than non-Jews because they lose by death relatively fewer children and bring more to maturity. (3) The Jews die less often than their neighbors from many of the infectious disease, particularly epidemic cholera, smallpox, and tuberculosis. (4) Syphilis and alcoholism, and also diseases due in great measure to their poisons, are comparatively rare among the Jews. (5) Diabetes is very frequent among the Jews. Most observers have recorded that almost twenty-five per cent. of all the cases of diabetes occur in Jews. (6) All the functional neuroses and psychoses, particularly neurasthenia and hysteria, occur more frequently among Jews than among non-Jews: while all the organic nervous diseases, as tabes, general paralysis, etc., are less frequent, commensurate with the infrequency of syphilis and alcoholism among them. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is met with among Jews between two and five times more often than among Christians. (7) Blindness, color-blindness, trachoma, and glaucoma, and also varicose veins, particularly hemorrhoids and hernias, are very frequent among Jews. (8) All these peculiarities in the comparative pathology of the Jews are not due to any ethnic, "biostatic," or racial characteristics of a purely anatomical or physiological nature in relation to non-Jews. They have their origin in the past history of the Jews, in their habits of life, and in the fact that syphilis and alcoholism have but rarely been seen among them. (9) Where the Jew is commingling with his Christian neighbors and adopts their customs and habits of life, he sooner or later loses his "racial characteristics," and his comparative pathology presents no special peculiarities.

The Active Principles of Digitalis Leaves.—By J. W. England. The author discusses the various and conflicting statements made by different authorities on the subject of the principles of digitalis leaves and concludes by saying that the chemistry of the latter cannot be regarded as being satisfactorily settled. If the claim that the glucosides of the leaves are different chemically from those of the seed is a fact—and it seems singular that such a difference should exist between the glucosidal principles of the leaves and of the seed of the same plant—it means that equally as great differences in the physiological activities of the principles may exist, and these differences, if existent, would serve to explain much of the seeming confusion that has heretofore obtained in the reports made by different investigators upon the chemical nature and the physiological properties of digitalis principles. New investigations are needed upon the glucosides prepared from the leaves (not from commercial products obtained from the seeds); and these investigations should be made along new lines, leaving unconsidered all the work that has been heretofore done upon digitalis principles.

Rectal Feeding in Throat Diseases.—A. C. Bardes claims that many cases of throat disease require artificial feeding in order to remove every possible cause of irritation from the diseased structures. He includes among the conditions to be so treated, diphtheria, tuberculosis, and hay fever with asthma. The advantages of the method are: (1) The throat, being at rest, is not irritated. (2) Struggling in children is obviated. (3) The progress of the disease is shortened. (4) There is no danger of food entering the laryax. (5) The physician is able to give such food and stimulation as he wishes to give. (6) The food is not bolted, as it is when swallowing is painful.

The Pathology of Intra-Uterine Death.—By Neil McPhatter.

The Medical Aspect of Christian Science.—By W. M. Polk.

Medical News, April 6, 1901.

The Question of Drainage in Appendicitis.—A. M. Pond, in discussing this subject, states that the peritoneum is capable of disposing of large quantities of pus under favorable conditions, chief of which is equal distribution over the peritoneal area. In order to accomplish this, some agent must be used which is capable of dissolving pus and pus-forming elements. In relation to the choice of this agent, several points are important: sterility, because a species of bacteria, which by itself is often inert or latent, becomes, when combined with another, the source of a rapid infection; power of holding in homogeneous solution the blood and blood clots incident to the operation as well as the pus, in order to allow equal distribution over the peritoneum; stimulation of absorption, so that all septic material may be removed as soon as possible. Hot saline solution is very effective and fulfils all the requirements. Increased hepatic activity is another step in the right direction. Posture is of great advantage in these cases: elevation of the foot of the bed gravitates the fluids toward the diaphragm where absorption is increased by means of the diaphragmatic lymph spaces. The author reports six cases in which after the operation the peritoneal cavity was flushed with hot sterile salt solution, while a gloved hand searched the abdomen for more abscesses. The fluid was then gently pressed out, the cavity wiped with sterile gauze, then filled again with the hot saline solution, and the wound closed. When the technique was unquestioned, the results were most satisfactory. The author believes the old maxim is about to be revised to "when in doubt, do not drain."

New Methods in Charity, with Better Results and at Less Cost.—William P. Spratling recommends the following: (1) Prevent insanity, epilepsy, imbecility, idiocy, and feeble-mindedness as far as possible by making it impossible for persons so afflicted to marry. (2) Build less expensive structures in which defective and dependent State charges shall live. (3) Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured. (4) Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance may be lessened, or in the outer world, when they leave the institution, after the State has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

Resection of the Cervical Sympathetic.—By Howard J. Williams.

Advertising in the Profession.—By Frank Lydston.

The Boston Medical and Surgical Journ., April 4, 1901.

Diseases of the Myocardium.—Henry Jackson says, among other things, that the existence of a murmur does not necessarily imply the presence of an organic valvular lesion. It may be a functional murmur, or it may indicate a disease of the myocardium. The author classifies these

diseases as follows: (1) disturbance of the circulation; (2) inflammatory processes; (3) degeneration; (4) various new formations—tumors; (5) hypertrophy and dilatation. He speaks in detail of the changes which give rise to symptoms producing the clinical picture of "heart disease."

The Condition of the Myocardium as Affecting Cardiac Murmurs.—H. D. Arnold says that whenever a murmur exists it is of great importance to investigate the condition of the myocardium. By so doing we may find the cause of the murmur in an entirely remediable condition of the cardiac muscle, and we may save ourselves the mortification of ascribing it to incurable valvular disease, and we may spare our patient the life of worry and dread which the latter diagnosis so often causes.

A Further Note on the Treatment of Epidermoid Cancer.—Francis H. Williams reports a case in which an epidermoid cancer of the lip was healed by exposure to the radiation from an excited Crookes tube. Photographs of the patient before and after treatment illustrate the article.

A Case of Ununited Fracture of the Femur in a Child in which the Non-Union was Due to the Formation of a Cyst at the Ends of the Fragments.—By J. E. Goldthwait.

Paraplegia Existing from Birth; Laminectomy at the Age of Five and One-Half Months.—By R. W. Lovett.

Multiple Plexiform Fibromata.—By H. L. Burrell.

The Jour. of the Amer. Medical Ass'n, April 6, 1901.

Some Observations in Renal Surgery.—W. H. Allport reviews fourteen cases and summarizes the errors with which they appear to have been fraught, drawing the following lessons therefrom: The surgeon should not attach too great weight to the recollections or the subjective symptoms of the patient, unless they are borne out by the physical signs. Nevertheless, due weight should be given to statements made by intelligent patients, especially in cases in which the objective testimony is abundant but confusingly contradictory. No diagnosis of tumor or structure is complete until consideration has been given to the possibility of the encroachment by organs or growths on the normal sites of organs which *prima-facie* evidence would lead us to believe to be the ones involved. Every diagnostic resource should be followed up faithfully to its logical conclusion. In operation, the ureter should be properly cared for. Kidney stumps should not be ligated with silk. Too deep incisions into the kidney structures are dangerous. The kidney and the operation wound should not be closed primarily after nephrotomies. Drainage for a few days, at least, is much safer. A kidney riddled with sinuses is best removed. It is an error to base an incision on any preconceived idea of diagnosis.

The Relation of Indicanuria and Oxaluria to Gastro-Intestinal Fermentation.—J. A. Wesener states that traces of oxalates are found normally in the urine, having been taken in with the food. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded. Abundance of oxalate crystals does not signify high acid percentage, because, in addition, there may be oxalate of lime in solution. Indican is often, but not necessarily, associated with oxalate crystals. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acid or acids of fermentation. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased. The symptoms of oxalic-acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred. The study of oxaluria and indicanuria holds open a rich field for investigation.

A New Leg Splint for Transverse Fracture of the Tibia.—Edward A. Tracy, in describing this splint, states that after the fracture is reduced, a piece of wood-plastic material is suitably cut, moistened with water, and bandaged snugly upon the limb directly next the skin, so that it embraces the shin bone. The middle line of the long axis of the splint coincides with the anterior border of the tibia. This splint, lying next the skin, gives an efficient immobilization. It is light, cheap, and durable. At any time the surgeon can inspect the bone by unwinding the bandage and lifting up the splint. It permits of massage, which is very important. There are no bits of wood nor tin strips to be kept in place, no cotton batting to impair fixation, no flannel bandage, and no mussy application of plaster-of-Paris. Should the apparatus need to be loosened in the absence of the surgeon, it can be done by unwinding the bandage.

Chloralose.—James Tyson concludes that chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphine. From a large experience with chloralose, the author believes that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. The drug needs to be further studied. The maximum dose is gr. v. in a capsule, which may have to be repeated in not less than an hour; it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued.

Individual Prophylaxis.—W. A. Evans, in regard to bacterial disease, speaks of four factors which tend to aid it. (1) Mental depression. This is an important factor in the beginning of infection. (2) Overexertion with its effects is most commonly observed, causing a condition of non-resistance. (3) Cleanliness: dirt is one of the elements of bad hygiene. The author calls attention to the interesting fact that wounds on the hands of farmers and machinists, in whom cleanliness is not possible, seldom suppurate. (4) Exposure to cold, to heat, to wet, etc., can determine infection in both man and the lower animals. The author believes that the individual can become hardened so that these factors will cease to predispose to infection.

Statement Made before the Committee on Public Health of the New York Assembly, at the Public Hearing on Assembly Bill 759, Regulating and Legalizing the Practice of Osteopathy in the State of New York, and Fixing Penalties for the Violation Thereof.—By Jacob Bolin.

Syphilis as a Non-Venereal Disease, with a Plea for the Legal Control of Syphilis.—By L. Duncan Bulkley.

Some Additional Observations on the Effects of Injury to Peripheral Nerves.—By D. S. Fairchild.

Recent Clinical Observations on Tinea Versicolor.—By Charles Warrenne Allen.

Post-Operative Nervous Phenomena or Artificial Menopause.—By Joseph Price.

Pure-Food Legislation vs. Poor-Food Legislation.—By Murray Galt Motter.

Experiments with an Epidemic of Rabies in Buffalo.—By Ernest Wende.

An Operation for Cystocele.—By George H. Noble.

Philadelphia Medical Journal, April 6, 1901.

Suprarenal Capsule; its Use in Rhinological Operations.—Charles C. Royce believes that this drug prevents secondary hemorrhage and reduces the amount of primary hemorrhage to as small an amount as possible in all operative interference within the nose. In performing a turbinectomy, the naris is packed with a cotton tampon soaked in a five-per-cent. solution of cocaine. This is retained in the naris about ten minutes when it is renewed. But the second cocaine-soaked tampon is rolled in and covered with dry suprarenal capsule. The second tampon is replaced by a third, soaked only in the five-per-cent. cocaine solution. Thus complete and protracted anæsthesia is obtained. In the treatment of hay fever the author has observed much benefit from the insufflation of the dry powder but not from the internal use. He gives the following formula:

℞ Cocaine (pulv.) ..... gr. ij.
Suprarenal capsule ..... ʒ iij.
Starch ..... enough to make ʒ i.
M. S. Insufflate ad lib.

In conjunction with this he used the following with the happiest results:

℞ Heroin ..... gr. i.
Atropinæ sulph ..... gr. ¹⁄₁₅₀
Caffeinæ cit ..... gr. xv.
Sodii salicylatis ..... gr. lxxv.
M. ft. cap. No. xv. Take one three times a day.

A Preliminary Communication of a Study of the Brains of Two Distinguished Physicians, Father and Son.—Edward Anthony Spitzka, in describing these brains, thinks that perhaps the most significant feature common to both is the exposure of the insula. Heretofore it has been only in the brains of deaf-mutes, of negroes, of idiots, and of the defective classes generally in whom the opercula are commonly atrophied, that the insula has been found visible. Thus it was regarded as an indication of inferior development. The brains of the Seguins, however, present the very reverse type. Neither are the opercular regions at all defective, though they fail to come into typical apposition. The explanation is that the left preinsula is far better developed than its fellow on the right side. But in the Seguin brains this redundancy of development upon the left side is so pronounced that the insula, in a quasi-struggle to reach the general cerebral surface has virtually thrust apart the opercula and made itself visible. Thus, in the highly intellectual, the causes potential in insular exposure are the excessive growth and development of the left preinsula, causing the operecula to become thrust apart. The defective exposure of the preinsula is due

to deficient development of the opercula and to the failure of these to approach each other.

A Correlation of Some Facts in the Propagation of Yellow Fever with the Theory of its Conveyance by the Culex Fasciatus.—By H. R. Carter.

The Prophylaxis of Venereal Diseases: Medical Aspects of the Social Evil in New York.—By Prince A. Morrow.

General Metabolism in Diabetes Mellitus—By David L. Edsall.

On Certain Disorders of Sleep.—By Charles A. Dana.

Santiago as a Yellow-Fever Centre.—By L. C. Carr.

A Clavicle Crutch.—By Carter S. Cole.

A New Tenaculum.—By R. C. Coffey.

Bulletin of the Johns Hopkins Hospital, March, 1901.

The Genesis of Carcinoma of the Fallopian Tube in Hyperplastic Salpingitis, with Report of a Case and a Table of Twenty-One Reported Cases.—E. R. Le Count reports a most interesting case of this nature, in which the os abdominale was evidently open, since there was not formed the usual sac, and invasion of the peritoneal surface and adjacent tissues probably took place through this opening, by continuity of surface. About nine or ten weeks after the first operation in which the much enlarged and thickened left tube was removed, ascites reappeared and on vaginal examination a tumor the size of an orange was found on the left side. A second operation was performed and the entire peritoneum was found studded with papillomatous growths varying in size, some as large as a hen's egg. The similarity in method of growth and general histological structure to proliferating cystadenomata of the ovary is continued in the comparative benignancy of the peritoneal metastases.

An Experimental Study Concerning the Relation which the Prostate Gland Bears to the Fecundative Power of the Spermatic Fluid.—George Walker draws the following conclusions from his experiments: A removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminishes the fecundating power; and in a few this is destroyed entirely. Complete excision has a very marked effect on fecundity, reducing it to almost nil when the gland is entirely removed. Partial or complete removal of the prostate has no effect upon the sexual desire and capacity. Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

Report upon a Case of Gonorrhœal Endocarditis in a Patient Dying in the Puerperium; with Reference to Two Recent Suspected Cases.—By Norman MacLeod Harris and William M. Dabney.

Further Observations on Epinephrin.—By John J. Abel.

The Lancet, March 30, 1901.

Note on the Treatment of Collapse of the Ala Nasi.—By W. J. Walsham. Normally, the lower lateral cartilage is doubled on itself U-like, the inner part being in contact with the lower part of the septum, while the external forms a part of the outer wall of the vestibule. The natural stiffness of the cartilage ordinarily keeps the naris open. Frequently the cartilage is collapsed so that the naris becomes almost closed. The author has tried the various dilators used for the purpose, but none of them has proved satisfactory. One of his patients resorted to the unique plan of rolling up a piece of moist cotton-wool into a ball of the size of a small pea which he poked up the vestibule into the little pit just within the limen at the angle of bending of the lower lateral cartilage. This tiny ball of cotton-wool was just sufficient to prevent the ala from collapsing, and it gave the author the clue to the method of curing the condition. It struck him that if, in place of the cotton-wool ball, he could transplant there a ball of the patient's own tissue, he would obtain the same end, and this he succeeded in doing in the following way: A strip of mucous membrane as thick as possible and about three-sixteenths of an inch in width was dissected up from the inner wall of the vestibule, leaving the base attached above. The surface of the little pit at the angle of bending of the lower lateral cartilage was next made raw by removing the epithelial layer. The epithelial lining was also removed from the little strip of tissue; the tissue itself was rolled up bandage-wise and then secured to the rawed surface of the pit by a stitch of the finest fishing-gut passed by a needle through the septum into the opposite nostril and back again. When thus fixed the little roll of tissue pressed out the external portion of the lateral cartilage just enough to prevent the ala during inspiration from falling into contact with the septum. It cannot be seen and produces no deformity, and, so far as the author's observation has gone, it is a permanent cure for this troublesome condition.

Some Recent Developments in the Administration of Anæsthetics.—By F. W. Hewitt. The author mentions particularly the modern employment of nitrous oxide gas succeeded by ether, and notes some of the annoyances which are occasionally experienced. The principal one arises from the sudden change from one agent to the other. Sometimes the sudden transition causes asphyxial difficulties; if the anæsthetics are gradually mixed, the channels of the inhaler through which the patient breathes are so circuitous and narrow that an unpleasant and undesirable stress is thrown upon respiration. At other times, delay is caused by measuring out doses of ether, the patient is distressed by the rushing noise of the nitrous oxide, whilst the too familiar odor of the other anæsthetic is not wholly prevented. Or, finally, the apparatus employed cannot be thoroughly cleansed after each administration. Hewitt has accordingly devised an inhaler (figured in his paper) in which the channel for the introduction of the ether is made sufficiently capacious to avoid the annoyances sometimes experienced.

A Case of Malformation.—By W. R. H. Stewart. The patient was a child who had a double hare-lip, a double cleft palate (wide and extending the whole length), and a deep central ulcer on each cornea. There were half-a-dozen supernumerary auricles scattered about the face, the largest situated just below the left extremity of the lower lip and the remainder distributed over the left side of the face and neck. On the right side the ear was represented by a much-enlarged lobule and a portion of the tragus. No sign of a meatus could be found. There was no opening through the soft tissues and no ridge or opening in the firmer structures could be felt. A portion of the premaxillary bone having been removed, both sides of the lip were closed, the whole requiring three separate operations. The space on the right side was very great, but it closed quite well. The child died on the day following the last operation. No autopsy was made, so that the real state of the ear could not be ascertained. The left ear was normal.

A Case of Temporo-Sphenoidal Abscess Following Middle-Ear Suppuration; Operation; Recovery.—By Percy Jakins. The features of the case bear out, in the opinion of the author, the view that the presence of a polypus or granulation tissue in the external meatus indicates trouble in the antrum or attic, or both, and the simple removal of the growth through the external meatus in no way touches the disease which is causing the trouble. They also illustrate another point; namely, that in cases of suppuration from the middle ear which do not yield rapidly to treatment the advisability of the radical operation should be seriously considered, with the view not only of arresting the discharge from which the patient suffers, but of preventing deeper mischief, such as cerebral abscess. Within the last two years he has operated upon four cases of cerebral abscess caused by the extension of the mischief from the middle ear.

Cases of Injury to the Epiphyseal Line.—By R. Bucknall. This series of cases comprises separation of the lower epiphysis of the humerus without displacement, separation of the epicondylo-capitellar epiphysis of the humerus, ununited separation of the epicondylo-capitellar epiphysis, partial dislocation outward of both forearm bones at the elbow with separation of the epiphysis of the internal condyle during reduction, separation of the lower epiphysis of the radius, and separation of the epicondylo-capitellar portion of the epiphysis of the humerus.

The Treatment of Sciatica, Arthritis Deformans, and Scleroderma by Superheated Dry Air (the Tallerman System).—By Fr. Neumann. The article is a description of this method of treatment as carried out at the Landesbad at Baden-Baden. Abstracts are given from a list of clinical histories.

Selenium Compounds as Factors in the Recent Beer-Poisoning Epidemic.—By F. W. Tunnicliffe and O. Rosenheim.

A Case of Pemphigus Neonatorum in an Infant Three Days Old.—By V. J. Hodgson.

The Topographical Anatomy of the Abdominal Viscera in Man.—By C. Addison.

A Case of Landry's Paralysis.—By A. Rose.

British Medical Journal, March 30, 1901.

On Generalized Infection in Gonorrhœa.—Arthur H. Ward declares that the gonococcus in its process of growth in the human body produces an irritating toxin which is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system, where its presence causes systemic degenerations of varying degrees of intensity. Gonorrhœa is thus a general toxæmic affection; but the microbes which form the toxin are commonly localized on or around a mucous tract. The microbic invasion may extend to the organs communicating with the infected tract, or it may penetrate into the tissues, either by direct exten-

sion, as in the invasion of the peritoneum through the uterus and Fallopian tubes, or by a process of growth through the mucous membrane affected. Thence the infection may invade the cellular tissues, the lymphatics and glands, and the vascular system. This invasion is possible by the action of the absorbed toxin upon the leucocytes, which is of a paralyzing nature and prevents the encapsulation of the microbes by these cells. Through the circulation the gonococci may invade the heart and endocardium, or may be carried to the peripheral capillaries. Here they may grow and form more toxin which sets up local inflammations. The microbes invade the joints, and are found in the synovial sacs, and also in the pleura and pericardium. General treatment must vary with the general conditions, and will differ according as these are referred to toxæmia alone, or to toxæmia complicated by metastases. Local treatment is always required, and should always be free from instrumental, mechanical, and chemical violence.

An Easy Operation for Congenital Ptosis.—Freeland Fergus states that any operation for ptosis must fulfil two conditions: it must be efficient for the purpose, and it must leave no cicatrices or scars. The author has employed the following method with satisfaction: A horizontal linear incision was made in the eyebrow along its whole extent (later the hairs hide the scar). The skin was completely separated from the underlying tendon and fascia of the occipito-frontalis muscle; the separation was carried to a distance of nearly two inches above the horizontal wound. In the opposite direction the skin and fascia and portions of the muscular structure were separated from the orbicularis muscle and from the tarsus, the division being carried almost to the free margin of the eyelid. Next a vertical band of the tendon and fascia of the occipito-frontalis was marked out, about three-quarters of an inch broad and two inches long. This was dissected up from all underlying structures, and when the dissection was complete, the only attachment of the band was to the occipito-frontalis at the part farthest away from the skin incision. The end of the band was drawn down into the upper eyelid, and its margin secured by catgut sutures as near the margin of the lid as possible. The wound in the skin was closed and covered with sterilized dressing. The wound healed rapidly and well.

Note on the Peculiar Nystagmus of Spasmus Nutans in Infants.—John Thomson notes some peculiar features of this form of nystagmus. It is a convergent nystagmus. As to the etiology, spasmus nutans in infants is at bottom a co-ordination neurosis. In the rotatory nystagmus of head-shaking, the eye movements are more of the nature of circumduction than pure rotation. In them the central point of the cornea passes through an ellipse or some other more or less irregular rounded figure. This nystagmus is often vertical or rotatory, instead of being nearly always horizontal. The direction of the movements is occasionally not the same in the two eyes. Lastly, it is invariably recovered from within a certain number of months.

A Case of Congenital Hepatic Cirrhosis with Obliterative Cholangitis (Congenital Obliteration of the Bile Ducts).—By H. D. Rolleston and Louis B. Hayne.

Case of Acute Lobar Pneumonia; Empyema, and Operation during Late Pregnancy.—By H. M. Cooper.

On the Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate.—By R. T. Williamson.

Notes of a Case of Congenital Hypertrophy with Stenosis of the Pylorus.—By Anes Blackadder.

A Case of Tetanus Neonatorum successfully Treated with Antitetanus Serum.—By John McCaw.

An Address on some Clinical Aspects of Chronic Bright's Disease.—By Alfred G. Barrs.

A Vasomotor Neurosis in Varying Regions of the Same Patient.—By William Sykes.

Survival of a Premature Child Weighing Two Pounds.—By Robert Jardine.

A Note on the Knee Jerk in Chorea.—By W. Gordon.

Influenza or Mumps.—By Bernhard Smith.

Sea-Sickness.—By C. Butler Savory.

French Journals.

Perigastritis and Cancer of the Head of the Pancreas Simulating an Epithelioma of the Stomach.—Grandmaison states that anorexia, cachexia, and an easily palpable epigastric tumor found in the same individual naturally suggest the idea of gastric neoplasm. The case under consideration was that of a man aged sixty-two years, very much emaciated and in a state of profound cachexia. His skin was of a dark yellow color, and his sclerotics and the inferior surface of the tongue were of a pronounced yellow tint. He took only small quantities of milk, having a complete distaste for meat. Vomiting had ceased. There was no fever. The liver was much enlarged. In palpating the abdominal muscles there could be clearly felt a tumor, irregular, rather superficial, which appeared to be connected with the stomach. There were no subclavicular glandular enlargements. The urine contained a trace of albumin. Treatment consisted in an absolute milk diet. Death ended the patient's sufferings, and autopsy revealed cancer of the pancreas. The second part of the duodenum was surrounded in great part by the head of the pancreas. This was very friable and showed in one part the discoloration characteristic of cancer. Near the junction of the head and the body of the gland there were large lymphatic ganglia showing carcinomatous degeneration. Of the three fundamental symptoms of cancer of the pancreas, only the extreme emaciation was present. Of the other two, the enormous dilatation of the gall-bladder was lacking while the dark olive-yellow tint was not sufficiently pronounced to clinch the diagnosis. Glycosuria, which is sometimes observed in the initial stage of cancer of the pancreas, was not determined. The error in diagnosis was not only inevitable but logical, since in the last days of life there were several bloody stools. The jaundice which was present could have well been accounted for by the hypothesis of a secondary generalization of cancer of the liver and bile passages. It is sometimes impossible to avoid an error of diagnosis. Errors of interpretation are often more useful in teaching a lesson than is a brilliant diagnosis.—*La Médecine Moderne*, March 18, 1901.

Epithelioma of the Internal Surface of the Cheek.—J. H. M. states that epithelioma of this part of the buccal cavity is a little rarer than that of other parts of the mouth. The etiology is very obscure. It is more frequent in man than in woman, and is observed between the ages of fifty and sixty years. Prolonged irritations and bad hygiene of the mouth may be determining causes in patients with a hereditary predisposition. The diagnosis should be early, as operation should be performed as soon as possible. The surgical treatment is the only rational one. Contraindications to operation are great extension of the neoplasm, great glandular invasion, and advanced cachexia. Such patients could be made more comfortable by palliative treatment—hygiene and antisepsis of the mouth, liquid nourishment, or soft and non-irritating foods, application of narcotics to the ulcerations, and injections of morphine.—*Journal des Praticiens*, March 16, 1901.

Berliner klinische Wochenschrift, March 18, 1901.[1]

Tenonitis Serosa.—The history of a case of this rare disease is given by Dr. Nicolai. The patient was a laundress aged fifty-two years, who had had two attacks of rheumatism leading to cardiac complications, and at the time of coming under observation for the tenonitis she had developed a double valvular murmur. On the seventeenth day of a third rheumatic attack she developed the inflammation of the eye, described under the title given by the author. This disease has been seen as an idiopathic affection, after trauma, following exposure to cold, after gout, mumps, puerperal infection, cysticercus, influenza, mercurial poisoning, and rheumatism. It is generally of a serous nature, though purulent cases have been observed, and one case on record ended in panophthalmitis. A differential diagnosis from infectious conjunctivitis is required. The structure of Tenon's capsule has a certain resemblance to that of the serous membranes, and it seems subject to the same round of infectious influences as are the latter. In general the treatment of rheumatic cases requires, in addition to the usual constitutional measures appropriate to the rheumatic condition, only light compresses wet with boric-acid solution. When the local tension in the eye threatens the delicate structures of that organ, it is appropriate to apply leeches in the general vicinity, and, if necessary, to open the capsule to prevent atrophy of the optic nerve.

Early Syphilitic Basilar Meningitis.—By E. Hoffmann. The patient was a man aged twenty-six years, who eight days after exposure developed a primary lesion, followed in eight weeks by the usual train of secondary manifestations. He was subjected to vigorous treatment and all his symptoms disappeared, though he continued to have considerable headache. At the end of three months he appeared perfectly well. Some two months later he suddenly developed symptoms of basilar meningitis. Treatment was energetically continued, and the patient recovered after an illness of about three months. The author considers the special points of interest in the case to be (1) that the disease appeared in spite of early and energetic antisyphilitic treatment continued over a period of ten weeks; (2) that the manifestations of paralysis were markedly unilateral, and (3) that there was probably a circumscribed periostitis occurring in the early period of the syphilitic inflammation of the dura mater.

Cerebral Abscess of Aural Origin.—By Dr. Stenger. A girl of eighteen years had suffered from a chronic aural

[1] This issue is in honor of the seventieth birthday of Professor von Coler.

discharge for three years. The amount of discharge had begun to increase some eight days before she came under observation. Examination revealed evidences of mastoid involvement, and the usual operation therefor was performed. Symptoms of cerebral involvement began to appear and the skull was trephined over the left temporosphenoidal lobe. Exploration with the needle revealed the existence of a cerebral abscess some distance from the brain surface. It was opened, drained, and packed with gauze in the usual manner. The patient made a good recovery.

A Noteworthy Case of Influenza Laryngitis.—Glatzel has observed a case which he reports as belonging to the category described by B. Fränkel in 1890, in which the influenza poison seems to localize itself in the larynx, producing whitish spots on the vocal cords, which as the condition progresses apparently give place to a superficial loss of substance. Fränkel suggested that the condition was probably one of fibrinous infiltration of the cords.

The Effect on the Ehrlich Reaction of Substances Having a Strong Affinity for Ehrlich's Reagent.—By E. v. Leyden.

Technique and Indications for Dilatation of the Cervix Uteri.—By Dr. Krummacher.

The Significance of Courses of Instruction for Health Officers.—By H. Schaper.

Diaphragmatic Hernia in the Living Subject.—By Dr. Widenmann.

Extensive Ossification in the Fascia of the Thigh.—By Dr. Wegner.

Bacteriological Findings in Cerebrospinal Meningitis.—By Dr. Menzer.

Paralysis of the Superior Laryngeal Nerve.—By Dr. Dorendorf.

The Treatment of Prostatic Hypertrophy.—By Dr. Braun.

Deutsche med. Wochenschrift, March 14, 1901.

The Extermination of Tubercle Bacilli in Food Fats.—A. Gottstein and H. Michaelis conducted a series of observations to determine the temperature at which life becomes impossible for tubercle bacilli contained in fatty substances. It is known that the tubercle bacillus is surrounded by a waxy coating which renders it more resistant to the action of watery solutions, while it might naturally be inferred that in an oily medium this protective sheath would be dissolved and the organism be subjected to this damage as well as to the actual heating. Fats may be heated to a temperature of 87° C. without injury to their flavors; hence it is important to know whether this degree of heat is sufficient to ensure the destruction of the bacillus. By carefully controlled experiments it was shown that such is the case, even a five-minutes' exposure to this temperature rendering a fatty mixture containing virulent tubercle bacilli, harmless to the series of guinea-pigs used.

A Biological Proof of the Origin of the Albumin of Nephritic Urine from the Blood.—V. E. Mertens made the observation that human urine containing albumin gave the same reaction with "humanized" rabbit's serum as human blood, and was led to investigate the question whether such urine could be used as well as blood to prepare the serum. Two rabbits were taken, and one was prepared in the usual way by successive injections of small amounts of human blood, while the other received albuminous human urine. It was then found that the serum from either animal gave the characteristic precipitate with either human blood or nephritic urine, and also that this property was transmitted to the offspring. The assumption therefore seems justified that the serum reaction is specific for human serum albumin, and a direct proof is afforded that the albumin of the urine is a derivative of the blood.

A Contribution to the Genesis of Mastitis Adolescentium.—E. Franck is inclined to place this affection in a direct connection with the genital sphere and describes two well-marked cases in which confirmed and excessive masturbation was admitted. On abandonment of the habit the mammary condition receded. A further observation is that those addicted to this vice frequently manifest tenderness about the nipples.

Erythema Exsudativum Multiforme after Chemical Irritation of the Urethra.—By J. Heller.

The Treatment of Pathological Fixations of the Uterus.—By Steffeck.

The Lipochrome of the Ganglion Cells.—By M. Rothmann.

Münchener med. Wochenschrift, March 12, 1901.

The Toxicology of Arsenic.—C. Stich's observations show that in animals it is particularly the more highly specialized cells of the glandular organs and young connective tissue, and in plants the new-formed parenchyma in the neighborhood of the ducts, that undergo the first alterations in arsenical poisoning. The blood-vessels, the supporting and protective tissues of animals, and the cell walls and tube systems of plants are less susceptible. In the blood, as well as in the circulatory stream of plants, no evidence of damage as shown by coagulation is found after arsenic absorption. The ingested arsenic may be rendered gaseous; among animals certain snails, and among plants some of the molds, have this faculty. Arsenic absorbed by the fœtus through the placental circulation produces the same effects and is deposited in the same organs as in the adult.

A Case of Paralysis of the Placental Site.—A. Gerlach reports a case of this formidable post-partum complication. The patient was a primipara who was delivered with forceps and who six minutes later spontaneously expelled the placenta. There was persistent hemorrhage, although the uterus was well contracted, and the examining hand detected a boggy area corresponding to a dimpling-in of the posterior uterine wall, palpable through the abdomen. Massage, hot and cold douches, and packing the uterus were all tried in turn without effect, but the bleeding was finally controlled by ferric-chloride tampons, and the patient made an uncomplicated recovery.

Subcutaneous Paraffin Injections.—H. Meyer believes that the subcutaneous use of this agent which has been recommended by some surgeons in the closure of fistulæ, etc., is not so free from danger as its advocates assert. Experiments on animals showed that it did not remain at the site of injection, but gradually wandered through the tissues, reaching the various cavities of the body, at first by extralymphatic routes, but finally invading even these. Rabbits subjected to such injections, in the course of time exhibited serious and even fatal nutritional disturbances, which the author ascribes to blocking of the tissue channels by the material.

Alternating Mydriasis.—C. Gessner's case was that of a thirty-two-year-old woman suffering from cervical myelitis, who presented the phenomenon of alternating mydriasis. The pupils were usually unequal, but at times were dilated to the same degree, while at other times first the right and then the left would be the larger, the condition changing almost daily. The author does not think this necessarily an unfavorable sign, and states that it may be found in neurasthenia as well as in organic disease of the central nervous system.

The Treatment of Felons.—O. Schulze advises expectant treatment when necrosis exists and reports five cases in which after expulsion of the sequestrum the involucrum replaced the lost bone and union with a movable joint and useful finger resulted.

Chronic Ankylosing Inflammation of the Vertebral Column.—By O. Bender.

A Case of Cerebral Compression Cured by Operation.—By Bertelsmann.

A Case of Polyneuritis.—By T. Zahn.

Zeitschrift für klinische Med., vol. xlii., Nos. 3 and 4.

The Changes in the Bone Marrow Accompanying Leucocytosis.—H. Rubinstein counted the leucocytes of rabbits and made smears of the bone marrow obtained by resecting a rib. Some substance capable of producing leucocytosis was then injected and a second set of blood and marrow preparations made after a lapse of time varying from four hours to fourteen days. Some important observations were thus made and the author's conclusions are of great interest. (1) Leucocytosis is an exclusive function of the bone marrow. (2) After the emigration from the bone marrow of polymorphonuclear leucocytes in response to the injection of some leucocytoticum there takes place a formation of large homogeneous uninuclear cells which gradually acquire granules and thereby form myelocytes. These are the forerunners of the polymorphonuclears and undergo subsequent nuclear changes. (3) In leucocytosis of long standing the number of stored-up myelocytes may become so great as to form half of the cells present. (4) Through the formation of granules, which at first are basophile, the large homogeneous uninuclear cells develop into granular cells. (5) The development of young non-granular cells into mature granular forms takes place only in the bone marrow and not in the blood. (6) The large homogeneous uninuclear leucocytes arise from a parent form, viz., the small lymphoid elements which are found in all bone marrow. (7) These lymphoid cells of the marrow are formed on the spot and have no relationship with the lymphocytes of the lymphatic system. (8) The eosinophile leucocytes, as well as the pseudo-eosinophiles and the neutrophiles, have a common origin in the lymphoid cells of the marrow. Transitions of neutrophiles to eosinophiles are to be observed neither in the blood nor in the marrow. The author's views as to the development, by stages, of the

leucocytes in the marrow may be summarized as follows: (1) Small lymphoid cells with formed nucleus, narrow, distinctly basophile, non-granular protoplasmic area. (2) Larger lymphoid cells with larger well-formed nucleus and broad granular protoplasmic area. (3) Large lymphoid cells with a no longer distinctly formed nucleus and broad non-granular protoplasmic area, nucleus deeply staining. (4) Uninuclear non-granular leucocytes, large lymphoid cells with weakly staining round nucleus and clear non-granular protoplasm. (5) Myelocytes, uninuclear leucocytes with round nucleus and neutrophile granulated protoplasm. (6) Polymorphonuclear leucocytes with polymorphous or multiple nucleus and neutrophile granulated protoplasm. (7) The eosinophiles pass through the same stages of development with the single difference that the granules in their protoplasm are coarser from the beginning and very soon show the eosinophile instead of the neutrophile reaction.

A Case of Acromegaly.—M. A. Trachtenberg's patient was a woman aged thirty-one years, who for ten years had noticed a gradual increase in the size of her hands, feet, and face, while at the same time she was becoming stouter. For a period of several years she was much troubled by numbness of the finger tips, alternating with formication, but later this symptom subsided. Six years ago the eyesight began to grow weak, and a little later the memory became very defective, so that recent events were wholly forgotten, while what had happened during childhood was easily recollected. During the whole course of the disease she had grown progressively weaker and, of late, cardiac symptoms such as præcordial dread, palpitation, vertigo, etc., developed. On physical examination it was found that, contrary to the observations of most writers, there was no hypertrophy of the left ventricle nor accentuation of the aortic or pulmonary second sounds. A sign to which Erb's name is attached was present, viz., dulness over the upper portion of the sternum; this is thought to be due simply to the bony hypertrophy. A well-marked bitemporal hemianopsia was made out, a fact tending to support Marie's theory of hypertrophy of the hypophysis cerebri as being the cause of the lesion. It is assumed that the blood contains substances highly stimulating to growth and that it is the function of the pituitary body to neutralize these; hence when it is diseased a sort of auto-intoxication takes place, and acromegaly is therefore to be ranked with myxœdema and exophthalmic goitre. An argument against this very plausible hypothesis is the fact that the pituitary body has been found diseased in many different ways in acromegaly, both hypertrophy and atrophy having been noted, as well as new growths, yet the clinical picture is always the same.

Changes in the Chemical Composition of the Blood due to Fever.—Karl von Stejskal comments on the paucity of observations extant on the chemical changes in the blood occurring during periods of pyrexia and supplies some interesting analyses. As statistics obtained from different individuals are liable to show variations which may be purely physiological, he made his determinations on one patient who exhibited a continuous febrile movement of moderate intensity interrupted by fever-free intervals of considerable length. The physical signs pointed toward incipient pulmonary tuberculosis, though no tubercle bacilli were found in the sputum, and in addition there was present enlargement of the spleen and of the cervical and inguinal lymph glands. The specimens were obtained by venesection at the middle of a febrile and an afebrile period, respectively, the two states having in each case persisted for five or six days. As a result it was found that the fever blood as a whole had undergone diminution of its albumin and dried residue, while the water and ash were increased. Fat, cholesterin, chlorine, and iron were diminished, the calcium and potassium oxides increased, and the lecithin and sodium remained practically unchanged. Taking the serum separately, he found the most conspicuous alteration was the decrease in albumin and dried residue, with the increase of ash and water; all ether extractives were decreased, as well as the chlorides, while the potassium showed a rise. The erythrocytes were found poor in albumin, lecithin, and cholesterin, and richer in water and salts, a condition evidently indicating the imbibition of saline fluid, *i.e.*, plasma. The composition of the blood was changed in a manner to be deduced from the above, the weight of the individual red cell was raised through the absorption of plasma, while the plasma itself was diminished, with attendant reduction in albumin and gain in water and salts. The author thinks these changes referable to the temperature alone, and that other factors, such as inanition and the disease itself, may be excluded.

Aneurisms of the Aorta and Mediastinal Tumors.—P. Hampeln, in discussing the symptomatology of these two affections, lays especial stress on stenoses and pressure paralyses, the latter belonging most often to the domain of the recurrent nerves of one or both sides. Of the stenoses that of the trachea is the most important, its presence pointing strongly toward aneurism of the arch or trunk of the aorta. Out of twenty cases of tracheal stenosis eighteen were due to aneurism and only two to new growth. Of less value, because less easily recognizable, are the bronchial stenoses, which occur with aneurism or neoplasm indifferently. Œsophageal stenoses give positive evidence, but are indecisive. They more generally indicate disease of the œsophagus itself, carcinoma or stricture, and enable mediastinal difficulties in the narrower sense to be excluded. Recurrent palsies of the left side are frequently observed and have great significance. In thirty cases, aneurism was found twenty-five times and new growth five times. In doubtful cases in which other evidence is lacking, recurrent paralysis, especially if accompanied by cachexia, in those of advanced years points to new growth, while in middle age, particularly when there is a history of syphilis, aortic aneurism is also to be considered. The *x*-rays may in some instances be of great aid, though as a rule their use does not greatly facilitate the differential diagnosis between aneurism and neoplasm.

The Human Cortical Ganglion Cell as an Independent Organ.—A. Adamkiewicz, in a gracefully written article, first likens the cortex in its waking state to a mirror exposed to the light of day and reflecting all the pictures whose rays impinge upon it. This symbolizes the phenomena of consciousness, but in its ability to retain impressions and store up the images of the past to form that complex of concepts we know as experience, the mirror must also have the characteristics of the sensitive plate. But in addition to these purely reproductive faculties the cortex is possessed of creative ability, and the products of its activity during sleep we call dreams, and those of the waking state, imaginations. Experiments on the development of memory in children, and on the cerebrum itself in dogs and monkeys, have shown that experience is the result of mechanical alterations in the ganglion cells, for memory in general can be obliterated by severe concussions or mechanical injury to the brain. It is to the ganglion cell as the ultimate unit that the mental faculties as such are to be referred, and while its powers of seeing and hearing depend on its connection with the eye and ear for their relation to the outside world, these functions go on in its interior even when it is isolated, and are comprehended under the title of dreaming.

The Physical Examination of the Heart Sounds.—A. v. Holowinski, by an exceedingly complicated train of apparatus, has succeeded in photographically registering the two heart sounds and making it possible to determine the relative lengths of the silences with absolute accuracy and to plot out the waves accompanying diastole and systole. The underlying principle consists in the application to a microphone of an apparatus by which movements too small to be otherwise (even microscopically) observed are made to produce interference waves of light which may be registered on sensitive paper.

The Symptomatology and Diagnosis of Aneurism of the Aorta Perforating the Pulmonary Vessels.—By C. Hödlmoser.

The Alimentary Fluctuations in Osmotic Pressure in Man and Animals.—By F. Nagelschmidt.

Reply to Paul Edel on the Effect of Artificial Sweating on Gastric Secretion.—By A. Simon.

Intercostal Phonation.—By E. Weisz.

Archives of Pediatrics, April, 1901.

An Unusual Case of Erythema Multiforme.—Floyd M. Crandall reports a case in which the skin eruption covered every portion of the body, and over the abdomen and chest presented a mass of brilliant coloring which the writer has never seen equalled. Every peculiar form of erythema multiforme could be recognized—iris, marginatum, and annular. On the second day of the disease the throat was covered with a thick, spongy, pultaceous exudate of a grayish color, so peculiar in its appearance that the author ordered the local use of a dilute solution of peroxide of hydrogen. A few hours later the exudate had nearly cleared, the throat being still intensely congested. Altogether the attack was a peculiar one, and the inference was strong that the angina and eruption were a part of the same disease, and were the result of some unusual infection.

Duodenal Ulcer in an Infant of Ten Months.—Vanderpoel Adriance reports a case remarkable only on account of the age of the infant. The symptoms were restlessness, gastro-intestinal troubles, vomiting, constant crying, and emaciation. There was a cessation of symptoms for two weeks, and then a relapse during which the child died. Blood was vomited several times before death. The autopsy showed an ulcer of the posterior wall of the duodenum, chronic ulcerative follicular colitis, and fatty liver.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PARLIAMENT—MR. COUTTS AGAIN—SIR WILLIAM MAC CORMAC ON SOUTH AFRICAN HOSPITALS—NATIONAL HOSPITAL DISPUTE — DISCUSSION ON IMMUNITY — DEATHS OF SIR E. SAUNDERS AND MR. BARROW.

LONDON, March 22, 1901.

A VIOLENT attack on the war hospitals commission was made in the House of Commons on Wednesday. Of course it was Mr. Burdett-Coutts who denounced the commission and all its works in terms scarcely parliamentary. He has previously achieved the distinction of being contradicted by so many really eminent men that he might at least refrain from imputing evil motives to gentlemen whose integrity no one else has ventured to assail.

Mr. Brodrick appealed to the "common sense of the House" and asked on what grounds "these sinister motives were attributed to the commission." These independent gentlemen had, he said, nothing to gain by burking the truth, and had done an immense amount of hard work for the public. He was aware that there had been too few medical officers and of the circumstances which led to that, and he promised again that in the reorganization of the service he would do all possible to make it sufficient.

Sir Walter Foster again interposed his complaint that his advice had not been taken. It was more to the purpose to say civil surgeons had to be employed to eke out the insufficient numbers of the R.A.M.C. Last week I told you what the president of the Royal College of Physicians had to say about the army medical service. This week I have to add that the president of the Royal College of Surgeons took up the tale. Sir W. MacCormac spoke at the Hunterian Society's dinner on Friday, and clearly showed that many criticisms which had appeared were due to ignorance of the requirements of warfare. He said the army medical service had discharged their duties under the most unprecedented conditions, in a way to deserve the utmost sympathy. What shortcomings there were must be laid on other shoulders. That there was not an actual breakdown was a subject for congratulation, for eight hundred medical officers were called upon to do the work of twelve hundred. For six army corps there were only medical officers enough for two, and the service did not obtain the sympathy and support it deserved in high places, so that it could not be as efficient as it ought to be. It should, if useless, be abolished. If otherwise, it ought to be accorded high status and better pay. If these are refused, the service will continue depleted. The director-general did not occupy so good a position as that accorded to the chiefs of the service in other countries. It was necessary for the head of the medical staff to be adequately supported, and that his influence and pay should not be marked by contrast with other services. Sir William recalled that the present was not his first experience in actual warfare, and he declared that he had never seen the sick and wounded attended as well as had been the case during the present campaign in South Africa.

Sir William Church, whose speech at another society I mentioned in my last letter, repeated what he had said about the difficulties of transport and the overwork of the staff. He also defended the R.A.M.C. against the reckless charges made by irresponsible, ignorant writers.

The National Hospital dispute is again to the fore. The secretary-director has written to *The Times* a letter which the staff may well regard as an insult. He argues that the committee must be "permitted to continue their work free from those professional influences which are not always in harmony with the interests of the institution and of its patients."

That is the sort of insinuation which this official thinks becomes him, and he says recent events show the danger of letting the staff dominate the hospital. In his communication to the governors last July this very logical person asserted that two members of the staff, if admitted to the board, would dominate all its proceedings. Two would control the other ten! Again, he objected to the staff being on the committee, as they were only servants. Of course a secretary-director, well paid, is not a servant—unpaid honorary doctors are. Excellent logic!

Reading between the lines one cannot help thinking that the troubles of the hospital have all been brought about by this excessively logical secretary-director, and that the board would be well advised to dismiss him. Failing the courage to do this, the governors might save the hospital by dismissing both the board and their logical mouthpiece.

Immunity is a subject of such great extent and of so many ramifications that it is no easy matter to keep pace with its literature or to follow the numerous theories, or rather hypotheses, that are continually being brought forward. A discussion on the subject took place on the 12th inst. at the Medico-Chirurgical Society, when the bacteriologists had it much to themselves. Prof. Sims Woodhead opened it with a paper in which he recognized Metchnikoff's work as the starting-point of various theories: for upon phagocytosis depends the "side-chain theory" of immunity and antitoxin production. Dr. Sims Woodhead and Dr. Cartwright Wood, from some joint experiments, think they have obtained a condition in which special activities of the cell are drawn out, and they compare the cell to a many-faceted body, each facet being enabled to withstand the attacks of poisons which they have been trained to resist. As some properties or functions seem intimately bound up with the bodies of micro-organisms, so others are as closely connected with the protoplasm of cells. In so far as these are distinct, he held immunity to be distinct from antitoxin production, but in so far as they are interchangeable, immunity would run side by side with antitoxin production.

Dr. Woodhead then discussed the nature of antitoxin and said the views of Roux and others received support from numerous observations in its preparation. The marked local reaction of a toxin and the enormous amount of antitoxin in the blood—thousands and tens of thousands of times the quantities required to neutralize the toxin injected—seem to indicate that the immunizing or antitoxin stimulating substance is of the nature of a toxoid, or of a proteid molecule not very toxic, and that the process goes on long after the stimulus has been removed. He dissented from the idea that antitoxin is merely a modified toxin.

Professor Wright submitted that Ehrlich's theory of the production of antitoxins might perhaps apply to the production of bactericidal substances in the blood. The constituents of the bacterial protoplasm, being in many cases poisonous, pass in solution in the lymph when bacterial cultures are injected into the subcutaneous tissue. Thus, an analogy is seen between the injection of toxins and bacteria. A similar analogy exists between the antitoxin formation and the response by production of an antibacterial substance in the case of bacterial injections. Thus, the difference between an antitoxin and an antibacterial substance would be that one had an affinity for a constituent of bacterial protoplasm, the other for something contained in bacterial filtrate. Professor Wright had applied these observations to the production of antityphoid sera.

Dr. Sidney Martin, though not accepting all of Professor Wright's views, said the specific character of proteids was becoming clear, and it was now admitted that there was no reason why albuminous substances should not be poisonous to protoplasm.

Dr. James Ritchie remarked on the want of proportion between the amount of toxin introduced and the antitoxin which followed. Among the many questions still unsolved he cited: Why should the immunity once produced be increased; and how is it that the second dose is not neutralized by the antitoxin produced by the first dose?

Dr. Bokenham asked, How is it that patients are not poisoned by the bacteria found in such enormous quantities in the intestines? The liver was suggested as a guard, and he had introduced bacillus coli in quantity. He found the liver crowded with the organisms, but none in the blood on the other side, and it had been found that both organic and inorganic poisons were excreted by the bile.

Mr. Plimmer drew attention to the absurd misuses of antitoxins. They had actually been used in aneurisms. Any bacillus, he said, injected into an animal's veins would disappear in five or ten minutes. This applied to anthrax or any other organism.

Dr. William Hunter had introduced powerful hæmolytic bodies into the circulation; if the spleen were previously removed, no hæmolytic effect followed, showing that hæmolysis depended on the action of special cells of the kind found in the spleen.

Professor McFadyean, referring to the need of a definition, said Texas fever was now attributed to an animal parasite. Beasts born in a certain region were immune, but their blood contained the parasite and produced the disease when injected into a healthy animal.

Professor Woodhead, in his reply, said the malarial parasite has been found in the blood of children who seemed in perfect health. Immunity and antitoxin production seemed to go on side by side, but he agreed with Dr. Ritchie that they were not identical.

Sir Edwin Saunders died on Friday last at his Wimbledon home. For half a century he was dentist to Queen Victoria and the royal family. He was a fellow of the Royal College of Surgeons from 1855. He retired from practice some years ago, and at his death, which came after a brief illness, he had attained the ripe age of eighty-seven. He was a pioneer of the rise of modern scientific

dentistry. The Dental Hospital and School was deeply indebted to him, and his colleagues established a scholarship to commemorate his untiring zeal in promoting it. He was one of the founders, too, of the Odontological Society and twice its president. He also presided over the dental section of the International Medical Congress in London.

The death of Mr. Barrow, J.P., who had long been an important influence in the Isle of Wight, took place on the 7th. Some of your readers will remember him as president of the British Medical Association at the meeting in the island in 1881. He died in his eighty-seventh year, universally respected.

BELLOWS INJECTION FOR INTESTINAL OBSTRUCTION.

To the Editor of the Medical Record.

Sir: I was much interested in the leading article in your January 5th number on the "Prevention and Relief of Post-Operative Intestinal Obstruction," by Dr. Cleveland, which called to mind a rather amusing story told me by a well-known mining expert of the United States, Mexico, and Canada. As I recall the narrative, this gentleman was in the wilds of Western Canada examining a mineral district for an Eastern company when he fell in with a party of men engaged on a similar mission in a part of the country not far distant. In the party was an Englishman who, it seems, had suffered an attack of intestinal obstruction some years previous, due to a twist in the bowel, for which he had been operated upon. This man suddenly developed great abdominal pain, and his abdomen became greatly distended. Upon inquiry it was learned that his bowels had not moved in several days, and he was convinced that he was now suffering from another twist, which might have been superinduced or assisted by constipation. Various remedies were tried, including pills, castor oil, enemas, without effect. As a doctor was many miles away and separated from the sick man by almost impassable roads, my friend decided upon a plan of action suggested by the memory of the way he had seen an Irish peasant treat his cow that had eaten too heavily of green clover. He had with him a small bellows, used to create a hot flame for roasting ores, and by adjusting the tube of a bulb syringe to this he had an apparatus by means of which he could force air into the patient's rectum. He used this until the sick man said he felt something give way inside his abdomen, felt his distention increasing, causing great pain, and had an uncontrollable desire to pass gas. The tube was withdrawn, and, as a result of the treatment, he expelled large quantities of gas and had a copious bowel movement. He recovered and went his way.

The story was so reasonable and so full of suggestion that I used the plan in several cases similar to those reported by Dr. Cleveland. Since the publication of Dr. Cleveland's article I have used oxygen in the way recommended and with good results, but in no way differing from those obtained by the use of ordinary air, with the small bellows as a means of injection.

My impression is that the effect on the bowel is mechanical, and that any gas would answer the purpose.

The bellows should have one side of metal of sufficient weight to retain its position when the other side is drawn away from it to permit the entrance of air, so that it can be worked with one hand. The small bellows ordinarily used by assayers and metallurgists answers very well.

The quantity of gas injected, and the speed with which the bowel is filled, can be regulated as well, or better than can be done with the oxygen apparatus, and if it is proved by further application that oxygen has no advantage over other gases as a stimulant to peristalsis, the bellows would be a much cheaper and far more convenient apparatus for the surgeon, in either hospital or private practice.

Rufus McElroy, M.D.

Salt Lake City, March 25, 1901.

Treatment of Scabies.—In consequence of the use of sulphur powder for scabies being advocated by some of the members of the profession in America and in England, I have given it a sufficient test in the large out-patient department at St. John's Hospital. My clinical assistants, and other medical men who have seen the cases, agree with me that the older method of treatment by ointment is more rapid and satisfactory in its results. Four years ago I tried tobacco soap but arrived at a similar conclusion.—Alfred Eddowes.

Reviews and Notices.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University. Vol. VII. New York. 1899–1900.

This is a collection of essays, reprinted from various sources, upon work done in the laboratory of the College of Physicians and Surgeons of Columbia University. Many of the essays are interesting, and some contain useful statistical material.

Smallpox: its Diagnosis, Treatment, Restriction, and Prevention, with a Few Remarks upon the Present Epidemic. By Louis Leroy, B.S., M.D., State Bacteriologist, Professor of Pathology and Bacteriology in Vanderbilt University, etc. Pp. 41. Issued by the Tennesee State Board of Health.

This pamphlet is of extreme interest to all interested in infectious diseases and quarantine regulations. Not only is the disease well described in the text, but the numerous half-tone plates add a vividness which could have been gained by no other method. The differential diagnosis and treatment are also fully given. Copies can be had by writing to the secretary of the State board of health, Nashville, Tenn.

Formes Cliniques de la Tuberculose Pulmonaire. Classification et Description sommaire. Par Dr. L. Bard, Professeur de la Faculté de Médecine de Lyon, Professeur de Clinique médicale à l'Université de Genève. Pp. 112. Genève: Henry Kündig, Libraire-Editeur, Librairie de l'Institut. 1901.

After reviewing the better-known classifications of pulmonary tuberculosis and their defects the author proceeds to separate his cases into groups which he thinks will aid the practitioner in classifying his cases. His four main divisions are the parenchymatous, the interstitial, the bronchial, and the postpleuritic, and under these main headings he has the minor divisions. Dr. Bard shows throughout the work that he has had an extensive experience with the disease, and has studied his cases carefully. He acknowledges that all classifications are necessarily faulty, since one group will merge into another, but he considers it necessary for working-purposes to arrange them as best we can, and has succeeded in giving us an excellent classification.

Uterine Tumors, their Pathology and Treatment. By W. Roger Williams, Fellow of the Royal College of Surgeons. New York: William Wood & Company. 1901.

The monograph is gradually beginning to assume greater size and importance in all fields, and this example is no exception. The tumors of the uterus form such an important fraction of all pathological conditions in the organ that a volume of the size of the present one is none too large for the subject. The author of this volume is an authority upon his specialty, consequently his views will have more weight and interest than if they had been merely compiled by some one to form a text-book. One or two chapters are devoted to a concise view of the embryology, histology, and general anatomy of the uterus, and then several chapters are occupied with the consideration of the most important non-malignant of uterine growths, the myoma. The remarks upon the course, symptoms, and complications are well worth reading; the discussion of the treatment is from the most modern point of view. Carcinoma naturally receives attention commensurate with its importance, and the various forms of operative treatment are mentioned and described with preference for the more radical procedures. The rarer forms of growth are discussed in proportion to their relative importance. A number of satisfactory illustrations have been made. The book carries out very well the monograph idea, and is an excellent addition to the modern literature of its subject.

Obstetric and Gynæcologic Nursing. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia, and in the Philadelphia Polyclinic; Obstetrician to the Jefferson and Polyclinic Hospitals; Obstetrician and Gynæcologist to the Philadelphia Hospital. Illustrated. Pp. 402. Philadelphia and London: W. B. Saunders & Co. 1901.

No nurse who wishes to take an intelligent interest in her work can afford to allow this book to go unread. Practical and effective teaching can be found on every page. In both the obstetrical part and the gynæcological, full directions are given to the nurse regarding her duties—the various complications before, during, and after labor are all

considered; the care of the child, obstetric surgery, infant feeding, incubation, gynæcological operations, and diseases, with the duties applicable to each, are all well treated and illustrated. Both nurse and physician can profit from the sound advice which abounds throughout the book.

A Chart of the Diseases of the Heart, Blood-Vessels, Lymphatics, Blood, and Ductless Glands. Published by the M. J. Breitenbach Company, New York.

This neat wall chart comprises such points as are diagnostic in the disease mentioned in the title, arranged in parallel columns, each of which is devoted to the principal causes, general symptoms, inspection, palpation, percussion, auscultation, and blood changes, pulse, complications, and sequelæ. It is thoroughly up to date and makes a useful ready reference.

Diseases of the Heart; their Diagnosis and Treatment. By Albert Abrams, A.M., M.D., San Francisco, Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital. Illustrated. Pp. 172. Chicago: G. P. Engelhard & Co. 1900.

The author distinctly disclaims writing a treatise on heart disease, and mentions as his object in publishing the work simply a desire to point out valuable hints along with the usual symptoms such as would be valuable to the practising physician. In this he has succeeded, for the book is a useful synopsis of the common diseases of the heart and arteries, and is especially valuable as an aid in diagnosis. Although rather too concise, the author has used his space to advantage, and is clear in description and sound in teaching.

Physical Diagnosis in Obstetrics. A Guide in Antepartum, Partum, and Postpartum Examinations for the Use of Physicians and Undergraduates. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclinic, Attending Physician to the Mothers' and Babies' Hospital. With illustrations. Pp. 283. New York: E. B. Treat & Co. 1901.

The author lays special stress on antepartum diagnosis, so that accidents being foreseen may be better averted. With this object in view he is especially thorough in his descriptions of history-taking and physical examination. In fact the book may be considered an excellent guide to one learning scientific obstetrics, in that each point is separately taken up, discussed, and decided for the reader. Over sixty illustrations elucidate the text.

Enteroclysis, Hypodermoclysis, and Infusion: a Manual for Physicians and Students, with a Chapter on the Carbonated Bath and Some New Applications; also Therapeutic Addenda. By Robert Coleman Kemp, M.D. Pp. 347. New York: James T. Dougherty.

This work is an exceedingly practical exposition of the modern methods which are used in connection with shock, hemorrhage, intestinal derangements, etc. The technique is described fully, the amount of fluid and the frequency of administration, together with the temperatures and different fluids to be employed. Dr. W. H. Thomson has written the introduction, which is followed by Dr. Kemp's articles on enteroclysis and hypodermoclysis, and Dr. R. H. M. Dawbarn's treatises on infusion, shock, and anæsthesia, the volume concluding with Dr. Kemp's article on carbonated baths and other therapeutic measures. The working-knowledge which the reader obtains from the text is so valuable that it compels him to forgive the typographical errors. There are over seventy-five illustrations which are most helpful and practical.

American Text-Book of Physiology. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in Johns Hopkins University. Vol. II., royal octavo, of nearly 600 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co. 1900.

The second volume of this excellent text-book merits the highest approbation, and the whole work may be considered one of the best ever published. In the second edition we note that the most recent advances in the knowledge of the subjects treated have been added; especially is this true with reference to the central nervous system which subject has been wholly rewritten. The General Physiology of Muscle and Nerve and of the Special Muscular Mechanisms is treated by Warren P. Lombard, the Central Nervous System by Henry H. Donaldson, the Special Senses by Henry P. Bowditch, with the exception of the Ear and Hearing by Henry Sewall, and the final article on Reproduction by Frederic S. Lee. Each and every subject is treated by those well adapted for the work, and incorporates practically all that is useful and accredited in the domain of physiology.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 4, 1901.

George L. Peabody, M.D., Vice-President, in the Chair.

The Duty of the Public to the Medical Profession.—Dr. D. B. St. John Roosa presented the first paper on this subject (see page 521).

Dr. William H. Thomson contributed the second paper on this topic. He discussed some of the causes why the public did not appreciate as it should the work of the medical profession. One of the most important of these he declared to be the conception that the practice of medicine was nothing more than a trade, a means of getting a livelihood. Another cause was the erroneous but widespread belief that the medical profession was a particularly close and selfish corporation, jealous of all rivals and hostile to all new methods of treatment that might by any chance rob them of their business. This and other misconceptions arose from a remarkable ignorance of medicine and a general belief among the laity that physicians really knew little more than they did themselves about disease. The most intelligent and well-educated people in other matters did not hesitate to come to the physician with their own ready-made diagnoses of their ailments. It should be known at the present time that medicine made no haphazard or accidental discoveries, because of the world-wide international brotherhood of science. All modern discoveries in medicine were the result of patient, systematic, and laborious research. As medical knowledge had become more and more based on facts, it had become a matter of necessity for physicians to devote themselves to specialties. It was an utter impossibility for the most erudite and experienced physicians of the present day to know more than one-quarter of what was known about the human body in health and disease. Dr. Thomson put in an earnest plea for the teaching of anatomy and physiology to both sexes in every high school and academy in our land. To know something about one's own body should certainly be a part of a liberal education. By this he did not mean that people generally should be taught in the schools anything of the practice of medicine, but only that just as they are taught in the schools enough of astronomy to enable them to see the absurdities of astrology, so they should be taught enough about anatomy, physiology, and hygiene to make them appreciate the falsity of the claims and pretensions of quacks and charlatans. But one could not wait for such a change in our system of education, as we were confronted now by an emergency—the specious claims of those who called themselves both Christian and scientists. Physicians could hardly be surprised by the absurd claims of these people, nor need they be troubled about them were it not that, without proper restrictive legislation, the public health was jeopardized.

Public Enlightenment on Things Medical.—Dr. Andrew H. Smith said that the last two decades had witnessed an unexampled advance in the practice of medicine and surgery, while the popular mind had been, strangely enough, showing a strong tendency to go back to the superstitions and traditions in the medicine of mediæval times. The public seemed to be about as much impressed by the claims of the Christian scientists and osteopaths as by the wonderful achievements of scientific medicine in the closing years of the nineteenth century. That the blame attached to the medical profession for this anomalous

situation it seemed to him could not be denied. They must plead guilty to sins of omission in neglecting systematically to keep the public informed as to what had been actually accomplished by the science of medicine. In other branches of science the utmost publicity was given to each new discovery, and these were explained in popular language. Attempts to inform the public in a popular way on medical topics were generally frowned upon as thinly veiled advertising. The Christian scientists had not done this, but, on the contrary, had given the greatest publicity to their teachings. An intelligent comprehension of what medicine had accomplished and what it aimed to accomplish would remove a great deal of popular misapprehension. Medical consultations were still carried on in secret, and even a dead language was used in the writing of prescriptions. The world had a right to know, and it was our duty to tell, just what progress we were making day by day. A frank and open course would command confidence, silence criticism, and later put the charlatans to confusion.

Dr. Frederic R. Sturgis said that until a very short time ago medical education was a private enterprise. At present but few schools followed this course, being attached to general colleges or universities, although, after all, these were really private enterprises. Medical services were certainly at present largely gratuitous, but the benefit therefrom to the individuals and to the public was not apparent—indeed, it was a direct detriment to the public. He believed the medical profession did a vast deal of harm by teaching the public to be paupers. The plan of teaching physiology in the schools had been tried within the last few years in accordance with a legislative enactment, yet pupils and teachers had with one accord pronounced the plan a failure.

Dr. A. Jacobi cited the cases of Lieutenant Hobson and General Funston as examples of how promptly and how keenly the public appreciated deeds which it understood, or thought it understood, and he insisted that the reason the achievements of medical science were not appreciated by the public was that they were not understood. It had been charged that the medical profession kept the public in ignorance of medical matters, and this was true; but whether we should enlighten the laity on such subjects through the newspapers was another matter. Unhappily the public knew that there were quacks and fakes even among the ranks of the medical profession, and hence they distrusted them all as a class. Such doings bred contempt, and it took a long time to overcome the feeling of resentment thus engendered. Regarding the "Bell" bill, he would say that, for every letter sent to the legislature by a physician, at least thirty had been sent by the Christian scientists and osteopaths and their sympathizers. The profession of medicine kept altogether too much aloof from the public, and this lack of interest in public sanitation certainly did not lead the public to take an interest in the medical profession. The physician was too apt to become engrossed in his individual business and neglect his duties as a citizen.

Dr. G. L. Peabody thought the public lost sight of the fact that physicians were really agents intended to do a most important work for them. Physicians existed because there was a demand for them, and he thought the public obtained rather better physicians than it demanded, estimated by what it paid for the services so rendered. From the fees paid to most general practitioners in the country he believed that what the public wanted was a large supply of rather poor doctors. Physicians should take pains to explain that the medical profession was not a trades union, and that whatever redounded to the good of medical education or to the medical profession would redound to the good of the public.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, March 28, 1901.

A. Brothers, M.D., Chairman.

New Instruments.—Dr. A. H. Goelet exhibited a combined uterine dressing-forceps and placental forceps having a very firm grip, and useful in the treatment of abortions. He also presented a universal retractor, chiefly of use in operations on the kidney and round ligament. It was large at one end and small at the other.

Firm Adhesions in an Alexander Operation.—Dr. Goelet then reported the following case: The patient had come to him last spring with what had appeared to be a retroverted uterus. He had inserted a pessary and had advised operation. When next seen, quite recently, she had consented to operation. On attempting to do an Alexander operation he had been unable to find and pull out distinct portions of the round ligaments, and had consequently done an abdominal section. He had then discovered dense adhesions between the posterior part of the fundus and the rectum. With great difficulty these had been separated and the uterus brought forward and suspended from the abdominal wall. He had never before met with such adhesions in the canal, and thought they probably explained some of the causes of failure in the operation for shortening the round ligaments.

Dr. G. M. Edebohls said that this condition was not very uncommon; he had met with fifteen or more such cases. The proper thing to do under such circumstances was to open the internal ring on either side instead of making a median incision. This would allow of easily liberating the adhesions, when the round ligaments could be shortened in the usual way. Occasionally these adhesions would re-form, and if this occurred the uterus would be drawn backward again.

Dr. H. J. Boldt said that he too had met with quite a number of cases in which these adhesions had been present, but he had never observed any re-formation of the adhesions.

Fibromyomata of the Uterus.—Dr. H. J. Boldt presented three fibromyomatous uteri removed by total abdominal hysterectomy. None of the women had had children, and because of the smallness of the outlet he preferred the abdominal route. Although there was profuse menstruation in each instance, in only one was the operation undertaken because of the profuse loss of blood; the different forms of internal medication used to control the profuse flow, as thyroid extract, mammary extract, hydrastis, and ergot, proving inefficacious in this instance. In the case of the other two patients the specimens demonstrated very well the pressure symptoms which the neoplasms produced. The latter were tightly wedged in the pelvic cavity, and the tumors produced obstinate constipation by mechanical obstruction, in addition to the pelvic pain and the pain radiating down the thighs. Further he demonstrated four dermoid ovarian cystomata. In each instance, pain was a prominent feature. The largest tumor filled the pelvis and abdomen up to the umbilicus. This tumor was removed by the abdominal route. The three smaller dermoids, varying in the fresh state from 5 to 7 cm. in diameter, were removed per vaginam. In the case of one patient the soiling of the pelvis by some of the contents of the neoplasm produced a pelveoperitonitis from which the patient suffered nearly two months. The other patients made uneventful recoveries.

Dr. Boldt next showed a specimen of primary carcinoma of the Fallopian tube. This was the most interesting specimen, and the patient from whom it was removed presented unusual features in the history. She was operated upon four years ago for supposed tubal

inflammation. The age of the patient was at that time thirty-seven years. She complained of so much pelvic pain that salpingo-oöphorectomy was decided upon. The uterus was freely movable. Microscopical examination of the specimen determined its carcinomatous nature. She made an uninterrupted recovery, and he neither saw nor heard anything of her again until two days ago, when she presented herself, complaining of much pelvic pain and a typical sanguineous discharge. Examination showed an inoperable carcinoma. It is probable that the recurrence took place in the uterine cornua, although at the time of the operation, four years ago, absolutely nothing of a suspicious nature was found.

Dr. J. E. Janvrin said that he had had one similar case of carcinoma involving the whole tube, and beginning in it; also two cases of carcinoma developing in the folds of the broad ligament.

Dr. George M. Edebohls presented the specimens and related the histories of the following cases:

1. Abdominal total extirpation of the four-months pregnant uterus; resection of 18 cm. of the rectum and sigmoid for carcinoma; end-to-end anastomosis of sigmoid and rectum; all successfully performed at one sitting. The patient, the uterus with the four-months' fœtus *in situ*, and the resected piece of sigmoid and rectum, were presented, and the following history was narrated: Mrs. E. K——, a married woman aged thirty-four years, mother of five children, and again pregnant in the fourth month, was sent to him by Dr. George A. Leitner, of Piermont, N. Y., for the removal of an operable cancer of the rectum, which, according to her history, had existed for three to four months past. Examination showed a tumor mass occupying the upper end of the rectum and the lower end of the sigmoid, and confirmed the existence of a pregnancy of four months. The lower end of the cancer was nearly five inches from the anus; the bowel and the tumor were fairly movable upon the surrounding parts; there was, however, almost complete obstruction, with large accumulation of fecal matter above the tumor. To overcome the necessity for a Kraske operation, Dr. Edebohls planned and executed an operation, original with himself as far as his knowledge went, the essentials of which consisted in hysterectomy, resection of the carcinomatous bowel, and end-to-end anastomosis of the sigmoid and rectum, all performed at one sitting through an anterior abdominal incision. After thorough dilatation of the anal sphincter and tamponade of the cleansed vagina with iodoform gauze, the abdomen was opened by a 15-cm. incision carried through the left rectus abdominis muscle. The large uterus with the contained fœtus was removed in one piece with both tubes and ovaries—a typical panhysterectomy. Eighteen centimetres of bowel were resected, embracing 8 cm. containing the cancerous mass situated at the junction of sigmoid and rectum, together with about 7 cm. of healthy bowel above and about 3 cm. of healthy bowel below the tumor. Removal of the sacral glands and of all fatty and connective tissue posterior to the resected bowel was followed by end-to-end anastomosis of the sigmoid with the rectum, the sigmoid being invaginated into the rectum and the invagination maintained by two rows of interrupted sutures of ten-day catgut, twenty sutures in each row. A small strip of gauze was adjusted about the bowel at the line of suture and the end led into the upper end of the vagina. The abdominal incision was tightly closed. Free evacuation of the bowels occurred soon after operation. Convalescence was uneventful, with primary union of the wounds of the abdominal wall and bowels. The operation was performed on February 26, 1901. Fifteen days later the patient left her bed. It was, of course, too early to speak of ultimate results; the immediate results certainly approximated the ideal. Microscopical examination of the tumor, made by Dr. Henry T. Brooks, proved it to be an adenocarcinoma.

2. Large hydronephrotic kidney removed per abdomen; radical operation of ventral hernia extending from sternum to pubis, and inversion of the appendix for chronic appendicitis performed at one sitting; recovery. I. S——, a married woman aged thirty-eight years, mother of six children, had first noticed a fulness in the right groin and lumbar region twelve years ago. The further growth of the tumor was characterized by attacks of cramp-like pains. During each pregnancy the tumor would recede and the pains disappear, only to become greater after delivery. When first seen the fluctuating tumor entirely filled the abdomen, stretching the tissues over the central parts to paper-like tenuity. The characteristic lobulations were plain to the sight and touch. The recti abdominis muscles were separated fully 20 cm. at and near the umbilicus, large portions of the tumor projecting between them in the form of a hernia, and practically becoming subcutaneous. The operation was performed March 22, 1901. An incision was made in the median line from sternum to pubis, with a view to radical cure of the hernia and, secondarily, to permit of removal of the huge cyst unbroken. The tumor proved to be a right hydronephrosis. The posterior layer of parietal peritoneum covering it was incised to the outer side of the ascending colon; the ureter and a number of very large vessels were tied off, and the tumor was peeled out and removed without tapping or rupture. The vermiform appendix was found enlarged and thickened to more than twice its normal size, by chronic inflammation. It was inverted entire and unopened. A strip of skin and attenuated fascia, 10 to 12 cm. wide, including the umbilicus and extending the whole length of the incision, was resected so as to render possible approximation of the widely separated recti muscles. The sheath of each rectus was opened along its mesial aspect and the abdominal wall was repaired by uniting to each other, in succession, the posterior sheaths, the muscles themselves, and the anterior sheaths. The tumor after removal weighed 6,800 gm. (15 pounds). It was ovoid in shape, measuring 84 cm. over its largest and 72 cm. over its smallest circumference.

The enormous size of the tumor and the extensive radical herniotomy constituted the features of interest in the case. Dr. Edebohls added that he had thus far removed four large hydronephrotic tumors through the anterior abdominal incision, all of the patients making good recoveries.

Dr. Bache Emmet said that he had had a case of a similar cyst of the kidney, which had also been removed through the anterior incision. The case was interesting because the woman had returned this winter, after an interval of four or five years, with another tumor spreading from the pedicle. The record of the nature of the first growth had been lost, but there was a reasonable suspicion of malignancy.

Dr. Paul F. Mundé said that some years ago he had removed a similar tumor which had protruded through the anterior abdominal wall. It had proved to be a malignant growth of the kidney of about the size of the one in Dr. Edebohls' case.

Fibroma (?) of the Ovary.—Dr. Bache Emmet presented a tumor that had been removed from a woman of forty-six, who had been menstruating rather freely. The mass had been growing quite rapidly in the past few months. The tumor consisted of a gelatinous mass which gave the impression to the examining finger of an ovarian cyst. The first incision had unexpectedly opened into the bladder, and further exploration had shown that this viscus was attached to the tumor far up in the median line. It was covered

with an extra layer of the peritoneum of the broad ligament, and from this he assumed that the mass was a tumor, probably a fibroma, of the right ovary. The left ovary had been found.

Dr. Boldt said that the appearance of this fresh specimen made him think it was a fibrosarcoma of the ovary.

Dr. A. Brothers said that he had presented about one year ago a fibrosarcoma of the ovary of the size of a cocoanut. He had seen a smaller one since then.

Dr. Mundé said that about twelve years ago he had removed a large fibroma of the ovary. The specimen just presented appeared to be a fibromyoma.

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Early Diagnosis of Ectopic Gestation.—Dr. A. F. Currier read a paper on this subject. He said that rupture of the tubal tumor usually occurred before the end of the first three months. Of the ordinary symptoms of pregnancy, one should note the enlarged veins and papillæ of the breasts, the darkened areola, the blueness of the vagina, and the softness of the cervix. The presence of retroflexion, sterility, dislocation or twisting of the Fallopian tubes, all favored the occurrence of ectopic gestation. The most important sign was hemorrhage, which occurred earliest in cases in which the gestation was situated near the distal extremity of the tube. A fœtal sac at the fimbriated extremity rarely went on longer than the end of the first month, without rupture. In other situations, rupture usually occurred between the sixth and twelfth weeks. Next to bleeding as a diagnostic symptom was sharp, darting pain in the abdomen. The third diagnostic point was the presence of a tumor, and this could be best determined by examination under an anæsthetic. The passing of decidual membrane from the vagina, and hemorrhage from the uterus, were not constant, and were of doubtful importance. The diagnosis of tubal gestation was not always conclusive even after the abdomen had been opened. Without a decidua, whether within the uterus or within the tube, there could be no gestation.

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Dr. Bache Emmet touched upon the pathology of ectopic gestation, commenting upon the present tendency to seek for the first changes in the mucous membrane rather than in the peritoneum. It was probable that a gonorrhœa was often responsible for the first changes in the mucous membrane, which eventually led to obstruction of the calibre of the tube. There were possibilities of error in diagnosis, arising from various forms of flexion or version of the uterus.

Dr. Janvrin said that fourteen years ago he had read a paper on this very subject of the early diagnosis of extra-uterine pregnancy, and had reported a case in which he had diagnosed a tubal pregnancy in the first few weeks and had treated it by three applications of the galvanic current. Shortly after the third application of electricity the patient had suddenly gone into collapse and died, and the post-mortem examination had shown that rupture of one artery supplying the gestation sac had been the cause of the fatal hemorrhage. Since then he had given this subject much study, and had recommended an exploratory laparotomy, though not knowing at that time that the operation had been advised in these cases previously. Irregular menstruation, colicky pains in the abdomen, and an extremely tender tumor outside of the uterus were the chief diagnostic points before rupture. It was a question whether many cases reported as tubal abortions were not really examples of the class of cases reported by Dr. Waldo this evening. He had never met with any case of twisting of the Fallopian tube. Twisting of this tube should cause more or less twisting of the broad ligament, and was certainly a

inflammation. The age of the patient was at that time thirty-seven years. She complained of so much pelvic pain that salpingo-oöphorectomy was decided upon. The uterus was freely movable. Microscopical examination of the specimen determined its carcinomatous nature. She made an uninterrupted recovery, and he neither saw nor heard anything of her again until two days ago, when she presented herself, complaining of much pelvic pain and a typical sanguineous discharge. Examination showed an inoperable carcinoma. It is probable that the recurrence took place in the uterine cornua, although at the time of the operation, four years ago, absolutely nothing of a suspicious nature was found.

Dr. J. E. Janvrin said that he had had one similar case of carcinoma involving the whole tube, and beginning in it; also two cases of carcinoma developing in the folds of the broad ligament.

Dr. George M. Edebohls presented the specimens and related the histories of the following cases:

1. Abdominal total extirpation of the four-months pregnant uterus; resection of 18 cm. of the rectum and sigmoid for carcinoma; end-to-end anastomosis of sigmoid and rectum; all successfully performed at one sitting. The patient, the uterus with the four-months' fœtus *in situ*, and the resected piece of sigmoid and rectum, were presented, and the following history was narrated: Mrs. E. K——, a married woman aged thirty-four years, mother of five children, and again pregnant in the fourth month, was sent to him by Dr. George A. Leitner, of Piermont, N. Y., for the removal of an operable cancer of the rectum, which, according to her history, had existed for three to four months past. Examination showed a tumor mass occupying the upper end of the rectum and the lower end of the sigmoid, and confirmed the existence of a pregnancy of four months. The lower end of the cancer was nearly five inches from the anus; the bowel and the tumor were fairly movable upon the surrounding parts; there was, however, almost complete obstruction, with large accumulation of fecal matter above the tumor. To overcome the necessity for a Kraske operation, Dr. Edebohls planned and executed an operation, original with himself as far as his knowledge went, the essentials of which consisted in hysterectomy, resection of the carcinomatous bowel, and end-to-end anastomosis of the sigmoid and rectum, all performed at one sitting through an anterior abdominal incision. After thorough dilatation of the anal sphincter and tamponade of the cleansed vagina with iodoform gauze, the abdomen was opened by a 15-cm. incision carried through the left rectus abdominis muscle. The large uterus with the contained fœtus was removed in one piece with both tubes and ovaries—a typical panhysterectomy. Eighteen centimetres of bowel were resected, embracing 8 cm. containing the cancerous mass situated at the junction of sigmoid and rectum, together with about 7 cm. of healthy bowel above and about 3 cm. of healthy bowel below the tumor. Removal of the sacral glands and of all fatty and connective tissue posterior to the resected bowel was followed by end-to-end anastomosis of the sigmoid with the rectum, the sigmoid being invaginated into the rectum and the invagination maintained by two rows of interrupted sutures of ten-day catgut, twenty sutures in each row. A small strip of gauze was adjusted about the bowel at the line of suture and the end led into the upper end of the vagina. The abdominal incision was tightly closed. Free evacuation of the bowels occurred soon after operation. Convalescence was uneventful, with primary union of the wounds of the abdominal wall and bowels. The operation was performed on February 26, 1901. Fifteen days later the patient left her bed. It was, of course, too early to speak of ultimate results; the immediate results certainly approximated the ideal. Microscopical examination of the tumor, made by Dr. Henry T. Brooks, proved it to be an adenocarcinoma.

2. Large hydronephrotic kidney removed per abdomen; radical operation of ventral hernia extending from sternum to pubis, and inversion of the appendix for chronic appendicitis performed at one sitting; recovery. I. S——, a married woman aged thirty-eight years, mother of six children, had first noticed a fulness in the right groin and lumbar region twelve years ago. The further growth of the tumor was characterized by attacks of cramp-like pains. During each pregnancy the tumor would recede and the pains disappear, only to become greater after delivery. When first seen the fluctuating tumor entirely filled the abdomen, stretching the tissues over the central parts to paper-like tenuity. The characteristic lobulations were plain to the sight and touch. The recti abdominis muscles were separated fully 20 cm. at and near the umbilicus, large portions of the tumor projecting between them in the form of a hernia, and practically becoming subcutaneous. The operation was performed March 22, 1901. An incision was made in the median line from sternum to pubis, with a view to radical cure of the hernia and, secondarily, to permit of removal of the huge cyst unbroken. The tumor proved to be a right hydronephrosis. The posterior layer of parietal peritoneum covering it was incised to the outer side of the ascending colon; the ureter and a number of very large vessels were tied off, and the tumor was peeled out and removed without tapping or rupture. The vermiform appendix was found enlarged and thickened to more than twice its normal size, by chronic inflammation. It was inverted entire and unopened. A strip of skin and attenuated fascia, 10 to 12 cm. wide, including the umbilicus and extending the whole length of the incision, was resected so as to render possible approximation of the widely separated recti muscles. The sheath of each rectus was opened along its mesial aspect and the abdominal wall was repaired by uniting to each other, in succession, the posterior sheaths, the muscles themselves, and the anterior sheaths. The tumor after removal weighed 6,800 gm. (15 pounds). It was ovoid in shape, measuring 84 cm. over its largest and 72 cm. over its smallest circumference.

The enormous size of the tumor and the extensive radical herniotomy constituted the features of interest in the case. Dr. Edebohls added that he had thus far removed four large hydronephrotic tumors through the anterior abdominal incision, all of the patients making good recoveries.

Dr. Bache Emmet said that he had had a case of a similar cyst of the kidney, which had also been removed through the anterior incision. The case was interesting because the woman had returned this winter, after an interval of four or five years, with another tumor spreading from the pedicle. The record of the nature of the first growth had been lost, but there was a reasonable suspicion of malignancy.

Dr. Paul F. Mundé said that some years ago he had removed a similar tumor which had protruded through the anterior abdominal wall. It had proved to be a malignant growth of the kidney of about the size of the one in Dr. Edebohls' case.

Fibroma (?) of the Ovary.—Dr. Bache Emmet presented a tumor that had been removed from a woman of forty-six, who had been menstruating rather freely. The mass had been growing quite rapidly in the past few months. The tumor consisted of a gelatinous mass which gave the impression to the examining finger of an ovarian cyst. The first incision had unexpectedly opened into the bladder, and further exploration had shown that this viscus was attached to the tumor far up in the median line. It was covered

with an extra layer of the peritoneum of the broad ligament, and from this he assumed that the mass was a tumor, probably a fibroma, of the right ovary. The left ovary had been found.

Dr. Boldt said that the appearance of this fresh specimen made him think it was a fibrosarcoma of the ovary.

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most remarkable condition, and one difficult of explanation.

Dr. E. H. Grandin said that when the symptoms of extra-uterine pregnancy, such as had been outlined in Dr. Currier's paper, were present, it should be an easy matter to make the diagnosis. He had seen a fairly large number of cases, yet he must admit it had ordinarily been a matter of guesswork. From the middle of last August to the present time he had operated upon seven cases of extra-uterine pregnancy. In six of the cases the belly had been full of clots; in the seventh, the blood in the peritoneal cavity had come from the rupture of a large Graafian follicle. In none of these cases had there been enlargement of the uterus; in one there had been a decidua, the only case of the kind that he had met with in all the cases of ectopic gestation that he had seen. In these cases he had guessed at the diagnosis because of irregular menstruation, colicky pains, and the presence of a tender mass at the side of the uterus, and he had confirmed the diagnosis by posterior vaginal section. He was of the opinion that every woman who presented symptoms which were at all atypical as regards the menstrual period, and which were associated with a "green-apple colic," should be subjected to a posterior vaginal section. If this were done aseptically the woman would be none the worse for it, and if blood and clots were not evacuated an opportunity would be afforded for palpation of the uterus and its appendages.

Dr. H. J. Boldt said that he had been unable to find evidences of ectopic gestation in two or three cases of hæmatosalpinx that he had had, but he could not conceive how it was possible for the Fallopian tube to undergo twisting, either alone or with the broad ligament. It had been maintained by some that a salpingitis played no rôle whatever in the production of ectopic gestation. He had himself met with recurrent ectopic gestation five times, and in each one of these five patients he had demonstrated at the first operation the existence of an inflammatory condition of the other Fallopian tube. Hoping that this would disappear spontaneously he had allowed the tube to remain, with the result that the tube had become the seat of an ectopic gestation within a year. He personally believed that salpingitis did play an important part in the production of tubal gestation. He had seen in tubal rupture periodical discharges of blood, though the rule laid down by Dr. Mundé regarding the relative profuseness of the hemorrhage in this and in tubal abortion generally held good. Some patients gave a typical history of ectopic gestation, and the local condition seemed to confirm this, and yet operation showed that there was no ectopic pregnancy present.

Dr. Waldo said that in his first case the tube had been high and the broad ligament partially twisted. The tube had been distinctly twisted, and had drawn the ovary up with it. In the second case the tumor had been easily removed without being ruptured. He had searched the literature of this subject fairly well, and had been able to find only one other apparently authentic case—one reported by Dr. W. W. Russell, with a photograph, from the service of Dr. Howard A. Kelly. This case had been reported under the name of hemorrhagic infarction of the tube.

Dr. Currier, in closing, laid great stress upon the importance of bearing in mind that pregnancy, whether normal or abnormal, had certain signs after the second or third month, which were unequivocal. If these were looked for they would usually be found, and would materially aid in making the diagnosis in this difficult class of cases. He believed that the diagnosis could be made in many cases with fair accuracy, provided the examination was made under a general anæsthetic.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 18, 1901.

Parker Syms, M.D., President.

Primary Carcinoma of the Tip of the Appendix.—Dr. J. Riddle Goffe presented this specimen, which had been taken from a well-nourished girl aged seventeen years, who had complained of nothing but a chronic appendicitis of low grade for a year and a half. At the operation a small spherical mass had been found in the tip of the appendix, resembling a calculus. After removal it had been found that this mass could be shelled out, and that it had lain between the muscular coat and the peritoneum. Specimens from the tumor and from the adjacent tissues of the appendix were exhibited under the microscope. The pathologist found an acute appendicitis throughout the organ, and that the mass referred to, presented the typical structure of a carcinoma. The grandmother of this girl had been subjected to a hysterectomy for cancer of the uterus, four years ago. There was, however, no other history of cancer in the family. The growth appeared to be primary in the appendix.

Primary Carcinoma of the Sphincter Muscle of the Bladder.—Dr. Goffe also presented this specimen, which had been taken from an unmarried woman, twenty-seven years of age. She had been kept under observation for three weeks, and in this way a small circumscribed hardening had been eventually detected in the sphincter muscle on the left side of the bladder. When this growth had been cut down upon, it had been found disseminated in the muscle and intimately adherent to the mucous membrane. Prior to the operation the woman had been greatly annoyed by frequent micturition; but the operation had given complete relief, and healing had been perfectly satisfactory. On microscopical examination, Dr. F. M. Jeffries had reported the growth to be a carcinoma.

Operative Treatment of Hemorrhoids.—Dr. William Duff Bullard read this paper. He was of the opinion that there were only four operative methods of treating hemorrhoids, worthy of the name. They were: (1) The injection method; (2) the Whitehead operation; (3) the ligature operation; (4) the clamp-and-cautery operation.

Injections.—He had had no experience with the injection method, and did not expect to have so long as there were other and so much better ones at his disposal. From five to thirty drops of the chosen solution were injected into the mass at a time, and the patient was told to return in a few days for another treatment. This method seemed to be a part of the stock in trade of charlatans, and in the majority of cases, if cleverly done, it would give temporary relief without preventing the patient from continuing at work. The object was to secure contraction of the blood-vessels and adhesions between the mucous membrane and the submucosa. The veins of this region were very large and easily ruptured. Obliteration of the cellular spaces was what was aimed at, whether the fluid employed for the injection was bland or irritating. The adhesions would persist for a certain length of time, and so give temporary relief. Occasionally, small and very painful abscesses would form at the anal region, and would leave behind a granulating surface and a small superficial fistula. If the injection was made a little too deeply, a spreading inflammation was apt to result. Sometimes the injection caused a slough and the formation of a rectal ulcer. In some instances this might lead to the formation of a stricture, although some writers insisted that such inflammation might even go further, resulting in pyæmia and possibly death. He had not been able to find any well-authenticated case of death from this cause.

Whitehead's Operation.—This consisted in the denudation of the pile-bearing area of the rectum. The operation was difficult, particularly in view of the fact that, to secure a good result, primary union must be obtained. One of the sutures was apt to pull out during a paroxysm of coughing or vomiting, or in the act of defecation, and when a suture gave way in this manner an ulcer resulted. The operation was followed by many mishaps, but was not done nearly so often at the present day as a few years ago.

The Ligature Operation.—In this operation the sphincter was first dilated with the fingers, and then the hemorrhoids were allowed to prolapse. The piles on the posterior wall close to the anus should be first ligated. If the base of the pile was large, the hemorrhoid should be cut loose from the skin and subcutaneous tissue, the cut being made in a line parallel to the longitudinal axis of the gut. Silk was preferable for the ligature, though catgut, which would not be absorbed for two weeks, might be used. The hemorrhoid should not be cut off too close to the ligature. The patient was kept in bed until the ligatures came away, which usually occurred in about one week. The bowels should be kept from moving for two or three days by the use of morphine, and the patient should be warned that there would be some pain for the first few days, and that the first movement of the bowel would be accompanied by the passage of some blood.

Clamp-and-Cautery Operation.—In this operation the hemorrhoid was seized with the clamp, the hemorrhoid cut off, and the stump seared with a hot iron. A thick eschar should be left, and it should lie in the longitudinal axis of the bowel. Any number of grasps of the clamp might be made if this rule were observed, but three would usually be found sufficient. In the ligature operation the sutures caused irritation and tenesmus, and the convalescence was more prolonged than when the clamp was used. Patients treated by the clamp were out of bed, as a rule, in five days. The speaker said that he had never seen any secondary hemorrhage follow the use of the clamp. He was disposed to think that the ligature operation was a little more liable to be followed by a recurrence than the clamp operation. He would unreservedly condemn the injection method and the Whitehead operation.

Injection Method Often Useful.—Dr. James P. Tuttle thoroughly indorsed all that had been said with regard to the success and general adaptability of the ligature and of the clamp and cautery operations. He thought the palliative treatment of hemorrhoids was too much neglected at the present day in our enthusiasm over radical surgical procedures. He asserted that there was a large number of cases of hemorrhoids which, if not too far advanced, would result in radical cure by proper local treatment associated with judicious regulation of the diet and general hygiene. When hemorrhoids had been bleeding and prolapsing for only a short time, if the sphincter was gradually dilated on alternate days with a bougie and the patient instructed to use cold applications and astringent injections, such as krameria, very great benefit would accrue from such simple treatment. The speaker criticised the statements in the paper on the ground that as the author had had no experience with the injection method, he was not in a position to condemn it. Dr. Tuttle said that he had employed the injection method in many cases with success, and while he had in a very few instances met with a slough, it had done no harm; moreover, just such accidents were frequently observed with the ligature or with the clamp-and-cautery operation. If the injections were given with proper aseptic precautions, there should be no danger of abscess or of sepsis. He did not believe in the injection method for all cases, but it certainly was very useful in certain forms of hemorrhoids. The reason that unfortunate results had followed injections, the Whitehead operation, and the others was that there was no perfectly satisfactory method for all hemorrhoids. In doing the Whitehead operation it was necessary to take off only the lower portion. The error was often commited of taking off the tissue too deeply.

Ligature Operation under Local Anæsthesia.—Dr. John F. Erdmann said that he coincided thoroughly with the reader of the paper regarding the injection method and the Whitehead operation. He had used the injection method in several cases, but had felt that the pain incident to the use of the injection needle was no greater than would be experienced from the injection of cocaine and eucaine, and if the latter were done a more radical operation would be possible. He had used both the ligature and the clamp operation, but preferred the former. He saw no necessity for keeping the patient in bed any longer after the ligature operation than after the use of the clamp and cautery. With both operations there was a slough of the tissues, and all that the surgeon waited for was the formation of a clot in order to insure against secondary hemorrhage. Such hemorrhage he had known to occur in connection with both the ligature and the clamp operations. When there was much pain after the ligature operation it was usually because the hemorrhoid had been cut off too close. An operator in Cincinnati had suggested an excellent modification, *i.e.*, the sewing of the mucous membrane over the ligature. There was no question about the Whitehead operation being followed by stricture more frequently than were the other methods, but he had seen a very bad stricture after the clamp operation, done by one who was by no means a novice.

Dr. J. Riddle Goffe thought that stricture was liable to occur with both the ligature and the clamp operation. He was sorry to hear the Whitehead operation so strongly condemned, because if care was taken not to remove any more than the pile-bearing area there should be no untoward result. It was his own practice to use four sustaining sutures, and he had had no unpleasant complications since adopting this plan.

Dr. Bullard, in closing the discussion, said that he had not unreservedly condemned the injection method, but only the Whitehead operation. The latter seemed to him a most difficult and wholly unnecessary operation. It was impossible to secure asepsis in the rectum for any length of time, and yet one must do this in order to secure primary union. The application of the cautery was a great safeguard against sepsis.

Arteriosclerosis.—Dr. Isaac Adler read a paper on this subject. He said that the very term arteriosclerosis had by no means a stable and generally accepted signification. Arteriosclerosis had been very generally looked upon as a disease primarily of the media coat of the blood-vessels. While very many of the prominent phenomena were undoubtedly accounted for by Thoma's theory, it did not explain them all. His theory provided a sufficient explanation for the lesions in the larger and in the largest vessels, but he did not think it sufficiently accounted for the alterations in the smallest vessels and in the parenchyma. It seemed to be a demonstrated fact that in every instance of arteriosclerosis the process was not confined to the blood-vessels alone, but the organ and tissues participated in the form of a hyperplasia, ultimately leading to circumscribed or diffused fibrosis. Every arteriosclerotic vessel seemed to be associated with more or less complete fibrous induration of the territory which it supplied. It was probable that arteriosclerosis often began in the smallest vessels and in the interstitial tissue. Local and general arteriosclerosis was found associated with various intoxications—almost uniformly in gout. Arteriosclerosis was al-

ways associated with indurative processes in the tissue and organs. It was by no means always a disease of senility, and might make its appearance at any period of life, even in childhood and infancy. It was his conviction that the disease would be recognized far more frequently in young subjects when the smaller vessels and the interstitial tissue were made the object of more careful investigation. It was probable that hereditary predisposition was a not infrequent and an important etiological factor.

Clinical Aspects.—The clinical recognition of arteriosclerosis, particularly in the young, was not always easy. The well-known accentuation of the second aortic sound was undoubtedly a pathognomonic sign when present, but its absence proved nothing. The increase of blood pressure had been shown to be by no means a constant symptom of arteriosclerosis. Hypertrophy and dilatation of the left ventricle of the heart were present in only a limited number of cases. A well-known type was that designated as cardiac. It often began in the finest branches of the coronary arteries. In the very earliest stages physical examination was practically negative, the symptoms, if any, being mainly subjective. There might possibly be a slight irregularity or a change in the rapidity of the pulse. Secondary murmurs and angina pectoris occurred later, associated with all the well-known symptoms of cardiac insufficiency. Another type might be called the renal. Here, too, the process apparently began in the interstitial renal tissue. The early stages could not be recognized clinically, even the urine ordinarily showing nothing pathological. A somewhat later stage was usually recognized by mere accident. There were still no very positive subjective symptoms, but an accidental examination of the urine, as for life insurance, would show a low specific gravity and an occasional trace of albumin with the constant presence of granular casts. Another group of arteriosclerotic cases might be described under the designation of the cerebral type. The disturbances of memory and the various forms of senile dementia had their anatomical basis undoubtedly in the arteriosclerotic condition of the brain, especially of the cortex. There were two other forms that had not been generally recognized. One of these was a spinal type, resembling in a general way the symptoms of tabes, but presenting none of the progressiveness of that disease. The other type was the gastro-intestinal, including under this head both the liver and pancreas. In many cases of arteriosclerosis the pancreas had shown an advanced state of arteriosclerosis. Possibly the glycosuria so often found in aged arteriosclerotics might be due in part to this arteriosclerosis of the pancreas.

Therapeutics.—It was quite hopeless in the present state of our knowledge to attempt to restore indurated tissues to their normal state; the most that we could hope to do was to arrest the process. This was within our power, more especially in those cases in which the arteriosclerosis was dependent upon some form of intoxication. In every case of arteriosclerosis he would urge the systematic and persistent use of the iodides. Our treatment in the main must necessarily be prophylactic, and in this connection it should be borne in mind that diet played an important part.

Dr. C. E. Quimby said that for many years he had been of the opinion that all of the processes which we call "pathic" were helpful, and were just as much a part of the biological action of the system as those which went on day by day. There was no necessity, therefore, for us to look far afield for the etiological factors. He believed that anything which affected tissue nutrition by weakening its effective forces might lead to arteriosclerosis. A process in one organ which demanded an excess of nutritive supply, and hence caused a relative diminution of the tissue supply for other parts of the body, he thought, might produce sufficient strain to result in the development of an arteriosclerosis. It was interesting in this connection to remember that very few people had all of their organs of the standard size; this meant that in almost every one the vital processes must be carried on under a condition of strain. Aortic accentuation meant only high tension for the time being, and, unless persistent, it was not an indication of arteriosclerosis. In making routine urinary examinations one should not neglect to determine the quantity, the specific gravity, and the presence or absence of casts.

Arteriosclerosis in the Young.—Dr. N. E. Brill spoke on this topic. At one time, he said, he had collected the cases of this kind that had been reported in the literature, and had himself reported a case of arteriosclerosis associated with chronic nephritis. The patient was a girl aged twelve years, who had come into the hospital in January, 1888, with a history of having been apparently perfectly well up to one week before admission, when on awakening in the morning she was found to have had an attack of hemiplegia. Two days before this she had had a headache. The heart was markedly hypertrophied, and the second aortic sound was reduplicated. The temporal arteries were tortuous and the radial arteries were hard. The urine contained a slight trace of albumin and numerous hyaline and granular casts. In a short time she had had an intense pain over the region of the spleen, probably from an infarct, and this had been followed by intestinal hemorrhage and death. The post-mortem examination had revealed as marked and diffuse an arteriosclerosis as he had ever seen in an adult. The autopsy had been made by Dr. E. Libman. The right kidney weighed 59 gm. and the left 34.5 gm. The capsules were adherent and the surface was granular.

Etiology.—The question of nicotine intoxication as a cause of arteriosclerosis he thought had not yet been demonstrated. He had been told by a prominent physician of Havana, where smoking is indulged in excessively, that among the common people arteriosclerosis was quite rare, but that it was quite common among the higher classes. This was ascribed to the fact that among the better classes the eating of large quantities of meat and the taking of little exercise were quite common. Hawkins had reported to the London Pathological Society some years ago a case of arteriosclerosis occurring in a child aged eleven years. Here there had been noted that occasionally the second aortic sound was not accentuated. This might be due to the fact that thickening of the aortic valve produced a moderate stenosis, so that a large volume of blood was not thrown into the aorta, and hence there was no sharp closure of the valve.

Arteriosclerosis in the Negro Race.—Dr. Louis Faugères Bishop said that in his experience he had found arteriosclerosis exceedingly common and well marked among the negroes. A recent case was recalled in which at autopsy the abdominal aorta had appeared like a stiff tube with only a small lumen.

Trigeminal Neuralgias.—Improve the general conditions. Apply ice or dry heat. In severe paroxysms give morphine injections. In tic give the crystalline alkaloid aconitine gr. $\frac{1}{100}$ every two hours until numbness of the tongue ensues. For continued use, morphine gr. $\frac{1}{12}$, strychnine gr. $\frac{1}{80}$ t.i.d., nitroglycerin gr. $\frac{1}{100}$. Croton chloral is often disappointing. Electricity with the positive pole to the painful area, with a galvanic current of 8 to 15 m.a. frequently gives gratifying results. Gauze wet with cocaine (twenty per cent.), chloroform, or tincture of aconite may be laid over the painful part and the negative pole of the battery applied with 12 to 20 m.a. for a few minutes.—McGregor, *The Physician and Surgeon*, January.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 7, 1901:

	Cases.	Deaths.
Tuberculosis	269	148
Typhoid fever	29	11
Scarlet fever	725	44
Measles	289	6
Diphtheria and croup	266	48
Smallpox	42	8
Varicella	54	0
Cerebro-spinal meningitis	0	3

Decreasing Birth Rate in Civilized Countries.—Referring to the downward movement as regards the birth rate in all or in most civilized countries of late years, presumably brought about by artificial means, *The British Medical Journal*, March 9th, has this to say: "It would not be wise to attempt to dogmatize on the utilitarian and ethical aspects of this modern movement (so strongly affirmed by the birth rates) in the direction of restraining reproduction. It has become established in most civilized countries and has obtained a firm foothold in Great Britain. The medical profession (with rare exceptions) has not shown any sympathy with it. The attitude toward abortion, of the medical profession as a whole, has not only been above reproach but above suspicion, and though the family doctor is not its conscience keeper, he certainly does not endorse the irresponsible voluntary limitation of the size of families. Though the French nation has practically sacrificed its prospects of future supremacy in the rivalry of races through the persistent gratification of a highly civilized individualism, the Teutonic races do not afford it a favorable soil, nor is it ever likely to become acclimatized in Great Britain."

Photographing the Stomach.—The *New York Tribune* gives the following extract from the *London Globe*: "Drs. Lange and Melzing have succeeded in taking photographs of the mucous membrane of the stomach in the living subject. A stomach tube, 66 cm. long, with a diameter of 11 mm., is introduced, having at the lower end an electric lamp and at the upper end a camera. The stomach is first emptied and washed and then distended with air. Then fifty pictures can be taken in rapid succession in from ten to fifteen minutes. By turning the apparatus on its axis all parts of the mucous membrane can be pictured. The photographs are about the size of a cherry-stone, but, of course, can be enlarged to any extent."

The State's Duty in the Prevention of Tuberculosis.—Dr. C. O. Probst, secretary of the Ohio State board of health, lays down these propositions for the prevention of tuberculosis: 1. The State should provide hospitals for the reception of consumptives, and should assist municipalities or counties to construct similar institutions. 2. Physical education, conducted by medical men, should be made a part of the common-school course; and students of colleges and universities should be instructed in hygiene, including a proper knowledge of the causes and prevention of tuberculosis. 3. The State should exercise a greater supervision over the construction, ventilation, and care of workshops and factories where the occupation is especially conducive to consumption. 4. The State should prohibit the sale of milk from tuberculous animals, and should provide for the inspection of dairy cattle. It should enforce the proper stabling and care of such animals.

Emergency Hospital for the Pan-American Exposition.—The directors of the forthcoming exposition at Buffalo appear determined to provide for the comfort of their visitors in every possible way, even to caring for them when sick or injured. With this laudable end in view, an emergency hospital has been constructed on the grounds, and, according to its description, the building must be not only eminently useful, but decidedly ornamental. It has a frontage of ninety feet; the main wing has a depth of thirty-eight feet, with a height of but one story, except in the centre, where it assumes the form of a square tower with a rounded top. This tower attains to the pretentious height of two stories, surmounted by two flagstaffs. One staff supports the exposition flag and the other the well known Red Cross banner. A rear wing, one story high, runs back from the centre portion a distance of fifty-six feet, with a width of thirty-two feet. The hospital in color is in keeping with the rest of

the exposition buildings, and resembles a low rambling adobe mission house covered with heavy red tiling. Interiorly it is fitted with all the up-to-date appliances adapted to emergency work. The first floor front contains in the extreme western wing two male wards with seven cots each, a bathroom, physicians' office, a morgue, etc. The eastern wing contains a woman's ward, large enough to hold a dozen cots. This wing also contains an office for the superintendent of nurses, private physician's office, and other conveniences. The upper story is intended for the use of the resident physician and the necessary attendants. The building is provided with natural gas for heating and cooking purposes, and water, gas, and electricity are carried to every part. Roswell Park, M.D., is the director; Vertner Kenerson, M.D., deputy director; and Dr. Alexander Allen is the resident physician. It is stated that up to March 1st, five hundred and four cases have been treated on the grounds, only one of which proved fatal. There can be no doubt that a hospital of this nature is a very necessary adjunct to an exposition, and those in charge of that at Buffalo are to be congratulated upon the erection of a structure that is not only admirably adapted to the object for which it has been built, but is also a picturesque addition to the *mis en scène*.

Some of the Properties of Oysters.—Oysters have for centuries been much esteemed by medical men as being very nutritious and easy of digestion, but both these properties are much diminished when the bivalves are not taken in their raw state. It may not be

generally known that the fluid which surrounds the oyster bears a closer analogy to the gastric secretion than anything else in nature. In addition to the solvent properties of this liquid it is not without its nutritive properties. We have of late devoted considerable attention both to the substance and the secretion emanating from it, and find that in a given weight of the latter and the same of the oyster, the fluid yields only forty per cent. less of animal gluten or jelly than the fish; consequently all persons who are accustomed to eat oysters should be ever mindful that as little as possible of the juice should be lost. To effect this purpose they should always be opened in the bottom shell. When oysters are either stewed or scalloped the two properties, as before stated, are much diminished, and consequently oysters ought not, by invalids in particular, to be taken except in their raw state.—*Sanitary Record.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended April 6, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, Los Angeles	March 16th to 23d	3	
San Francisco	March 16th to 23d	10	
Delaware, Seaford	March 20th	53	
District of Columbia, Washington	March 23d to 30th	8	
Florida, Jacksonville	March 23d to 30th	7	
Illinois, Chicago	March 23d to 30th	13	
Indiana, Muncie	March 1st to 31st	23	
Iowa, Clinton	March 23d to 30th	1	
Kansas, Wichita	March 23d to 30th	14	
Kentucky, Lexington	March 23d to 30th	3	
New Jersey, Jersey City	March 24th to 31st	5	
New York, New York	March 23d to 30th	41	10
Ohio, Ashtabula	March 23d to 30th	1	
Cincinnati	March 22d to 29th	4	
Cleveland	March 23d to 30th	42	1
Pennsylvania, McKeesport	March 23d to 30th	4	
Pittsburg	March 23d to 30th	2	1
Steelton	March 23d to 30th	3	
Tennessee, Memphis	March 23d to 30th	24	
Nashville	March 23d to 30th	11	
Utah, Salt Lake City	March 23d to 30th	33	2
Louisiana, New Orleans	March 23d to 30th	13	2
Maine, Portland	March 23d to 30th	1	
Massachusetts, Boston	March 23d to 30th	1	
Springfield	March 16th to 23d	1	
Michigan, Bay City	March 23d to 30th	3	
Detroit	March 23d to 30th	4	
Grand Rapids	March 23d to 30th	1	
Minnesota, Minneapolis	March 23d to 30th	11	
Winona	March 23d to 30th	4	
Nebraska, Omaha	March 23d to 30th	9	
N. Hampshire, Manchester	March 22d to 30th	3	
West Virginia, Wheeling	March 23d to 30th	3	
Wisconsin, Milwaukee	March 22d to 30th	2	
Porto Rico, Ponce	March 18th	4	
Smallpox—Foreign.			
Austria, Prague	March 2d to 9th	7	
Belgium, Ghent	March 8th to 16th	..	1
Brazil, Rio de Janeiro	February 1st to 15th	..	6
China, Hong-Kong	February 9th to 16th	1	1
France, Paris	March 8th to 16th	..	11
Rheims	March 3d to 10th	..	1
Great Britain, England, London	March 14th to 21st	1	
Southampton	March 8th to 16th	1	
Scotland, Glasgow	March 16th to 22d	..	24
Greece, Athens	March 3d to 10th	4	1
India, Bombay	February 26th to March 5th	..	7
Calcutta	February 23d to March 2d	..	113
Karachi	February 23d to March 3d	26	5
Madras	February 23d to March 1st	..	6
Italy, Naples	March 13th	General.	
Mexico, Progreso	March 1st to 15th	20	
Russia, Moscow	March 2d to 9th	11	3
St. Petersburg	March 9th to 16th	10	2
Warsaw	March 1st to 8th	..	3
Spain, Malaga	March 1st to 15th	..	2
Valencia	March 1st to 14th	..	1
Yellow Fever.			
Brazil, Rio de Janeiro	February 1st to 15th	..	22
Cholera.			
India, Bombay	February 26th to March 5th	..	13
Calcutta	February 23d to March 2d	..	24
Madras	February 23d to March 1st	..	4
Plague.			
Brazil, Rio de Janeiro	February 1st to 15th	5	3
China, Hong-Kong	February 2d to 16th	5	5
India, Bombay	February 26th to March 5th	..	1,253
Calcutta	February 23d to March 2d	..	405
Karachi	February 11th to March 3d	113	82
Madras	February 23d to March 1st	..	1

The Etiology of Cancer.—The report of an investigating committee concluded in the July number of the *Birmingham Medical Review* contains the following: 1. Certain more or less well-defined areas exist in which the mortality from cancer is markedly above, and others in which it is markedly below, the average for England and Wales. 2. Although age and sex incidence undoubtedly influence this variation, in some cases considerably, they account for only a small proportion of it. 3. Owing to the great difficulty of diagnosis in many cases of internal cancer the death rate from cancer is probably at present underestimated. 4. Contamination of the soil or subsoil for long periods with decomposing organic matter is very probably a factor in the production of a high death rate from cancer. 5. A damp, ill-drained, water-logged soil, of whatever geological formation, is more frequently associated with a high cancer death rate than is a dry well-drained soil. 6. There is abundant evidence of the existence of groups of houses in which cancer is found with marked frequency; and some evidence which tends to show that second and third cases occur in the same house with greater frequency than can be accounted for by mere coincidence. 7. Cancer occurs more frequently in old than in new houses and districts. 8. There is some evidence suggesting that under certain circumstances cancer may possibly be transmitted from one person to another in constant close association.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A MANUAL OF PRACTICAL HYGIENE. By Charles Harrington, M.D. 8vo, 729 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

AMERICAN DERMATOLOGICAL ASSOCIATION, TWENTY-FOURTH ANNUAL MEETING. By Frank Hugh Montgomery, M.D. 8vo, 236 pages. Illustrated.

LES FEMMES DOCTEURS EN MÉDECINE. 8vo, 287 pages. Illustrated. Alliance Cooperative du Livre, Paris, France.

NURSING ETHICS. By Isabel Hampton Robb. 12mo, 273 pages. J. B. Savage, Cleveland, Ohio.

THE TECHNIQUE OF SURGICAL GYNÆCOLOGY. By Augustin H. Goelet, M.D. 8vo, 340 pages. Illustrated. International Journal and Surgery Company, New York City.

CURABILITY OF TUMORS BY MEDICINE. By J. Compton Burnett, M.D. 12mo, 345 pages. Boericke & Tafel, Philadelphia, Pa.

L'ÉLECTRICITÉ ET LA THÉRAPEUTIQUE MODERNE. By Charles Chardin. 12mo, 98 pages. Illustrated. A. Maloine, Paris, France.

LA CURE PRATIQUE DE LA TUBERCULOSE. By Dr. P. Pujade. 12mo, 369 pages. George Carre et C. Naud, Paris, France.

COURS DE MINÉRALOGIE BIOLOGIQUE. By J. Gaube. 12mo, 331 pages. A. Maloine, Paris, France.

TRANSACTIONS OF THE SOCIETY OF ANÆSTHETISTS. Vol. III. 12mo, 168 pages. Illustrated. The Medical Publishing Company, Limited, London.

LES RAYONS DE ROENTGEN ET LE DIAGNOSTIC DES AFFECTIONS THORACIQUES. By A. Beclère. 12mo, 92 pages. Illustrated. J. B. Baillière & Sons, Paris, France.

UNTERSUCHUNGEN ÜBER HETEROGENESE. By A. P. Fokker. 8vo, 102 pages. P. Noordhoff, Groningen, Holland.

LA TUBERCULOSE ET LA MÉDICATION CRÉOSOTE. By Dr. Samuel Bernheim. 8vo, 317 pages. A. Maloine, Paris, France.

TRAITEMENT RATIONNEL DE LA TUBERCULOSE PULMONAIRE. By A. Pegurier, M.D. 8vo, 449 pages. A. Maloine, Paris, France.

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Original Articles.

THE TOXÆMIA OF PREGNANCY: ITS DIAGNOSIS AND TREATMENT.[1]

BY S. MARX, M.D.,
NEW YORK.

My object in calling attention to the toxæmia of pregnancy is solely to bring to your notice a condition which is neither generally recognized nor understood. This in itself is due to manifold factors, the most important of which is the extreme complexity of the theories advanced as to the pathogenesis of the condition, or, if you please, symptom; for surely it is such, and not a disease. It is simply one manifestation of a vicious complex of symptoms showing a pernicious disturbance of metabolism. While I shall discuss in passing the various theories advanced as to its causation, it must be remembered that, the paper being merely a clinical one, the deeper problems cannot be sifted, but must be left to those of my fellows who are capable of discussing such profound biochemical subjects. I appear before you as a practitioner, not as a theorist. What we want to know is, how to diagnose and treat to a successful end the condition before us. By the toxæmia of pregnancy we mean a disturbance of the metabolism in which, simultaneously with chemical changes in the urine, there appear certain well-marked nervous symptoms, that, when not actively treated, inevitably give rise to eclamptic convulsions. I further wish to call your attention to the fact that the manifest albuminurias of pregnancy do not enter into this category, that is, not those cases dependent upon acute nephritic changes with such characteristic evidences found in the urine as albumin and casts, but it includes those cases in which the symptoms of a true nephritis are absent. In the latter cases neither albumin nor casts are present, there is nothing but a progressive diminution of the solid constituents, and our standard of measurement is the amount of urea excreted. It has always been my belief that the causal factor of the toxic state is simply the faulty excretion of urea or one of its synthetic elements. Yet the many theories of the various distinguished authors must not be ignored, since they are based upon biochemical and pathological experiments, while mine are merely the result of clinical experience at the bedside. All agree that the condition is certainly a toxæmia, but an analysis of this definition reveals as many divergent views as there are investigators in the field. In a previous paper on this subject I reviewed rapidly the various theoretical causal factors as follows: Those of the auto-infective type, as from an accumulation in the blood of a toxic material, be this urine, fæces, or both, or due to the presence of creatin or creatinin or both, or again, as has been lately advanced, a leucomain poison; or those, on the other hand, of the heterogenetic type having a bacillary origin, with bacteria toxins; or, finally —and with this view I am partially in accord—depending upon a chemical basis, as a result of anomalies of oxidation, if we may so choose to call it, as for instance, upon a carbamic-acid poisoning. Yet be the causal factor what it may, my own clinical experience has taught me that the toxæmia of pregnancy, the pre-eclamptic state, and eclampsia are conditions closely allied, and intimately wedded in one way or other, to disturbances of renal secretion. Further, that the pure toxæmia of pregnancy is always associated with kidney inadequacy, so far as the absolute diminution of secreted solid elements is concerned, and that the surest method of treatment is followed by a return of diuresis with a hypersecretion of the offending retained products. The one organic product which, in all human probability, is the most dangerous one is the chief solid constituent of the urine—namely, urea, or its congener, nitrogen. Urea in its formed state is not a very poisonous element, for large amounts have been injected into animals without bad results. And yet when approximately the same amount as is estimated to be in the blood of a woman suffering from eclampsia, is injected into similar animals, death or convulsions are the result in a short time. The toxicity of eclamptic blood or serum is more than three times stronger than that of normal blood serum. Again, on the other hand, the urine of the toxæmic state is very much less poisonous than that of the healthy gravid woman. From a clinical standpoint, I wish to place myself on record, so far as my own individual experience is concerned, that I have never seen, except once, a case in which constitutional symptoms did not arise or manifest themselves when the amount of urea excreted was normal. Toxic symptoms were always present when diminished urea excretion was noted. I was always sure that, as soon as a hypersecretion of urea could be established, there would be marked improvement in the general symptoms. The exception noted above was in a patient who had the most extreme fluctuations of urea excretion I have ever seen: one twenty-four hours, passing only 6 gm. of urea, and the next succeeding twenty-four hours, 30 to 40 gm. And yet her constitutional symptoms were a little worse from day to day, until it became necessary to induce premature labor, when all the disturbances rapidly disappeared. The only explanation of this apparent discrepancy lies in the fact that the total average for the few days she was under observation was far below the standard amount to be excreted. Consequently, there was only a relative increase, and the manifestations of a decided urea intoxication became evident. Having such evidence before me, I am satisfied that urea or its synthetic nitrogen is the sheet anchor as regards the safety of the pregnant woman, and upon its excretion, whether diminished or increased, depends the health, nay the very life of the gravid woman. I am further well satisfied that it is this very product that kills, and that quickly, and that it is nothing else, certainly not the albumin. In the typical cases of nephritis gravidarum it is not the amount of albumin that should be our index as to when to induce labor, but always the amount of urea excreted. I have on numerous occasions seen in patients large amounts of albumin in the urine and have always refrained from interfering actively so long

[1] Read before the Metropolitan Medical Society, March 26, 1901.

as a good average urea estimation could be obtained; and, on the contrary, women apparently well, exhibiting not the faintest trace of albumin, have been attacked with eclampsia as by a lightning stroke from the clear blue, in whom every measure failed to check the fatal course of the malady. A timely urea estimation might have saved the woman (and I say might, advisedly). At least, examination would have possibly given us a clew as to our line of action. A recital of the following case, a truly malignant condition, shows us the helplessness of the situation as it occasionally presents itself:

A primipara, whose past and present history was perfect up to the time of her fatal illness. She passed her seventh month of pregnancy without the slightest difficulty. The urine had been carefully examined by her husband, a physician, and another expert. This had always been normal in every respect. Just two days after the last examination she suddenly complained of a very severe headache. In eight hours, vomiting set in, which was persistent and without apparent cause. The collected urine for twelve hours—about six ounces—showed neither albumin nor casts. A urea estimation showed a diminution down to one-fourth of one per cent. She was stupid and drowsy, the pulse was rapid and small. She soon began to twitch and her condition began to be precarious. It was decided to induce labor at once. The cervix, one and one-half inches long, was intact and the os tightly closed. Hot colon irrigations were begun at once, and a preliminary cervical packing was placed to start the labor. In six hours, eclampsia appeared and I was invited to see the case. In spite of the packing introduced in the morning there was no softening of the uterine zone. I unhesitatingly advocated the performance of either a vaginal or an abdominal Cæsarean section, for nothing short of such heroic measures could possibly have saved this young woman. This was denied me by the others present, and in a few hours thereafter exitus occurred, the patient being undelivered. She had been sick hardly thirty-six hours, passing rapidly from perfect health to death in so short a time. Of course this is an extreme case, the like of which I may never encounter again, and I sincerely hope never shall; for do what you will, medical or surgical, all such patients die from an intensely acute virulent toxæmia. But, fortunately, the greatest numbers of cases respond kindly and rapidly to treatment, whether medical or surgical, provided, of course, there be a timely recognition of the persistence of a deficient urea excretion. The sooner we all realize that it is this factor, and not the amount of albumin in the urine, which should be our sole indication when and when not to induce labor, the fewer eclampsias we shall meet. In another place I made the following statement, which I do not hesitate to repeat here: "Eclampsia is as absolutely preventable as is puerperal sepsis." Nay, it is more so, since even among the best and the most careful, sepsis will occasionally creep in. Not so with eclampsia; for if men were taught, or if taught would remember, that regular examination of the urine should be made and is as essential during the whole of pregnancy as asepsis is during labor, fewer eclampsias would occur, and, ergo, fewer women and children be lost. Men depend too much upon the presence or absence of albuminuria in determining the condition of a pregnant woman. Even in the presence of constitutional symptoms, such as œdema, headache, etc., the physician rests satisfied so long as no albumin is present in the urine, and declares his patient safe; and yet, while temporizing in a position of false security, he is dealing with one of the most malignant states and fatal cases in which there is uræmia without albuminuria, a condition that can be well denominated "urinæmia" for want of a better name. As toxæmias pure and simple these cases are not so fatal; but, nevertheless, they are distinctly treacherous, because they are either not recognized at all or light dawns upon the attendant when it is too late. This, then, is my object in imparting my experience with this very grave phenomenon of the pregnant state, as well as to add another note of warning as to the timely recognition of the malady. Timely interference and intervention carry with them almost universal success. Procrastination results in inevitable death. Since it is the urea or one of its compounds that kills, and not the albumin, I wish to make a strong plea for a regular and methodical course of urea estimation in all cases, instead of the time-honored examination for albumin and casts, or at least I would relegate the latter method to secondary importance. And for the reason that urea is always found markedly diminished in these so-called true toxæmias or, if you choose, urinæmias of pregnancy, our only true guide and indication for active interference is never the amount of albumin present. Only when in the face of active medical treatment there still persists a progressive diminution of the total amount of urea excreted in twenty-four hours do I advise surgical intervention. As to the diagnosis, when these facts pertaining to the urine are kept in one's mind there should be no difficulty. But the great trouble with many observers is that such a condition never dawns upon them, since they have been taught, and they themselves will teach, that the uræmic state is always associated with casts and albumin in large amounts. This reasoning and teaching are not only absolutely wrong but positively dangerous. Have we not all seen women go to term with positive evidence of grave nephritic disease, with little or no discomfort? And, on the other hand, I have personally seen at least ten cases perish without the slightest evidences of either albumin or casts in the urine. Among these I number two women the wives of colleagues, who died, I am ashamed to say, solely for the reason that their husbands were doctors. Are not all our own wives open, possibly, to this same neglect? I say positively yes, because I know whereof I talk—from bitter experience. The estimation of the amount of urea must always, if possible, be obtained from the total twenty-four-hour urine. The urine as a rule is diminished in amount, but not always, since in one case, that of a physician's wife, sixty ounces were passed in twenty-four hours. The specific gravity is generally low, and chemical examination shows no albumin or but a trace. Microscopy reveals little or nothing, an occasional hyaline cast being perhaps found after a lengthy search. But positively characteristic and always found is a marked diminution of the total amount of urea excretion. Instead of being the usual average, 0.02 in 1 c.c., I have repeatedly noted from 0.005 down to 0.001. Peculiarly enough, there are very often present larger or smaller amounts of sugar, but whether this shows a possible involvement of the liver in the toxæmia or is the cause of the latter, I am unable to say. It must nevertheless be remembered that glycosuria is of very frequent occurrence in the pregnant state. It is only after a very severe convulsion or after the uterus is emptied that both albumin and casts are found in the urine in the great majority of cases.

As regards the symptoms, they are generally those of a systemic intoxication. In rare cases they appear with lightning rapidity, without premonition. In most cases, on account of the insidious absorption of the excretory elements, there is noted a very gradual systemic intoxication. So gradually are the symptoms developed that they escape attention, yet they are sufficient for the careful observer to determine that a toxæmia is present. Patients so affected complain of a severe headache which persists and increases in spite

of all measures. It is not localized, but spreads all over the top of the head and down into the nape of the neck. There are nausea and vomiting but not those of pregnancy, since they occur at all times and are preceded by that peculiar feeling of goneness, emptiness, or painful faint feelings in the pit of the stomach. The vomiting may be so severe as to become almost uncontrollable. The presence of œdema is characteristic. It is erratic. At times the patient is bloated to a marked degree, and then in a few hours the œdema will have entirely disappeared. Again, there are temporary local œdemas, such as on one hand or foot, disappearing as quickly as they arise. It is this peculiar fugitive symptom which is as typical as any, and, to my mind, characteristic of this condition. Convulsions before labor are very rare; but when they occur they are preceded for days by twitchings which are limited to the face or to one or the other of the extremities. The explosion occurs often during or immediately after labor. This is followed by an increased discharge of urine. With this comes an increased excretion of urea, and with it albumin and casts appear for the first time. The albumin gradually increases, and then slowly diminishes in proportion as the urea increases. It would not be amiss at this time to narrate in a few words two typical cases. In one, by timely treatment I was able absolutely to overcome the toxæmia and carry the woman on to term when she was delivered normally, without the least trouble; while in the other case, because the diagnosis had not been made and a number of other measures instituted for various diagnoses, I was compelled strongly to advise the interruption of the pregnancy as soon as the diagnosis had been verified by a urea estimation.

G. H——, multipara. At the third month of pregnancy, having been previously well, she began to complain of gradually increasing headaches. These rapidly increased in severity and were soon accompanied by attacks of dizziness. Soon she was unable to see well and complained of spots before the eyes. She noticed that she was passing less urine. She was attended by her physician, who found nothing the matter with the urine as to casts or albumin. She was passing about twenty ounces of urine, and on making a urea estimation he found that she was excreting but 12 gm. of urea in twenty-four hours. Upon my advice she was put to bed, all the emunctories were stimulated, milk diet was given, and glonoin gr. $\frac{1}{60}$ four times daily ordered. From the very start the condition steadily improved and all the symptoms disappeared. As the chart indicates, the amount of urine rose at once, with an increased amount of urea:

First	day—Urea,	250	grains	in	84	ounces	of	urine.
Second	" "	280	"	"	92	"	"	"
Third	" "	300	"	"	96	"	"	"
Fourth	" "	380	"	"	98	"	"	"

At this time she had practically lost all her symptoms, when her child was taken ill and died. She was compelled to neglect herself and she rapidly went back to her old condition. The dizziness and headaches appeared again. Urinary examination showed a diminished amount of urea, but the urine was passed in large amounts.

First	week—Urea,	170	grains	in	110	ounces	of	urine.
Second	" "	380	"	"	152	"	"	"
Third	" "	400	"	"	176	"	"	"

Her symptoms again rapidly disappeared under treatment and remained away permanently, and she was delivered at term in a normal fashion.

The second case to be related was in the wife of a physician. She had always been in good health and was at the time in the third month of her second pregnancy. For the previous six weeks she had suffered from very severe and increasing headaches, which were unbearable at night. She had the usual nausea and vomiting of pregnancy. She felt rather weak and was becoming more and more anæmic. She was considerably annoyed by varicosities in the vagina, vulva, and upper part of the thighs, apparently increasing from day to day. Occasionally the arm and face were swollen, but this condition passed away very quickly. She was in charge of another physician when I was asked to see her. She was passing but twenty-one ounces of urine, and on examination of the collected twenty-four-hour specimens no albumin was found, the chlorides were markedly diminished, and under the microscope no formed elements were found. A urea estimation revealed but 0.015 per 1 c.c.; consequently, she was excreting but 9 + gm. in twenty-four hours, instead of 30 gm., which is the normal average. She was put to bed, under active treatment, but the condition did not improve; on the contrary, the headaches became very much worse. In thirty-six hours the urea in the twenty-four hours fell to 6 gm. in spite of very active treatment. The induction of an abortion was advised and rapidly done, and the patient made a speedy recovery. The symptoms, especially the headaches, quickly disappeared. Examination of the urine one week later showed large amounts of phosphates, and the chlorides very much increased; a very distinct ring of albumin was found with nitric acid. The microscope revealed a few suspicious formed elements, probably destroyed renal casts. The amount of urea in 1 c.c. of the collected urine was 0.02, which was approximately normal. At present, more than a year later, the patient is perfectly well and in robust health.

Treatment: In speaking of the treatment of this condition I must first refer to the prophylactic measures. It is within the province of every practitioner of midwifery to surround his patient with each and every precaution which would, or at least should, minimize the dangers during the pregnant state, and consequently lessen the possibilities of untoward complications during the puerperium. The most important measure is the regular examination of the urine, not in a perfunctory fashion as to albumin and casts, but for a methodical estimation, at weekly or semimonthly intervals, for the amount of urea excreted in a given twenty-four hours. Such an estimation is as quickly made as an ordinary urinary examination. It has been my custom for some time to depend upon such urea estimations primarily, and subsidiarily to this the albumin and cast investigation guide me in gauging the condition of my patient's health. In other words, albumin and casts have no meaning for me in the presence of a normal urea excretion, for with that I am in a position to know that sufficient of the effete products are being excreted and the condition of my safety valve in the engine of the body is evidenced by the behavior of this element. This is my sole guide, for I know of no better index of the workings of the great inner and practically unknown physiological machine. Whether this urea is really the offending agent or not, modern investigation does not allow us to state with any degree of positiveness. It is enough to this end to state that when there is a lessened secretion the patient suffers, and when hypersecretion occurs the patient is freed from those symptoms indicative of toxæmia. Successfully to treat these patients there must be absolute rest in bed. Every emunctory must be stimulated by means of drugs having specific action on the various excretory channels—the bowels by calomel, jalap, elaterium, or the various salines; the skin by hot packs, sweatings, or the milder diaphoretics. As to pilocarpine, I am opposed to it, for while it is a certain and powerful diaphoretic, it acts at the expense of the other secretions. It is a drug not devoid of danger, and for this reason I am opposed to its use. Of prime importance are those measures instituted directly to influence uri-

nary secretion. If I should appear to be dogmatic in what follows concerning my lines of treatment, I certainly wish to disclaim any intention to be so. I simply give the result to you for what it is worth, after years of experience in seeing and treating many toxæmic cases. I simply quote what I stated at another time in 1896.

Diet: Milk, buttermilk, kumyss, matzoon. Water is given in large amounts to flush the kidneys; my preference being a mild saline or pure spring water. Of the greatest value are hot rectal or colon injections, quarts at a time being given with the patient on her side, with the buttocks elevated. These act exceedingly well not only as a food, but as direct urinary stimulants.

Drugs: There are many to choose from. The refrigerant diuretics of the sodium class (potassium salts are all too depressant) with an infusion of buchu or triticum stand well in my estimation. Digitalis is the drug which seems to be the sheet anchor for most physicians. But in toxæmia, to my mind, it is positively contraindicated, since digitalis, possibly because of its digitoxin, is a decided and direct renal irritant and has no place in the treatment of a condition in which there is present at least a functional irregularity of the kidney. Among the drugs of unquestioned value are the vasodilators, and first and foremost nitroglycerin, nitrite of sodium, chloral, and small doses of opium. Among the true heart tonics are sparteine and the caffeine salts, either pure or in one of the usual double combinations which are soluble and given in double the amount. Strychnine I reserve for those cases in which there is a low-tension pulse, and in this condition it is a very valuable remedy. I have little to say in praise of veratrum viride. Unquestionably it will reduce both the volume and rapidity of the pulse; but of what value is such a reduction when it is symptomatic and not curative? The statement has often been made that when under its influence the pulse becomes soft, slow, and compressible, convulsions do not occur. I wish to deny this emphatically and in unmeasured terms, since I have seen awful convulsions when the pulse was 60 and alarmingly feeble. In a fatal case, that of the wife of a physician, a convulsion occurred one-half hour after an induced labor. The pulse was full and bounding and 178 to the minute. Hypodermics of full doses of veratrum viride sent the pulse down to 60, when it was hardly to be felt, and yet the worst convulsion the patient ever had occurred at this time and she succumbed to the malady in a short time. And yet in another woman full doses of a reliable preparation were given to control the fits while the pulse was full and bounding and the face deeply cyanotic, and neither the pulse nor the very severe convulsions were controlled. These and other cases, the results in which were entirely unsatisfactory, make me a sceptic as to the real curative value of this drug; and while I do not doubt that physiologically the drug will achieve its end, yet what we are after is not this—a symptomatic cure restricted to one symptom—but a clinical and complete cure.

Now, finally, as to venesection as pertains to its performance before the uterus is emptied. As in the use of veratrum so with bleeding: when there is an indication for either, there is also an indication for promptly emptying the uterus. If, then, after the uterus is emptied there is an indication for the abstraction of blood, let it be from that organ; take no measure to insure firm contraction of that viscus, but allow a free and copious hemorrhage to take place until the pulse becomes soft, feeble, and slow. I am an absolute and firm believer in the abstraction of blood when fully indicated in the cases of women in whom we find a high-tension, rapid pulse, deeply congested and cyanotic face, and threatened or already present convulsions. Whether this abstraction is from the arm or from the uterus, by leeches or wet cupping, is very immaterial so long as we bleed and bleed sufficiently to relieve the intense cyanosis and make the pulse soft and feeble. One of the most desperate cases I ever saw occurred in a young primipara, who suffered from an intense toxæmia before labor. She was delivered spontaneously of a dead child at the eighth month. Her condition did not improve after delivery, and in twenty-four hours she developed one convulsion after the other, four in the first hour, and soon became absolutely unconscious, with a pulse of 160 and tension very high. In spite of all measures her condition became rapidly worse. The fluid extract of veratrum was repeatedly injected, ♏x. at a time, but to no avail; the pulse ran up to 180, with tension greater than I had ever seen, and deepening coma—in fact, she presented the picture of a dying woman. As a forlorn hope I cut into the elbow veins. Sharp venous spouting occurred, so intense was the congestion, and in ten minutes—the time it took to abstract about one pint of blood—the pulse had fallen to 80 and was soft and feeble, the countenance of the patient was one of quiet repose, and she became semiconscious. The same condition, except the coma, returned in twelve hours; when, as she refused to allow the use of the scalpel, I applied sixteen leeches to various parts of the body and in twenty minutes all her symptoms had disappeared, and from this time on she made a complete recovery.

The lines of treatment advocated above are purely medical and are advanced from a tentative standpoint. In using them I am ever hopeful that the tide may turn at any moment for the better. And yet it is a principle with me to operate rather too early than too late; surgical measures are to be instituted at once when medical means have failed us. And when is this? It is a firm dogma with me that when, after a short time of active conscientious treatment, the urea estimation (above all clinical facts) shows no improvement—and certainly always when the excretion decreases progressively—to empty the uterus at once by any method which attains this end most quickly, safely, and surely. After labor the danger of convulsions is very remote, since in only five per cent. of the cases are they likely to occur. Should they nevertheless take place, a profuse abstraction of blood in the appropriate cases will give excellent results. Chloral in large doses and chloroform by inhalation are indicated, to ward off the attacks and to allay the seizures. Full doses of codeine, gr. ii.–iv. per rectum, have been a useful measure in my hands. And, finally, I stimulate the emunctories by all means, depending especially upon the use of continuous hot colonic irrigations of a salt solution. These, then, are the measures at my command, which I can recommend. Should I have fallen short of your expectations I have done so probably because you have been expecting something novel and startling. If such, then, were your anticipations, you must remember that the problem I was called upon to present to you has been the nightmare of scientists for many years, and is still to this day the moot and abstruse problem it ever has been. But if I should have impressed upon your minds only the following conclusions, then, and then only, would I feel that my weak efforts have not been in vain.[1]

1. Toxæmia of pregnancy is a complex condition depending on more than one factor.

2. Many women go to term with albuminuria, without symptoms referable to a toxæmia. When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion.

3. In the most desperate and malignant cases there is found neither albumin nor casts.

[1] Medical News, June 30, 1900.

4. Urea is always found markedly diminished in the so-called true toxæmias of pregnancy, or urinæmias.

5. Finally, I make a strong plea for a regular and methodical course of urea estimation in all cases of toxæmia, or for the relegation to secondary importance of the time-honored examination for albumin.

6. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

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FAITH CURES AND THE LAW.

By JOHN B. HUBER, M.D.,

NEW YORK.

On a day in February last I was at one of three hearings in the assembly chamber at Albany, upon the bill introduced by Mr. Bell, to the end that irregular practitioners should be compelled to take examinations after the manner required of those who become registered physicians. In essence this bill simply aims to compel those who would treat the sick to evidence an adequate knowledge of the structure of the human body and of the processes by which life is maintained, and to demonstrate their ability to differentiate one disease from another; in short, to satisfy what I understand to be a legal requirement, that "a person undertaking any duty must possess skill and knowledge competent for its successful discharge."

Representatives of various peculiar movements were present in great numbers to oppose this bill. The committee room, in which such hearings are usually held, was hopelessly inadequate to accommodate them, and they filled the assembly chamber. Among them were very few men. Especially conspicuous were those who go by the grotesque misnomer of Christian scientists.

These latter base their claims as "healers" upon their absolute denial of the existence of the human body; nay, more, they are proud of, and vaunt their complete repudiation of, the most fundamental facts of life. All diseases are alike to them in being non-existent—a cancer as well as a headache; typhoid fever as well as dyspepsia; a broken leg as well as a nasal catarrh; a case of diphtheria or smallpox as well as one of hives. All alike they would treat in but one way—by meditating and talking and doing absolutely nothing else.

Let us note some of the discussion which took place at this hearing.

One Mr. Richardson, who appeared for an organization called the State Association of Spiritualists, began his address with the statement that clairvoyance was now generally recognized as a well-established principle. "There are clairvoyants," said he, "who can see and describe persons at a great distance; and if they can do this, is it not reasonable to suppose that they can see the internal workings of the human system?" Mr. Richardson answered his own question by saying that it was not only reasonable, but it was certain that clairvoyants could do this. Not only this; they could also diagnose disease and tell the remedies that were to be used. When asked by an assemblyman how people came by this wonderful faculty, he answered, "It is a gift."

Mr. Kinter, a Christian-science healer from Buffalo, was asked if the training Christian scientists received gave them the ability to diagnose disease. "Yes, sir, it does," answered he; "I myself have treated thousands of cases. Isn't it fair to suppose that I know something about diagnosing disease?"

"Then let me ask you a question, which you can answer simply yes or no," said a physician who was present. "Would your treatment in the case of a cerebral abscess, a fracture of a bone, a hemorrhage of an artery, or a case of smallpox differ?"

"No, sir, it would not," answered Mr. Kinter.

"Well, then, if your treatment never differs," asked an assemblyman, "what is the necessity for your making a diagnosis?"

"Really, there is none, sir," answered Mr. Kinter.

Mr. Carol Norton, a Christian-science lecturer, was asked, "Do you treat animals and plants?"

"To the extent that there is mind back of animal life, we can."

"Suppose a cow were sick, would you treat her by your method?"

"Yes."

"Suppose a child swallowed a fishbone; what would you do in such a case?"

"I have treated similar cases to that, in which I have caused, merely by prayer, a relaxation of the muscles, which allowed the child to cough up the bone."

Asked what he would do in the event of a person cutting an artery, Mr. Norton replied:

"I would put a piece of plaster on it to prevent the dirt from getting in, and then would use my mind to stop inflammation or poisoning. Why, by the use of my mind I have been able to stop an unusual flow of blood in an instant. This bleeding to death only exists in your mind."

Mr. Norton went on to explain that in sickness it was necessary for the patient not to use his own mind, but to use his (Norton's) mind. He recited an instance of a boy having gone down in the water for the third time, being under the water for fifteen minutes, and having been laid on the dock apparently dead. Mr. Norton just went to work with his mental treatment and did not use any of the agencies generally employed in resuscitating drowning persons, and after a half-hour of such mental treatment the boy came to life and began to throw the water off his stomach, without having been rolled over a barrel or subjected to such other devices common to ordinary minds.

While the hearing went on I contemplated the great number of enthusiasts who had come into this magnificent chamber to impress the assembly committee and to uphold their leaders. The opportunity to study hysteria was one the like of which I shall probably never again realize. I vividly recalled Poe's story of how he had inadvertently happened into a *maison de santé;* and I could quite appreciate the observation of a colleague that the situation made him think of nothing in the world so much as of one of Charcot's clinics on an enlarged scale.

One would suppose now, at the beginning of the twentieth century, when men generally think sanely and reasonably, when we have come to substitute for superstition the habit of accounting for physical manifestations upon scientific bases, when science has made evident the value of sanitation, hygiene, and clean living in inducing happiness and well-being and in dispelling disease, that these peculiar movements would be impossible. As a matter of fact, it is difficult to conceive how they could ever have been more numerous than they are nowadays. A great many of them have emanated from or near Boston, a region resourceful in the production of cults which have for their basic principle dissatisfaction with the universal scheme. Such movements are to be looked upon, it seems to me, as epidemic psychoses. They resemble in all essentials the innumerable epidemics of abnormal mentality which have been born, have lived, and have died during the centuries. Whatever differences there may be, are of degree rather than of kind. The following are the main elements which make for

their success: First, the activity of a leader who is either unscrupulous or of abnormal mentality, or both. Then there is the assumption of religion. Eddyism and like hypocrisies attract very many honest and devout people who are under the impression that these movements must be good and wholesome because they invite adherence in the name of religion. Other essential features in these epidemics are the influence of imitation, suggestion, and the contagion inherent in social excitements.

To the student of human kind there can be no more interesting study than that of such cults as these. The works of Le Bon, Podmore, Jastrow, Patrick, and others are most inviting. They read like novels—infinitely more so than many of those which inundate us nowadays. I take from Le Bon's book, "The Crowd: a Study of the Popular Mind," this suggestive sentence: "The quality of the individual in the crowd is without importance. From the moment they are in the crowd the ignorant and the learned are equally incapable of observation." From the perusal of such works as these we may comprehend the spread of many extraordinary movements in times other than our own, viz.: the crusades instigated by Peter the Hermit; the children's crusades; the dancing manias of the Middle Ages; the witch persecutions; the tulip mania in Holland; the French Revolution; epidemic religious revivals in all countries, notably those in America in the time of the elder Edwards; the South Sea bubble, the Mississippi scheme, and the countless like phenomena with which the pages of history teem.

And the reader of these works will then understand, I believe, how it has come to pass in our day that a Simpson can relieve his packed audiences of their millions, how a Sanford or a Dowie can degrade the multitudes subject to their baneful influence, how a "Truth" can gull his thousands, and how Eddyism has come to be the most pernicious and the most prodigious social and religious falsehood of our generation.

There are, indeed, literally hundreds of pernicious movements which are in these times infecting the national life. There is time for me to mention only a few among them.

Besides Christian science, the movement called osteopathy just now is rather rife. It has been originated by one so-called "Dr. Still" of Missouri. According to Still, all diseases are due to some deformity or displacement of one or more bones of the body. The following statement in a pamphlet which I have received, is by far the truest which it contains: "Take the average man of to-day, go through the whole category of subjects with which he is brought into daily contact, and you will find nothing with which he is so deplorably ignorant as with his own body." "Not so with the osteopath," goes on the pamphlet, "he must know his anatomy and physiology perfectly, and must understand thoroughly the chemistry of the human body." Then why do these people fear examinations, as required by the Bell bill, as a tramp does water? Probably not a single one among the whole crew could pass a decent examination in these subjects. They have bitterly contended in various legislatures, as they are now contending in Albany, against the passage of laws framed to compel them to take State examinations in such subjects, although they pretend to know them with knowledge transcendent. Cure by osteopathy of any disease—cancer, typhoid, diphtheria, consumption, no matter what it is—consists in correcting the condition or the position of an offending bone. It is generally one of the vertebræ which is the culprit. This requires a long course of treatment "by massage." Most absurd all this—and infinitely worse than absurd. Nevertheless, we find these people importuning our legislatures, and, in some instances, actually receiving special legislative license. They lately bade fair to achieve such a result in this Empire State of ours.

Experience has taught me not to hope to review the pamphlet from which I take these statements, without coming upon attempts to make sacred literature influential in behalf of this system. "Much good," it is stated, "can come out of Missouri as well as Nazareth." "God speed the day when the Science shall be better known." The following falsehood is characteristic of pamphlets of this sort: "The science of osteopathy is recognized by the most intelligent of our land, and some of the most learned of the medical profession have seen fit to adopt its principles and practice."

I mention now the names only of Mrs. Henry Milmans, one among the many who have abjured Christian science, and who now conduct enterprises of their own; the so-called "Reverend" Charles F. McLean and many others who have claimed to be Francis Schlatter come to life again; the Fire-Baptized Holiness Association; the Peculiar People; the Holiness Society, of West Virginia; the cure in Maryland, by "saying words"; the Pennsylvania Hexen Charms; the Metaphysical Healers; the Mind Curists; the Viticulturists; the Magnetic Healers; the Phrenopathists; the Sun-curists; the medical clairvoyants; the Esoteric Vibrationists; the Occultists; the Venopathists; the Psychic Scientists; those who furnish astrological health guides; those who use or abuse the manipulations of hypnotism; those who claim the power to concentrate the magnetism of the air and to excite the vital fluids "by arousing the proper mental vibrations," or by some equally lucid and demonstrable procedure; those who advertise magnetic cups and positive and negative powders; those who treat absently by outputs of psychic force; "Colleges of Fine Forces" and "Psychic Research Companies," which offer diplomas and degrees for a three-weeks' course of study or the reading of a book; etc., practically without limit.

I shall devote the rest of my paper to Christian science, or Eddyism. This cult is worthy of special consideration as being, I think, fairly typical of these movements.

Its baneful characteristics are now matters of general knowledge. I shall confine myself to two of its aspects; namely, the claims of its "healers" and its pseudo-religious character.

The system of medicine which is taught in the great medical colleges of to-day is an epitome of the accumulated study and experience of mankind from the time human beings first became ill up to the present day. All systems of cure, or of alleged cure, have been examined by men who have made it the work of their lives to treat the sick. Whatever has been found curative has been retained, and unsubstantiated claims to cure have been discarded. So that the regular degree of doctor of medicine accredits its recipient with an adequate knowledge of the system of treating disease which is a crystallization of the world's best medical thought, study, and experience.

As the possessor of such a degree, I spent several months in an investigation of the cures which Christian-science "healers" were said to have accomplished. I beg now to submit the results of my study.

After a great deal of labor and after questioning a great many persons, I was able to get together the medical histories of twenty people who considered that they had been "healed in Christian science." These cases were offered me by their leaders. They were looked upon as remarkable cures. The failures I had no opportunity to examine. What was remarkable to me was the vast disproportion between the claims of these "healers" and the results of my investigation.

My findings (in which the cases were numbered,

but not named) were set forth in a serial paper in the New York *Medical News*, beginning with January 23, 1899; and they were epitomized in a paper in the New York *Popular Science Monthly*, of October, 1899. And I have yet to come upon any disputation of the statements made in these papers.

To be specific: I had heard of patients with yellow fever, locomotor ataxia, cancer, and phthisis, that were well and happy after having gone through fearful ordeals at the hands of ordinary physicians; these cases I was not permitted to examine. Mrs. Eddy has stated: "I healed consumption in its last stages, the lungs being mostly consumed." "I healed carious bones which could be dented with the finger; I healed them while the doctors were preparing their instruments for operation." "I healed in one visit a cancer that had so eaten the flesh of the neck as to expose the jugular vein so that it stood out like a cord." Judge Septimus J. Hanna, Mrs. Eddy's counsel, has issued a statement to the effect that "cancer, malignant tumor, consumption, broken bones, and broken tissues, in numerous instances had been healed through the power of Christian-science prayer, without the assistance of any material means whatever." Mr. Carol Norton has publicly announced that Christian science has cured "locomotor ataxia, skin and bone diseases, palsy, softening of the brain, paresis, consumption, tumor, Bright's disease," etc. Judge William D. Ewing has publicly stated that "under the power of Christian science the lame do walk, and the blind do see."

I did not in my investigation come upon a single case of these diseases which I have enumerated. Not one—from yellow fever down to blindness.

Investigators have for years been asking who these people are that have thus been cured, what their names are, where they live, how they can be found, and if Mrs. Eddy and her associates will submit such cases for scientific examination. Concerning such data as these we are as well informed as we are of the contents of the Sibylline Books. We must presume from their titles that Judge Hanna and Judge Ewing are or have been judges. Imagine either of these gentlemen on the bench; and imagine him accepting as evidence these uncorroborated and unsubstantiated allegations made by Mrs. Eddy and her associates. With what more or less suppressed mirth would the lawyers present, down to the most recent graduate, greet such ruling! How rapidly would the outraged counsel in the case appeal to higher and saner courts! With what despatch would the disgraced community attend to the impeachment of such a judge!

Most of the Christian-science "cases" I came upon were hysterics. Every physician knows that untruthfulness is a characteristic of such sufferers. Whether in a given case the untruthfulness is a subjective symptom of the disease, or whether it is inherently temperamental, we need not speculate. Suffice it to say that the uncorroborated testimony of a hysteric, from a scientific point of view, and as evidence, is not worth the breath required for its utterance.

As to the religious pretensions of Christian science! Let us presume for the moment that these pretensions are well founded. It is declared that this is a religious system; that the treatment of the sick is a part of this system, and that, as the Constitution forbids interference by the States with religion, no laws can be enacted which could compel the healer to desist from his work. But I ask the gentlemen of the law who are present if there is not a sharp distinction between religious liberty and license to commit in the name of religion unlawful acts. Surely a man would not be justified in killing his child in obedience to a fanatical belief, as Abraham was about to do. But Christian science has sacrificed the lives of many little children upon the altar of its pseudo-religion. Had not these children rights which ought to have been safeguarded? If the Christian scientists' position be admitted, a thug might, I submit, upon the same principle, be justified in committing murder, on the ground that murder is a practice required by his religion; and a Mormon might, on the same basis, practise polygamy. And when a "healer" treats for hire a sufferer from typhoid fever, is he acting in a religious capacity? And when a person, ignorant of the most rudimentary principles of sanitary science, treats those who are sick of contagious disease, in wilful disregard of laws enacted to conserve the general health of the community, may he claim respect for his personal liberty, to the jeopardy of the lives of his reasonable and sane neighbors? But from my study I derive the opinion that the assumption of religious motives by Mrs. Eddy and her associates is as false as can possibly be conceived.

If they really have the good of human kind at heart, they are certainly the oddest and the most original truth-holders and truth-offenders that have ever appeared in the world's history. The chiefest and the one essential attribute of those who have tried to help their fellows has been absolute unselfishness. And the greatest among these, the most mankind-loving of them all, He in whose name these people assume to speak, was of all the most self-abnegating. "Ye are my witness," said he to his followers. Let us see what manner of witnesses these are.

Mrs. Eddy declares that "no human being or agency taught me the truths of Christian science, and no human agency can overthrow it." However, there are published statements, of the truth of which the writers offer to give legal proof, in which it is shown, by means of the deadly parallel, that the essential ideas underlying her system are all plagiarized from the writings of one Dr. Quimby, an irregular practitioner to whom, many years ago, she went for treatment. Published accounts of her illness at that time present a picture of hysteria pure and simple.

In 1881, some time after Dr. Quimby's death, Mrs. Eddy established her metaphysical college in Boston. Her fees for tuition here were $300 for a two-weeks' course. Much of her teaching has been most pernicious and repellent; for instance, her declaration that she is able to reproduce in one of her own sex the miracle recorded of the Virgin Mary. There is much else that is unsavory. But what is here set down is no doubt sufficiently indicative.

Mrs. Eddy despises all metaphysical systems, yet her writings display her inability to think logically through half a dozen consecutive lines. She claims to possess healing powers nothing short of miraculous; yet it is declared that she has probably not been a well woman these forty years past. The New York *Evening Post* stated some time ago that she is now ill with cancer. Certain it is she never appears in public, and only a few of her followers have ever seen her face, except in copyrighted photographs.

Mrs. Eddy's desecrating hand has spared not even the Lord's Prayer, probably the most perfect prayer that has ever been made, for she has tainted it with such amendments as these: "Our Father, *Mother* God, all adorable, harmonious in One." And throughout her desecration is interspersed jargon from her book "Science and Health."

She has, with unspeakable presumption, pretended to imitate the healings ascribed to the Master; but, in a spirit woefully unlike His, has profited greatly by the exhibition of her alleged power.

Many of her followers are unquestionably good and worthy people. These demonstrate anew the hoary and fundamental fact that mankind, in large proportion, evinces a burning eagerness to be gulled. And it is evident that Mrs. Eddy and her associates fully

understand, and know well, how to reap the utmost advantage from this trait in human nature.

The disjointed data which I here set down merely suggest factors in the immense, shrewdly managed organization for the extraction of wealth from the pockets of the weak-minded, which Mrs. Eddy has founded. And her propaganda has made her conspicuously rich even in these days of enormous fortunes. And this woman would stand by the side of, nay, be superior to, the poor Nazarene.

Most Christian scientists are well-to-do. In the borough of Manhattan there are four churches, all in the neighborhood of the wealthy; and two new churches of truly magnificent proportions are now building. There are no missions by which the professed blessings of Christian science may be disseminated among the poor; and there are no dispensaries in which the poor may receive Christian-science "treatment."

"No one has any business to be poor," is a tenet in Christian science. The leaders of all these churches in Manhattan borough are women, one of whom, at least, enters the pulpit gowned and bediamonded as for a social function.

These leaders, as I understand it, have received their Christian-science education directly from Mrs. Eddy. What they have learned they disseminate to others in classes. There are two classes a year, in each of which thirty students are taught how they may in their turn reap the profits to be got out of Christian science. The class lasts three weeks, and the student pays $100. The leader then realizes from this source alone $6,000 a year, an amount merely accessory to the income she receives from her church position and from the exhibition of her alleged healing powers; for it is a principle redundantly enunciated that "it costs to be healed in Christian science."

Such is the spirit dominating this cult. What would He say and do were he among them, who with righteous indignation scourged the money-lenders in the temple?

In brief, the observer will find in Christian science much charlatanry (by which many honest fanatics are deceived), much to surprise reason and common sense, to offend good taste and the proprieties, to outrage justice and the law, and to mortify the pious.

And in the last degree reprehensible will appear this cult's ghastly masquerade in the garb of Him that prayed in the Garden of Gethsemane, "the pale, staggering Jew, with the crown of thorns upon his bleeding head," the tenderest, the divinest, the most mankind-loving personality the world has ever known.

41 West Forty-fifth Street.

A New Treatment for Tuberculosis.—For the past two and a-half years, O. A. Fliesburg has used the following formula: ℞ Iodi puri cryst., 1.50; phosphori puri, 0.25; thymolis, mentholis, āā 2.50; guaiacolis, 1.25; ol. morrhuæ sterilisat., 50.00. Ft. sol. secundum artem. Sig.: Use only hypodermically. For tuberculosis of the lungs, throat, glands, and intestines, one to three syringefuls once a day, preferably in the forenoon; for tuberculosis of joints and tendons inject into foci deeply, and then apply bandage; repeat in four to eight days as necessary. The injection, if made deeply into the muscles, is not painful, and causes hardly any erythema or induration. If these occur at all, they always disappear in from forty-eight to seventy-two hours, without suppuration. There is sometimes at the beginning of treatment a slight fever of one or two degrees F. The injections should never be made in the same place twice in succession.—*Northwestern Lancet*, March 15, 1901.

REPORT OF THREE CASES OF MALIGNANT ENDOCARDITIS: ONE FOLLOWING MEASLES, ANOTHER TYPHOID FEVER IN A CHILD AND SIMULATING SPLENIC-LYMPHATIC LEUKÆMIA, AND ANOTHER TERMINATING IN RECOVERY.

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Case I.—M. O——, female, single, aged twenty-two years, white, American, was admitted into the Howard Hospital, November 21, 1899. The following history was subsequently obtained from the family: The patient had been a remarkably healthy girl, and had experienced only an attack of mumps at the age of six years and occasional attacks of mild bronchitis. She had attended school until eighteen years of age, and subsequent to that time had helped her mother with the household duties and the care of three younger children. Three evenings during the week she assisted her father in taking charge of the books of a beneficial organization. On or about October 25th the youngest child, and shortly afterward the two others, developed attacks of measles and were nursed by our patient, who in turn contracted the disease at about the time of the convalescence of the children. The malady passed through an apparently regular course, but notwithstanding the remonstrance of the attending physician she insisted on continuing to look after her brother and two sisters. However, convalescence was apparently well established when, about November 8th, the patient was seized with a decided chill, followed by a high fever and pains throughout the body. After the first few days she lost strength rapidly, was delirious at night, and complained of oppression in breathing. During this time she was treated for supposed typhoid fever.

I saw the patient within a few hours after her admission to the hospital, and found her evidently a very ill woman. The temperature at this time was 103.8° F.; respiration, 36; pulse, 128, small in volume, and compressible. Her expression was dull and listless; her tongue was dry and thickly coated with white fur. Examination of the chest revealed a few small and large moist râles scattered over a wide area; the lungs were normal. The apex beat of the heart was in the fifth interspace in the nipple line, the impulse was feeble and diffuse, yet tumultuous in action. On auscultation a distinct, rather low-pitched murmur was heard at the apex and was transmitted into the axilla. The area of dulness was apparently not increased. The spleen was enlarged about two fingers' breadth below the costal margin. The liver also was enlarged, but not to any great extent. There were no tenderness over the right iliac fossa, no tympanites, and no spots. The bowels had been constipated.

November 22d, 7 A.M., T., 104°; P., 120; R., 36. 1:45 P.M., T., 104.8°; P., 128; R., 36. 10 P.M., T., 106.4°; P., 158; R., 48.

The urinary examination, inclusive of diazo reaction, was negative. The blood did not respond to the Widal test. Red corpuscles, 3,970,000; white corpuscles, 14,000; hæmoglobin, 40 per cent. The patient at the time of my visit (1:45 P.M.) was losing ground rapidly. The body was covered with cold sweat. The heart murmur was still heard, but the action was weak and irregular. Malignant endocarditis was mentioned to the interne as the probable diagnosis.

November 23d: She was delirious during the night, and refused food and medicine. At 6 A.M., T., 102.2°; P., 130; R., 56. At about this time the patient entered into a comatose condition and died at about 11 A.M.

Post-mortem by Dr. Boston, at 2 P.M. of the same day. I wish to state here that, unfortunately, owing to the building of a new pathological laboratory at this time, no cultures were taken. Heart: There was no hypertrophy; the muscular substance was pale; the coronary arteries were free. The left auricle was dilated, and seen from above the mitral crifice was found plugged by dark clot and large grayish-white vegetations. On sections, some of these were seen to be about one inch in length and friable, and at the base several distinct ulcers were recognized. The other valves were healthy. The spleen was enlarged, its pulp soft and reddish-brown; no infarcts were present. The liver was slightly enlarged, but contained no extravasation; its tissue was soft and light brown; no infarcts were present. Further examination revealed nothing of importance.

CASE II.—J. C——, male, aged nine years, white, American. Family history: His parents were born in Ireland. His father was by occupation a bartender, and died while under my care, at about forty-five years of age, with sclerotic kidneys and a dilated heart, probably due to overindulgence in alcohol. The boy's mother is living and healthy. He has two sisters living and in good health.

Previous history: He has had measles, chicken-pox, and whooping-cough; all under my observation. I emphasize this fact for the reason that I can speak positively concerning the absence of any previously existing heart lesion.

Present history: On November 4, 1898, I was called to the patient at his mother's residence and was informed that he had been ailing during the previous week, complaining of anorexia, general malaise, headache, etc. Dating from this time, for a period of exactly twenty-three days, the patient passed through a typical attack of typhoid fever. Relatively infrequent pulse, step-like rise of temperature during the first week, later morning temperature of 101° to 102°, evening temperature of 103° to 104°, diarrhœa, enlarged spleen, iliac tenderness, rose spots, response to the Widal test, and the diazo reaction were all present. At no time, however, were the symptoms unusually severe, nor was there any delirium.

On November 24th the fever terminated by lysis, and for six days an apparently normal convalescence continued. The tongue became clean, the appetite returned, and it was with difficulty that the boy was persuaded to remain in bed.

On December 1st the patient was suddenly seized with a rather decided rigor, which was repeated on one or two occasions during the following twenty-four hours. Immediately after the chill there occurred an apparently severe attack of pain, extending over the whole abdominal region. On the following day, and, indeed, until his admission to the Medico-Chirurgical Hospital on December 7th, these exacerbations of pain were repeated at intervals, and at one time seemed to be localized in the neighborhood of the appendix. Between the attacks the abdomen remained tender and tympanitic, and it was with considerable difficulty that on palpation the appendix was found normal. During this time the temperature on one or two occasions reached 102°, but was normal at times during some part of the twenty-four hours. The pulse, however, was now proportionate to the temperature, but examination of the heart revealed nothing abnormal. Increasing pallor and general debility became evident. The spleen, which had diminished in size, was apparently again becoming larger.

On admission to the hospital (December 7th) the temperature was 101.8°; pulse, 116; respiration, 24. On the following morning the temperature was 97°; pulse, 96; respiration, 24; and during the greater portion of his sojourn (thirty-three days) the temperature rarely reached 101°, and was quite often subnormal.

A blood examination made shortly after his admission showed white cells, 50,000 to the cubic millimetre; red cells, 3,500,000; hæmoglobin, 25 per cent. No microcytes, macrocytes, or poikilocytes were present. The examination of the urine was negative. The diazo reaction, however, was positive.

Under date of December 15th I find the following note: "His condition at the present time seems fairly good; he has had no pain for some time past. The temperature is still irregular and the pulse rapid. The action of the heart is tumultuous, but there is no adventitious sound. The spleen now reaches to one and one-half inches above a line drawn transversely through the umbilicus, the liver two inches below the ribs. He has had several severe nose-bleeds. His pallor is extreme. Marked pulsation of the carotids is noticeable. A second examination of the blood shows white cells, 44,000; red cells, 3,670,000; hæmoglobin, 30 per cent. Some enlargement of glands is present in the groin and axilla."

December 21st: "The spleen is one-half inch below the umbilical line and its upper border in the sixth interspace. It is smooth and thickened, but not particularly tender to the touch. The superior border of the liver is in the eighth interspace, the inferior border one-half inch above the umbilical line. Pitting on pressure is observed generally over the body, and the color is that of wax. No ascites is demonstrable. Throbbing of the vessels of the neck is noticeable. Tumultuous action of the heart is apparent; the apex is in the fifth interspace, and for the first time murmurs are heard: one is systolic in time and low in pitch, heard at the apex and not well transmitted. Another softer diastolic murmur is heard over the base. Bruit du diable is audible in the vessels of the neck. The axillary and inguinal glands are decidedly enlarged, somewhat soft to the touch, not movable, but not fused; the cervical glands the same, but to a lesser extent.

"A more detailed examination of the blood at this time shows the following: Red corpuscles, 3,100,000; white corpuscles, 49,000; hæmoglobin, 25 per cent. Poikilocytes are quite marked, megalocytes and microcytes quite numerous. No organisms can be detected.

"White cells: Polynuclear leucocytes, 79 per cent.; mononuclear, 2 per cent.; transitional, 2 per cent.; lymphocytes, 16 per cent.; eosinophiles, 1 per cent." I may state here that subsequent examinations of the blood did not vary much from the foregoing.

December 22d: During the night the patient was delirious and got out of bed during the absence of the nurse.

December 27th: The spleen reached one inch below the umbilicus. A distinct bulging was noticed and a grazing sound was heard over this region on auscultation.

December 29th: I find this important note: "A sudden and complete paralysis of the left side, with total anæsthesia of the left arm, was observed this morning. Heart murmurs continue as previously described."

The patient remained in much the same condition from this date, but with increasing prostration and frequency of pulse, until death occurred on January 10th.

The post-mortem was made by Dr. Babcock two hours after death under difficulties, the mother having absolutely refused permission for the same and remaining, indeed, in the waiting-room during this time. The following hurried notes were taken, but the heart, spleen, sections of the liver and glands, and a portion of the intestines are in my possession. The heart was normal in size, large masses of vegetation blocking the mitral

orifice. Several distinct ulcers existed between the outgrowths, one nearly the size of a turkey quill. The masses were grayish-yellow in color. The coronary arteries were free. The spleen weighed one and three-quarter pounds, its pulp was soft, and it contained three large yellowish infarcts. The liver was much enlarged, pale, swollen, and soft; it contained one infarct. The kidneys were somewhat enlarged and congested. In the intestines several distinct cicatrices from recently healed ulcers were observed in the ileum and other portions of the bowels. No infarcts were found.

Case III.—M. G——, female, married, aged twenty-one years, white, American. Family history: Her mother died of pneumonia; her father, three sisters, and one brother are in good health.

Previous history: She has had good health since childhood, with the exception of an attack of measles when ten years of age. Present history: In the early part of January, 1900, she was examined and passed by a physician for life insurance. On the 14th of March she miscarried of twins at about six months. She was out of bed on the 30th. On the following day she could not move on account of pains in the back and in the legs, which have continued more or less ever since. Her physician said this was rheumatism. Slight but offensive discharge from the uterus was present. She sweated at night. This condition of affairs continued, with increasing severity, for the following six weeks. There were pains in various regions, fever, sweats, and marked loss of strength and weight, so that at the time of my first visit she was extremely emaciated, slightly jaundiced, and so prostrated that she could not make the slightest movement. The expression of her countenance, as well as the general condition, was one of profound sepsis, and at my suggestion she was removed to my ward in the Howard Hospital on the following day.

May 22, 1900: Physical examination showed the lungs to be normal. The spleen extended two inches below the costal border. The liver was enlarged, but to a lesser extent. The apex beat of the heart was tumultuous and diffuse. No increase of cardiac dulness was found. A distinct murmur, systolic in time, was heard at the apex and transmitted to the left. Another systolic murmur was heard over a wide area at the base and was imperfectly transmitted. Temperature, 103°; pulse, 116; respiration, 29. The patient complained of dull pain in the region of the heart and of marked oppression.

The blood examination showed: Red corpuscles, 3,000,000; white corpuscles, 26,000; hæmoglobin, 35 per cent. Widal's reaction was negative. Streptococci were found in the blood.

The urine was negative as regards albumin and sugar, but gave positive diazo reaction.

The patient remained in the hospital for over six weeks (until July 12th). During this time the fever continued markedly irregular in type, reaching as high as 103.8°, and occasionally becoming subnormal. The pulse was rapid and, at one time, 148, soft, irregular, and compressible. Chilly feelings, followed by drenching sweats, were experienced, and during most of the time her condition seemed a most serious one.

The day following her admission, the question of curetting was decided negatively by my colleague, Dr. B. C. Hirst, but on different occasions no less than twenty abscesses, some deeply situated and others comparatively superficial, were opened in different parts of the body and streptococci were found in the pus.

I had at one time, when her condition appeared most desperate, made arrangements to inject some antistreptococcic serum, but found that the supply in the hospital had just been exhausted. The next day a slight improvement was manifest, so that the use of the serum was postponed.

During all this time the heart condition was as above stated. About June 22d the improvement became more decided, and the patient was at her request permitted to return home in a fairly good condition, on July 12th.

A recent examination (December 20, 1900) shows an increase of weight of twenty-five pounds. The heart reveals some slight increase in size, and both murmurs are still present.

All of the above cases presented points of particular interest. Case I. can be accepted as one of the typhoid type, and doubtless due to the poison of measles. This disease must be rare as a causative factor, for the examination of the literature at my command fails to reveal this relationship, with the following exceptions: James T. Whitaker states that "endocarditis very infrequently occurs in the course of measles, though cases have been noticed by Bouillaud, Stokes, and Roger. These, in fact, are the only ones I can find on record. Parrot did not find a single case of any form of endocarditis in eight hundred cases of measles." Anders mentions it as a possible cause. Even Osler, in his Gulstonian lectures on malignant endocarditis, does not mention the disease.

In Case II., first to be noted is the age of the patient—nine years. Osler tells us that there were only three or four patients under ten years in his collection of two hundred and nine cases. Samuel S. Adams reports a case in a girl aged six years, the only one treated in the Children's Hospital, D. C., since its organization in 1870, and after a thorough investigation of the literature on this subject he could tabulate only twenty cases (ten of males and ten of females) at or under the above age. Secondly is to be noted the typhoid fever, which I think was proved to have existed in this case. This disease seems much rarer than I had anticipated. Whitaker states as follows: "Typhoid fever is an infection which is rarely followed by endocarditis, and those cases reported will not bear strict analysis, as in many instances the diagnosis was based upon a bruit which might be otherwise explained." Osler says: "In the eruptive fevers grave endocarditis occasionally develops, in typhoid, in scarlet fever, and in variola; but in the cases I have analyzed these diseases appear of very trivial etiological significance." This case should, I suppose, be included in the simple pyæmic group, and yet had it not been for the differential count of the white corpuscles, and perhaps the number of the same, the clinical pictures would be almost typical of a case of splenic-lymphatic leukæmia. Grawitz states that the highest count of white cells in cases of malignant endocarditis has been found to be 44,200, the lowest 10,000. With this leucocytosis there is a decided reduction in the number of red blood corpuscles. It is worthy of note that, although the heart was repeatedly examined, no murmur could be detected until late in the disease.

In Case III., the interest consists in the fact that the recovery of the patient may throw a doubt upon the diagnosis. And yet, the previous successful examination of the patient for life insurance and the absence of evidence of compensatory hypertrophy on the one hand, and the positive nature of the symptoms for so long a period of time as detailed on the other, as well as the continued existence of a valvular lesion as recently determined, would supply an almost perfect record in favor of the views expressed. Besides which, other cases terminating in recovery have been reported by S. S. Adams, C. R. Gorwitz, H. Sainsbury, Leon d'Astros, and others.

The more modern views held regarding the relation existing between simple and malignant endocarditis make more easy the acceptance of the foregoing conclusion. For example, Lazarus-Barlow states that the difference between the simple and the malignant forms

depends upon the virulence of the micro-organisms or their toxins. The micro-organisms are almost always found in the vegetations on the valves in the infectious form, but also are frequently found in the so-called simple variety, and the same micro-organisms are found in both. When they act as irritants, inflammation results, and the case is one of simple endocarditis; but inflammation plus necrosis is septic endocarditis. Weichselbaum (quoted by Adams) claims that there is no essential difference, either histologically or bacteriologically, between the two forms; that the same species of bacteria are found in both, and that, in those cases in which the bacteria have not been found, they have either escaped detection or have died. Of his twenty-nine cases, he found the micrococcus lanceolatus in seven, the streptococcus in six, the staphylococcus pyogenes aureus in two, and in six various unusual bacteria; while in eight cases no micro-organisms were found. The most fulminating cases have followed staphylococcus infection. Streptococcus and pneumococcus infection was long drawn out, as a rule. Goldscheider claims that pneumococci in the blood always prove a profound infection and give an absolutely bad prognosis. When the ordinary examination of the blood has failed, Sittman's method should be tried. The blood may be taken from the median basilic vein with a sterilized syringe, mixed with melted agar, and be immediately plated; large quantities of blood should be used, so that the culture contains at least one-third blood. He states that the specific germ found in the blood gives decided evidence of the port of entry of the germ causing specific infection.

Dreschfeld agrees with the foregoing statements and mentions that most observers found but one organism in their cases, but admits that in some instances of infective endocarditis no microbes were found. In most cases the organism found in the diseased valve also invaded the infarcts and metastatic abscesses; those most frequently found were the streptococcus, the staphylococcus, and the pneumococcus. He further says that we may distinguish the following types of infectious endocarditis (*a*) primary; (*b*) as a complication of septic disease; (*c*) as a complication of pneumonia or meningitis; (*d*) as a mixed infection due to septic organisms, secondary to the acute infectious fevers, or secondary to rheumatic endocarditis or sclerotic conditions of the valves.

Adams mentions that a study of the experimental work of Netter, Ribbert, Frankel and Sänger, Prudden, Weichselbaum, Stern and Hirschler, Viti, and others, shows that true endocarditis can be produced in animals by injecting into the veins any one of the numerous micro-organisms, provided the heart valves are diseased, although Netter and Ribbert think a previous lesion is not essential; and Dreschfeld and others have succeeded in reproducing the disease in animals without previously injuring the valves.

Primary cases are rare. Osler states that it is engrafted upon a pre-existing valvular lesion in seventy-five per cent. of the cases.

Of the 209 cases in his collection, the tricuspid valve was involved in 19 cases, the pulmonary in 15, the aortic and mitral together in 41, the aortic alone in 53, the mitral alone in 77, the heart walls in 33, and in 9 cases he found the right heart affected alone. "These figures prove the involvement of the right heart out of all proportion to the left-sided disease in the less malignant or other forms of secondary endocarditis" (H. L. Elsner). Out of 802 benign cases recorded in the Munich statistics, the right heart alone was affected in 3.24 per cent. In 44 cases of ulcerative endocarditis the percentage of right-side lesion was 15.91 per cent. (Thayer and Lazear). Dawson Williams claims that, when the right side of the heart is attacked, it is due to secondary infection. Hall White explains that the specific micro-organism is thus carried by the veins to the right side of the heart.

Emboli occurred in one-fourth of all the cases tabulated by Sperling (quoted by Whitaker), and of these 84 cases, deposits were found in the kidney 57 times, in the spleen 39, in the brain 15, in the liver and alimentary canal 5, and in the skin 14 times.

Osler uses the term malignant instead of ulcerative endocarditis, as ulcers may not exist in all cases. Dreschfeld mentions that against the above it may be urged that some cases end in recovery; and again, that even the verrucose form may sometimes run a rapid or fatal course. He suggests the term infectious or infective.

It would seem that the recoveries are sufficiently rare not to invalidate the definition of the first term, and as I believe that even simple endocarditis is infectious, the substitute is even more objectionable.

Since the completion of the article, my attention has been called to Litten's report on endocarditis, before the German Congress of Internal Medicine.

His conclusions are somewhat similar to those that have been presented. His classification is as follows, on the basis of etiology:

I. Endocarditis benigna, which includes the following variations: rheumatica, peliotica, choreatica, gonorrhoica, scarlatinosa, morbillosa, variolosa, diphtheritica, typhosa, pneumonica, tuberculosa, e. influenzæ, and traumatica.

II. Endocarditis maligna. This is divided into (1) e. non-suppurativa, which includes e. rheumatica, e. choreatica, and e. gonorrhoica; and (2) e. suppurativa, septico-pyæmica—primary or secondary in any of the above forms. Benign and malignant gonorrhœal endocarditis are caused by the same agent, the gonococcus, the difference being merely one of degree, dependent on the virulence of the bacterium.

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The Origin of Eczema.—According to C. F. Marshall the only rational view as to the origin of eczema is to consider it not of parasitic origin, but due to disordered metabolism, giving rise to irritating substances in the blood, probably uric acid, or one of the substances into which it becomes decomposed. The parasitic theory does not explain the frequently universal and rapid appearance of acute general eczema so well as the autotoxic theory. Again, acute general eczema often subsides in a remarkably rapid way under soothing remedies which contain no parasiticides. —*Treatment*, March, 1901.

STRANGULATED HERNIA IN INFANTS: DESCRIPTION OF A HITHERTO UNRECOGNIZED CAUSE AND SEAT OF STRANGULATION.*

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DURING the past summer I had occasion to observe and operate on two cases of strangulated hernia in infants. In both cases I found the conditions to be so novel that I deem them of sufficient importance and interest to merit publication.

CASE I.—On August 10, 1900, I was summoned to see August B——, aged four months, and obtained the following history: About two hours before I saw the child the mother noticed for the first time a small mass in the right inguinal region; this mass was pear-shaped, about the size of a small egg, and extended from the region of the inguinal canal into the scrotum. It was both painful and tender. The child had vomited repeatedly; its bowels, regular up till that day, had not moved. Gentle taxis was at once attempted, and this being unsuccessful, another attempt at reduction was made under chloroform anæsthesia. But this was also unsuccessful, and the child was admitted into Mount Sinai Hospital for operative interference.

On the same day (seven hours after the strangulation was noticed) I operated upon the child under chloroform anæsthesia. An incision was made over the length of the tumor, which was found to be a congenital hernia. As rapidly as possible the entire sac was liberated from the surrounding structures, when, without opening of the sac and without cutting or dilatation at the neck, there was no trouble in reducing the hernial contents. Ligature of the sac near the testis, and high up near the internal inguinal ring, and resection of the intermediate portion, followed by suture of the superficial structures, terminated the operation. The duration was twelve minutes. Perfect primary union resulted, and the patient was discharged, cured, fourteen days later.

CASE II.—Milton F——, aged three months, was admitted to Mount Sinai Hospital on September 30, 1900, at ten o'clock in the evening, when the following history was obtained: The child was born prematurely, and almost mythical stories were related by his mother regarding his size and weight. At birth his length was said to have been no more than ten inches and his weight only one and one-half pounds. While he continued to live, he never thrived very much, so that his weight a few days before admission to the hospital was still only a trifle less than six pounds. For three days the child cried steadily and began to vomit, which symptom continued up to the time of admission. The mother was also certain that the child vomited fecaloid matter. On the morning of the date of admission the mother noticed for the first time a tense swelling in the left inguinal region. (It may, however, have existed there before, without her knowledge.) His bowels were moved by enema once, two days before admission, but refused to do so thereafter, in spite of efforts to do so by medication.

Status præsens: The general condition is very poor. In the left side of the scrotum there is a very tense, painful, and tender mass, about the size of an egg; the skin covering it, particularly in the lower portion, is red and œdematous. The mass is irreducible and presents all signs of a strangulated hernia.

Operation was performed immediately on admission, under chloroform anæsthesia. An incision was made over the mass in the left inguinal region, and the sac immediately opened. The aponeurosis of the external oblique was not divided, but there was at first no trouble in reducing the greatest portion of the hernial contents (large and small intestine), which were normal in appearance. There was, however, still one more loop of small intestine which resisted all attempts at reduction. I therefore extended the incision downward upon the scrotum, and found, beyond a constricting ring within the hernial sac, a loop of strangulated small intestine about four inches in length, of a deep purplish color, with its peritoneum still glistening. Under hot applications it rapidly regained its color. There was now no more difficulty in reduction, and this was rapidly accomplished. The testicle was also found to be gangrenous and was extirpated. On account of the bad condition of the child the sac was not extirpated, but merely sutured with a running catgut suture at the internal inguinal ring and the inferior portion also obliterated by suture. Suture of the overlying structures was done, with drainage at the inferior angle. The duration of the operation was twenty minutes.

The subsequent course was not so smooth as might have been desired, being marred by an intercurrent broncho-pneumonia; there was also considerable trouble in feeding the child. Both of these disturbances were taken care of by Dr. Koplik, visiting physician to the children's ward. On October 18th the child developed inflammation of the mastoid process, and was transferred for operation to the service of Dr. Gruening, with the herniotomy wound, with the exception of a minute superficial, granulating surface, practically healed.

Strangulated hernia in infants under one year is not by any means rare. Important and exhaustive studies upon it have been furnished to medical literature by Marsh,[1] Fere,[2] Knobloch,[3] Tariel,[4] Stern,[5] and others. The latest compilations of the subject originate from the pen of Dr. Charles W. Dowd,[6] of this city, who has been able to collect fifteen additional cases in 1897, and in a subsequent communication[7] added eighteen further cases, including two cases operated upon by himself. Though not overnumerous, the publications since that time describe strangulated hernia more in a general sense and, with few exceptions, do not give detailed descriptions of individual cases, so that it is difficult to establish satisfactory statistical data. We find among others that Coley[8] reports five cases in infants under one year; Fraenkel[9] has operated in four cases; Karewski[10] has operated in six cases; Funke[11] has operated in two cases; Tubby[12] has operated in two cases; Briscoe[13] has operated in one case.

This does not purport to be a complete list of the cases which have been placed on record since Dowd's last communication. In addition, there exist undoubtedly many scattered cases which I have not found, and which have never been reported. As the purpose of this paper, however, is not to draw such conclusions as can be obtained only from large statistical material, I have not found it necessary to republish all of the cases.

It is necessary to state at the outset that it is not to be denied that even infants of this very tender age may be afflicted with an acquired hernia; in which case they differ in no respect from similar herniæ in adults. But their relative frequency, when compared with that of the so-called "congenital" forms, is so small that for the purposes of this short article it may be left out of consideration; and I shall consequently confine my remarks wholly to the latter class.

Nor is it my intention to weary you with a detailed anatomical description of the congenital forms of

* Read before the Metropolitan Medical Society of New York, December 18, 1900.

hernia. There does not exist a single text-book upon descriptiye or regional anatomy, which does not treat at some length of this topic; and one would naturally suppose that this matter would have been concluded long ere this. Important modifications have, however, been noted of late by various observers, and fully described by Bayer. My personal experience is limited to perhaps a dozen operated cases, hence I shall refer those further interested to Bayer's[4] and Bittner's[5] classical articles.

While the comparative rarity of strangulated hernia in infants of three and four months would alone be almost sufficient justification for the publication of these two cases, there is a further and more important reason for again bringing up this subject. This reason is the heretofore unrecognized location of the constriction low down in the scrotum, which, curiously enough, occurred in both of my cases.

As a rule, the strangulation occurs in all herniæ, no matter where located, either at the external ring or at the internal ring, or at the neck of the sac. The few exceptions to this general rule are caused either by newly formed inflammatory bands and adhesions, or more rarely by openings in prolapsed omentum.

A critical review of most of the reported cases regarding this point may tend to prove this statement:

1. In the monograph of Marsh (*loc. cit.*) the seat of the constriction is specified in 32 out of the reported 47 cases, viz.: In 20 cases it was at the neck of the sac; in 7 cases at the external ring; in 3 cases at the internal ring; in 1 case at both the external and internal rings; in 1 case at the conjoined tendon.

2. Tariel (*loc. cit.*) has ascertained the seat of constriction in 81 cases (under one year of age, 51 cases; over one year of age, 30 cases) of strangulated congenital hernia; and obtained the following results, viz.: In 58 cases it was at the neck of the sac; in 14 cases at the external ring; in 8 cases at the internal ring; in 1 case a "funiculo-testicular diaphragm caused the constriction."

3. Coley (*loc. cit.*) gives the cause of the strangulation in four of the five cases he publishes; and this is found to be the aponeurosis of the external oblique in all cases.

There is evidently an important discrepancy between Coley and previous observers. Coley tries to explain this by suggesting insufficient observation, because he claims that in a majority of the cases compiled by Tariel the patients were operated upon without a free division of the aponeurosis of the external oblique, thereby preventing a thorough examination. Certainly no responsibility for this matter can be attached to Tariel, as a majority of the cases he reports were taken from other publications, and he gives the site of strangulation only as recorded. But excluding from his figures the cases compiled from the literature, and using as a basis for argument only the cases in which he witnessed the operation by M. Broca at the Hôpital Trousseau, and which were really the incentive for his dissertation, we find as the seat of the constriction the neck of the sac four times out of five cases. Coley's standpoint can hardly be assumed to be correct, particularly when it is taken into consideration that M. Broca himself operates in his cases of hernia also by free division of the external oblique. This is what Tariel has to say regarding this point: "M. Broca, who, in order to reach the neck of the sac, liberally divides the aponeurosis of the external oblique in all cases, whether strangulated or not, has noted that after perfect exposure of the sac, and without any muscular pressure whatever, the constriction persisted in the form of a narrow band (*bride*), reaching into the interior of the sac; and it was only after cutting this band (*bride*), in the neighborhood of the sac, that the strangulation could be relieved."

4. I have searched the records of 38 other cases regarding this point, and found that the seat of the constriction was not stated in 26 cases, was given as the internal ring in 6 cases, as the external ring in 4 cases, and as the neck of the sac in 2 cases.

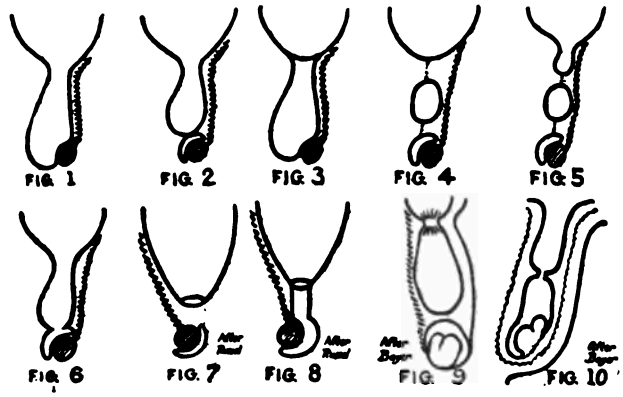
However, no matter which point is decided to be the seat of the constriction, this much is certain, that in by far the greatest majority of the observed cases the strangulation occurred either at the external ring, or at the internal ring, or at some point between these two. You will, therefore, readily agree with me that I was somewhat nonplussed, and at a loss to account for the strangulation in both of my cases, which occurred in the scrotum proper and at a considerable distance away from the external inguinal ring.

How can we account for this unusual exception?

For the better understanding of the possibility of such an occurrence it is necessary to go back to the developmental stage of the organs in this region.

It would exceed the limits of this short communication to give you a detailed description of the descent of the testis. Suffice it to recall for the moment that the testis in its descent to the scrotum, shortly before or shortly after birth, is preceded by a prolongation of the peritoneum, the processus vaginalis.

What, however, does materially interest us is the subsequent metamorphosis which takes place in this extruded portion of the peritoneum. The normal proc-



ess is that it becomes shut off just above the testis and forms a partial serous investment for this organ, the so-called tunica vaginalis. Furthermore, it becomes closed off also at the internal inguinal ring, while that portion lying between the internal ring and the tunica vaginalis becomes completely obliterated.

This is the normal process. There are, however, a number of deviations from the normal which are very important and may give rise to a number of anomalies.

1. The processus vaginalis may remain open in its entire extent. The testicle in this case is then partly within the sac. If it be open also at the internal inguinal ring, and an exciting cause be given, the abdominal contents may very readily enter, giving rise to a so-called "congenital hernia" (Fig. 1). In this case the hernia is in contact with the testis.

It may not be amiss right here to explain why in using the term "congenital hernia" I nearly always precede it with the word "so-called." First of all, the term "congenital hernia" has of old been applied to this particular form of anomaly; and while the other forms, to be shortly described, are also dependent upon some congenital fault, it is perhaps just as well to retain the time-honored term "congenital hernia" for this particular variety. As a mater of fact, the entire terminology could well stand revision, as in a stricter sense none, or at most the very fewest, of the described cases are congenital herniæ. The only part of most of these herniæ which is really congenital is the sac, while the hernia proper is acquired.

2. The processus vaginalis may close off at its lower end, forming a complete tunica vaginalis for the testis;

but it remains patent at the internal ring. The occurrence of a hernia in such a case is just as probable as in the first case, but with this difference, that the hernia is not in contact with the testis, being separated from it by the tunica vaginalis. This hernia has received the name of "hernia into the funicular process" (Fig. 2).

3. The processus vaginalis may remain open at its lower, but becomes shut off at its upper end. Should a hernia arise in this case it would become invested by a part of the peritoneum, which is extrinsic to the vaginal process. This form of hernia is called an "infantile hernia," or "hernia encystica Cooperi" (Fig. 3).

4. The vaginal process may form the tunica vaginalis as is normal, and may also become shut off at the internal inguinal ring; but the intervening portion does not become obliterated. Should, in consequence of any subacute or chronic inflammatory process, an exudate take place into this unobliterated portion, it will give rise to a "hydrocele of the cord" (Fig. 4).

5. The vaginal process may form the normal tunica vaginalis; and the upper part becomes shut off at, or in the neighborhood of, the external inguinal ring; while the most superior portion remains patent and communicates with the general peritoneal cavity. If now in this case the formation of a hernia be presumed, and also, for the sake of clearness, an exudate into the closed portions of the processus vaginalis, it will be apparent that we will have to deal with three separate swellings, viz., going from below upward, (1) a hydrocele of the tunica vaginalis; (2) a hydrocele of the cord; (3) a form of congenital hernia (Fig. 5).

The five abnormalities just enumerated are well known, and have so frequently been observed and described as to require no further comment, and may well be called the normal abnormalities. On the other hand, there may occur also abnormal abnormalities, and it is these in which we are particularly interested, as it is only by understanding these that we can account for the strangulation in my cases.

6. In the course of development the processus vaginalis may begin the shutting off of the normal tunica vaginalis, but the process may stop before it is entirely completed. The result will be a sac of the usual congenital variety (Fig. 1), but with this important difference, that it will be constricted in its lower portion (Fig. 6). In other words, the sac may not improperly be compared to an hour-glass open at its top; the size of the two halves varying, dependent upon the different theories which have been proposed as regards the exact mode of development.

The opinions regarding this point are not unanimous. I have obtained the following views:

Jossel-Waldeyer[16] says: "Shortly before or shortly after birth that part of the processus vaginalis which lies nearest to the testicle becomes closed off and forms the tunica vaginalis. Later, as a rule, that part lying in the inguinal canal becomes closed off, while the middle portion which lies in the scrotum remains open longest."

Merkel[17] says: "At about the period of birth the processus vaginalis becomes closed. The closure begins about the middle of the spermatic cord and advances in both upward and downward directions."

Lockwood[18] has this to say regarding the closure of the processus vaginalis: "There seems to be, as others have remarked, a strong tendency for it to close in two places, which are some distance apart; namely, just above the testicle and near the internal ring."

If it be presumed for the moment that Jossel-Waldeyer's opinion is correct, then the sac in this form of abnormality would consist of a smaller inferior portion and a larger superior portion. If, however, Merkel's theory is assumed to be the true one, then the two halves would be of more nearly equal size; while if Lockwood's opinion proves to be correct, then we may even have two constricting rings—one at the internal inguinal ring and one just above the testicle.*

This is my explanation of the occurrence of the strangulation low down in the scrotum in both of my cases. It is of course unfortunate that I cannot bring absolute proof for my explanation of the existence of such a sac, in the form of a demonstration ad oculos. As an excuse I must say that most of what I have said has been an after-thought subsequent to the operation; for there is very little opportunity for study of this nature in the heat of operation, during which one's mind is concerned mostly with the operative technique, and with the time in which to get through. Moreover both of these cases were strangulated herniæ, and in consequence the pathological specimens and proof were destroyed by the operation; in Case I. by the liberation of the entire sac from the surrounding structures, and the manipulation for the reduction of its contents; in Case II. by direct division of the constricting ring.

Though I should be very glad to be in position to bring confirmation for the occurrence of this form of strangulation, in the literature, I have been unable to find a single authentic case recorded. Its probability, however, is decidedly indicated in the following cases of reducible inguinal hernia:

1. Bittner[19] reports a case (Case XXX.) in which the hernial sac communicated by a fine opening with the hydrocele of the tunica vaginalis.

2. Bayer (*loc. cit.*) in speaking of the persistent vaginal process discusses, among others, circular constrictions, and brings forth two examples in illustrations. In the first figure (Fig. 9) the constriction is high up near the inguinal ring, while in the second (Fig. 10) the constriction is about midway between the testicle and the inguinal ring. The author does not say anything further of these cases, but, to judge from the illustrations, it is perfectly clear that a knuckle of intestine or omentum may very readily become strangulated if it should slip beyond the constricting ring.

3. Russell[20] illustrates by diagram two very interesting cases. "In the first case (Fig. 7) the tunica vaginalis has formed, but the apex of the upper part of the processus vaginalis has failed to become completely closed, and terminated in a circular fibrous ring. In the second case (Fig. 8) the same sort of arrangement existed as in the first case, but with the additional circumstance of interest that the fibrous ring is the only part of the funicular process in which obliteration has been attempted, with the result that the hernia has been permitted to descend as far as the constriction, while all the rest of the funicular process below the constriction persisted as a congenital hydrocele."

The discovery of this case in the literature was an exceedingly valuable one to me, as it corroborated the findings in my case perfectly. Let us go just one step further. Given an exciting cause in increased intra-abdominal pressure, a portion of the hernial contents is pushed beyond the fibrous ring where it becomes at once strangulated, and then we have a picture which closely resembles those of both of my cases, and particularly that of Case II.

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Cæsarean Section for Fibrocystic Uterine Tumor.—George L. Brodhead reports a case in which this operation was successfully performed. The patient was given ether; then, under constant irrigation with a hot decinormal saline solution, an incision six inches in length was made in the median line and the uterus exposed. Under constant irrigation the uterus was incised, the sac opened, and the child lifted out of the uterus. The placenta and membranes were removed manually. The tumor, about the size of an orange, was adherent to the rectum, but was detached and removed. It broke at one point, and some of it contents escaped, but no harm was done. The patient was taken to her bed in excellent condition, a little less than an hour having been required for the whole operation. Her recovery has been uninterrupted and the child is doing well.—*The Post-Graduate*, March, 1901.

The Value of the Tuberculin Test in Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints.—Charles H. Frazier describes the methods of using the tuberculin test, not as the means of revealing the presence of a focus in the incipiency of the disease, but as a means of determining whether, when the disease has apparently run its course and subsided, the process is in a state of quiescence, of latency, or whether resolution with total disappearance of tuberculous material has occurred. If the tuberculin test can be relied upon as he believes it can, there exists in those who have been subjects of tuberculous bone and joint disease a tuberculous focus, deep-seated, probably in the lymphatic system, which may have been the source of infection of the so-called "primary" bone or joint lesion. The existence of these tuberculous foci in the lymphatic system would serve to stamp as unreliable the tuberculin test when employed for the demonstration of the presence or absence of tuberculous lesions in otner tissues of the body.—*University of Pennsylvania Medical Bulletin*, March, 1901.

Veratrum Viride; its Undeserved Neglect.—E. W. Saunders makes a plea for the more frequent use of this remedy which he considers one of the most valuable drugs at our disposal. It is especially valuable in puerperal eclampsia and in pneumonia. In the former disease chloroform should be given, followed at once by veratum in large doses, so that the pulse may be maintained at the normal rate. The lessening of the vascular tension quiets the excitement of the cerebral cortex, causes free sweating, and increases the elimination of toxic material through the kidneys. In pneumonia, veratrum diminishes the pulse rate, lessens arterial pressure, diminishes the number and depths of the respirations, reduces the temperature from one to three degrees, gives a feeling of well-being to the patient, increases the quantity of the urine, quiets nervous excitement, and leads to a precocious and partial hepatization in the lung. Our course should be to watch the temperature and the pulse, and to use both as an indication for the use of the drug. When consolidation is complete, nothing can be gained by veratrum; digitalis, caffeine, camphor, and strychnine are then indicated.—*St. Louis Medical Review*, March 23, 1901.

Reduplication of the First Sound of the Heart.—C. C. Gibbes holds that we have two forms of reduplication of the first sound: first, the muscle vibrations, which have a dull rumbling character; secondly, the valve tension which is clear and high pitched in tone. Barr and Bramwell agree that "the right ventricle, by reason of the increased blood pressure in the right cavities of the heart, is first stimulated to contract," but they do not state that this contraction of cardiac muscle is audible. Gibbes is decidedly of opinion that it is, and believes this form of reduplicated first sound to be quite as common as the well-recognized reduplication of the second sound. It is frequently heard over the right ventricle in cases of anæmia when the heart is dilated and the second sound reduplicated, consisting of a low rumbling sound extending backward from the first sound and occupying the latter portion of the diastole. It is heard also under various other conditions, such as degeneration of cardiac muscle in typhoid convalescents, and in old-standing cases of bronchitis and emphysema when the right ventricle is beginning to fail. If degeneration of the cardiac muscle is present, the muscle sound is feeble, and may be nothing more than what Sibson describes as an absence of silence. When, on the other hand, the muscle is hypertrophied, it is of much greater intensity, and may in some cases closely imitate the presystolic murmur of mitral stenosis; Flint's murmur and the other presystolic murmurs that are not caused by mitral stenosis being, Gibbes believes, due to this form of reduplication. In mitral stenosis itself they impart the uniformly crescendo character to the murmur, and are the cause of the intimate connection of the auriculo-systolic murmur with the first sound.—*Medical Times and Hospital Gazette*, March 16, 1901.

The Vicarious Absorption of Oxygen in Pulmonary Obstruction.—Perry E. Doolittle claims that in diseases in which lack of oxygenation becomes a dangerous factor, such as laryngeal diphtheria, bronchopneumonia in infants, and double pneumonia in children, the internal exhibition of hydrogen dioxide is of great value. It readily parts with its oxygen, and, indeed, in its full strength is so active that to prevent oxidation of the tissues it has to be diluted. The three-per-cent. dioxide of medical commerce can be diluted about four to one. By administering the dioxide in sufficient quantity per os or per rectum, or both, we give the heart a healthy oxygenated blood to work on, we remove the demand in the system for more oxygen, thus taking away the necessity for overwork of the heart, we relieve the working air cells from the overstrain, and favor early resolution of the disease areas by supplying them with healthier blood. Its administration does not interfere with that of oxygen by inhalation, or with any other internal remedies which may be indicated, and in its free use the author believes that we have a means of tiding over the acute stage of pneumonia. The author reports two cases of its successful use.—*Dominion Medical Monthly*, March, 1901.

Chloretone in Dusting-Powders.—The employment of this agent for the purpose named is commended by E. H. Siter, who says that its use in dusting-powders for painful granulation wounds has been wonderfully

successful as far as analgesia is concerned. It does not seem to delay union or granulation, and it can be used in combination with almost any dusting-powder. It cannot be said, however, to hasten granulation, and, as far as he has observed, all it does is to mitigate or entirely allay pain in the majority of cases. This, after all, is a good deal gained for the patient and the physician. He has failed to obtain any action from the remedy used in solution for local anæsthesia. —*Therapeutic Gazette*, March 15, 1901.

A New Remedy for Hemorrhoids.—E. V. Hall, after experiencing the cooling effect of Echinacea angustifolia on a suppurating wound of his own finger, was led to use the drug in cases of hemorrhoids. The following is the formula used:

℞ Ext. echinaceæ angust. fl..... ʒ i.
Ext. hamamelidis virg. fl..... ʒ ij.
Aquæ destillatæ..... ʒ i.
M. S. Inject two fluidrachms after each stool.

Immediately after the use of the mixture a slight burning sensation is felt by the patient, but this is soon replaced by the peculiar cooling effect of the echinacea. Although the author has not yet had extensive experience in the local use of this drug, such as he has had, has been perfectly satisfactory, and he declares that he shall continue to use it, hoping later to make a more valuable report.—*The Cincinnati Lancet-Clinic*, March 23, 1901.

Silver Salts in the Treatment of Catarrhs of the Upper Air Tract.—E. B. Gleason says that whether the irritant or sedative effect of silver nitrate predominates, depends largely upon the character of the epithelial layer of the mucous membrane to which it is applied. If a sixty-grain solution be painted upon the posterior wall of the pharynx, the irritating quality is manifested and produces discomfort, persisting for some time. If, however, this solution be painted upon inflamed tonsils and the inflamed lateral wall of the pharynx, the primary irritant qualities of the nitrates are scarcely perceptible, and the procedure is followed by a sense of great relief and comfort. Painting the lateral walls of the pharynx with a sixty-grain solution two or three times a day is one of the best methods of aborting acute pharyngitis and tonsillitis. The reddened parts are at once blanched, partly as the result of the astringent effects of the silver and partly as the result of the formation of a closely adherent organic compound of the silver. The sedative effects of the application are so marked that the patient is usually able at once to swallow without much discomfort. The posterior wall of the pharynx should then be painted with a twenty-grain solution of protargol. This treatment, if repeated twice or thrice a day for two or three days, will in a large proportion of cases abort phlegmonous tonsillitis.—*Therapeutic Gazette*, March 15, 1901.

Ulcus Rodens Corneæ.—Schmidt-Rimpler reports two cases of this rare affection, which is not to be confounded with ulcus serpens, nor with the shallow marginal ulcers seen in old people, nor with chronic peripheric furrow keratitis. The rodent ulcer always begins along the corneal margin as a narrow but extended ulceration which gradually approaches the centre of the cornea. As a rule, the entire cornea becomes leucomatous, but in some cases there is partial leucoma. The disease may attack old or young, but it has never been seen in children. The etiology is still uncertain. Microscopically, undermining of the central margin of the ulcer is seen; there is actual elevation of the epithelium, which appears at first without any infiltration of the corneal tissue. At the peripheral margin of the ulcer, however, there is a hemispherical elevation, caused by proliferation of the epithelium, and particularly by the enormous development of new vessels. The moderate depth of the ulcer is revealed in the preparations. The retina is seen to be somewhat affected. The most rational treatment would seem to be cauterization and scraping, and possibly covering the ulcer with conjunctiva, although one cannot always expect a good result. As the deep layers of the parenchyma of the cornea and the membrane of Descemet are preserved, von Hippel's method of corneal transplantation might well be tried.—*Archives of Ophthalmology*, March, 1901.

The Myocardium in Infections, Intoxications, and Poisoning.—Giuseppe Giacomelli concludes his study of the subject by the statement that the interstitial connective tissue and the blood-vessels are rarely altered, but that lesions are constantly found in the fibres themselves. These lesions vary from simple atrophy and disappearance of striation to fatty and hyaline degeneration, segmentation, and destruction of the fibres. No special anatomical changes characterize any given infection or poisoning. The lesions found in the human heart can be produced experimentally in animals. The changes in the cardiac fibres are due to the direct action of the bacterial toxin or the organic or mineral poison on the fibre itself. These lesions are in themselves sufficient to produce cardiac paralysis.—*Il Policlinico*, February and March, 1901.

Hæmatoma of the Abdominal Walls Complicating Pregnancy.—W. Stoeckel describes two cases of a lesion which he thinks has not hitherto been described. In each instance a number of days before labor a large, flat, disc-like swelling appeared over the lower abdominal region, increased in size for a day or two, and was accompanied by moderate pain and febrile disturbance. At the time of observation no tenderness was present, and the tumors could be distinctly made out as being situated in the abdominal wall itself. After confinement, the masses decreased further in size, so that all possibility of their being new growths could be excluded and a diagnosis of fluid exudate was made. On incision the sheath of the rectus muscle was found filled with partly clotted blood, which was removed, the cavity curetted and packed. The sacks were quickly and completely obliterated and perfect union with a linear scar obtained. The point that makes the cases so anomalous is the fact that absolutely no cause for the effusion could be found, though all possibilities of a local trauma of any sort or systemic lesions were carefully inquired into.—*Centralblatt für Gynäkologie*, March 9, 1901.

The Operative Treatment of Congenital Luxation of the Hip.—A. Codivilla says that in children between the ages of three and twelve years, reduction may often be accomplished without cutting, and be maintained with good functioning powers in fifty-three per cent. of the cases. In the remainder the luxation returns, but in lesser degree than at first. To prevent this relapse, plaster apparatus must be used to fix the joint in the first position of abduction and internal rotation, for four or five months. In cases of extreme torsion of the upper end of the femur, osteotomy may be necessary to restore the normal relations between the two ends of the femur. The best incision in cases of operation on the joint is the antero-external, along the anterior border of the fascia lata, continued upward along the iliac crest, with detachment of the fascia lata, and a part of the gluteus minor and medius from their iliac origin. The wound is to be closed without drainage.—*La Riforma Medica*, March 6 and 7, 1901.

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CYCLIC ALBUMINURIA.

IN 1885 Dr. Pavy read a paper at the annual meeting of the British Medical Association, in which he propounded a new theory as to the occurrence of albuminuria in the apparently healthy; that is, in those persons presumably not afflicted with organic disease. Physicians for many years previous to that date had been aware that albumin appeared at intermittent intervals in the urine of individuals who seemingly were in a normal state of health, but owing to the somewhat casual manner of examining urine in bygone days the fact attracted but little attention.

When, however, a strict clinical examination of urine became more generally adopted as a part of the routine of practice, notice was soon drawn to the frequency with which "intermittent albuminuria" occurred, and the phenomenon was made the subject of much investigation, and many reasons were offered in explanation thereof.

Dr. Pavy, who had observed the tendency to the periodic recurrence of albuminuria, especially in the morning, concluded that it must be connected with cyclic change occurring at that period. At the time of the announcement, and for a few years after, Dr. Pavy's theory was considerably criticised, but now it is widely accepted as correct, so much so, indeed, that the condition is frequently referred to in Europe as Pavy's disease.

Since 1885 the matter has been discussed in medical circles in every civilized country, European physicians being particularly prominent in endeavoring to clear up its obscure points. Many facts relating to this form of albuminuria have been collected, and various theories with regard to its causation and significance have been advanced. Literature, contributed by native writers, bearing upon cyclic albuminuria, is neither copious nor exhaustive. Osler has written concerning it, as have Davis, French, Delafield, and others; but for the most valuable information regarding the condition, recourse must be had to the recorded researches of medical men of Europe and Great Britain, including Tessier, Lacour, and Marie, of France; Huebner, Reckman, and Heller, of Germany; and Ralfe, Moxon, Sterling, Hawkins, and Sutherland, of Great Britain.

Among the latest and clearest presentations of the subject as regards our present-day knowledge are a short article by Dr. Herbert P. Hawkins, of London, which appeared in the *British Medical Journal*, December 9, 1899, and a small book written by Dr. G. A. Sutherland, also of London, published at the end of 1900.

In the first instance, it must be premised that there is universal agreement as to the accuracy of Pavy's description of the characteristic features of this condition, which is as follows: "In the early morning the urine is free from albumin. Alubmin then shows itself, it may be at 9, 10, or 11 A.M., or not till the early part of the afternoon. After reaching its maximum, it declines, and often by the evening it has disappeared. It is rare to find that it has not disappeared by bedtime." Then there should be no ambiguity with regard to the sense in which the word "albuminuria" is used, as Dr. Hawkins emphatically says: "It is used in the clinical sense and not in a laboratory sense." From a laboratory point of view the presence of albumin in urine is the rule rather than the exception.

So far as the age incidence of albuminuria is concerned, Hawkins says: "The age at which it commences and the absolute frequency of its occurrence are unknown, because the condition is nearly always discovered accidentally." In the tables given by Huebner and Sutherland, the striking feature is the preponderance of these occurrences during adolescence. As regards the comparative frequency of sex incidence, Hawkins holds the view that our information is necessarily so imperfect that no definite statement can be made, while Sutherland, too, is by no means convinced of the validity of the prevailing belief that the "albuminuria of adolescence" is essentially an affection of the male sex—indeed, his own experience points to an opposite conclusion.

Both Dr. Hawkins and Dr. Sutherland agree that morning albuminuria is dependent on rising up, the standing or moving about in the early part of the day, and that it is not influenced by the taking of food. Dr. Sutherland is of the opinion that it is not dependent upon, although probably increased by, walking-exercise. Dr. Hawkins says all our evidence tends to indicate: (1) That the immediate cause of the escape of albumin is temporary impairment of the efficiency of the epithelium of the glomeruli, but (2) that the impairment in epithelial efficiency is itself the result of temporary alterations in the blood pressure in the glomerular capillaries. In other words, the actual seat of the trouble appears to be in the vasomotor mechanism, which regulates the blood flow into and out of the glomeruli, and not in the kidney structure. Dr. Sutherland coincides in opinion with Huebner, Marie, and others, that there is a general pathological condition present, to which the various symptoms may be ascribed, produced by instability of the nervous system, and is further disposed to think that the affection represents a condition of toxæmia, similar to, or identical with, the uric-acid diathesis. Upon the question of prognosis it is, of course, well known that there is a wide divergence of opinion, the majority of those who have made a study of this form of albuminuria holding that it is not unfavorable. Dr. Hawkins on this point gives a judiciously qualified

pronouncement. He is not too optimistic, but, upon the whole, he is inclined to look upon the bright rather than upon the dark side. Dr. Sutherland naturally does not commit himself to the expression of any definite views; but, as may be judged from the position he takes with regard to the etiology and pathology, he does not anticipate an ultimate, complete recovery. He adds the saving clause, nevertheless, that there is no evidence of any one having died of cyclic albuminuria, nor of Bright's disease supervening upon it, and thinks that a person in this state will under suitable surroundings and leading a careful life enjoy average good health. Neither of the above-mentioned physicians opines that medicinal treatment is either necessary or useful. Perhaps the greater number of physicians in this country will bear out the views of Dr. Hawkins as to the causation of cyclic albuminuria, rather than those of Dr. Sutherland; but why, if the immediate cause of postural albuminuria be variation in the blood pressure in the kidneys—as is the common belief—is not more attention paid to examinations of the blood pressure, as indicated by the pulse, at different times in the day? It is certainly in some degree curious that after all these years of investigation a more accurate knowledge of cyclic albuminuria has not been attained. At present no one knows with certainty whether it is physiological or functional or tending toward organic change in the kidney. It is self-evident that the subject is of the very first importance, and its final settlement would take rank almost with the greatest medical discoveries of this or any age. The researches of such earnest and capable workers as Dr. Hawkins and Dr. Sutherland are a good augury that such a result may be eventually reached.

THE INDISCRIMINATE SLAUGHTER OF WILD BIRDS.

Public opinion is gradually veering toward the conviction that the careless and needless killing of wild birds should be stopped, or at least be restricted to reasonable bounds. There is an old saying that a typical Englishman when he goes out in the morning usually remarks, "It's a fine day" (or "a wet day," as the case may be). "Let us kill something." This blood-thirsty instinct would appear to be almost as fully developed in the American. According to trustworthy accounts, the massacre of sea birds has been carried on in so reckless a manner that many breeds bid fair to become extinct. The breeding-season is that generally chosen for this sportsmanlike pastime, as then the birds come unwarily within the range of shotguns, the result being not only the death of the birds themselves, but the spoiling of eggs and the destruction of the young. The American Ornithologists' Union has been and is doing all in its power to check the probable extinction of sea birds by these means. The union has been successful in prevailing upon the legislatures of twenty-two States to pass laws for the protection of sea birds; but in Louisiana, in the swamps of whose coasts wild birds of all kinds most abound, the authorities have refused to grant protective legislation. The committee, therefore, appointed by the union to devise means of preservation for the feathered inhabitants of this region has decided to hire wardens to guard the sea birds while they are on their breeding-grounds. As the New York *Sun* of Sunday, March 31st, points out, this scheme is now practicable, much of the Gulf swamp land having passed into the hands of private individuals, with whom the Ornithologists' Union has come to an agreement to prevent trespassing; and by shutting out the hunters from the marshes, it will become impossible for them to kill the sea birds which breed on these lands.

The Lacey act also is a powerful instrument for the protection of birds and beasts, as it makes it a punishable offence to export from a State any bird or animal unlawfully killed therein, or to receive such a bird or animal in any other State. The committee is sanguine that the vigorous enforcement of this law by the United States department of agriculture, which has the matter in charge, and the proposed extension of the warden system, will in a very short time break down the whole plume trade so far as it lives upon the birds of the United States.

That these anticipations may be fully realized will be the earnest desire of those who deprecate the unreasoning slaughter of beautiful and useful sea birds.

THE PATHOLOGY OF THE SO-CALLED FUNCTIONAL NEUROSES.

Of the essential nature of life, little of a definite nature is actually known. The most that can be said of it in this connection is that it represents a mode of motion, a form of force, whose activities are exhibited in diverse ways, and the results of which may be evident, while the underlying mechanism is concealed from view. Life is seen in its simplest form in the cell. Organs are but aggregations of cells, and the animal organism but an aggregation of organs intimately connected and related. That life must be attended with certain changes in the media through which its activity is manifested would seem almost axiomatic. Its normal manifestations we know as function, its aberrations as disease.

The beginnings of disease must necessarily consist in undiscernible alterations in cellular structure and function, and it is probable that changes of this character underly the so-called functional disorders; namely, those unattended with evidences of structural or organic lesions. Recent advances in staining-methods have, in fact, helped to disclose minute changes in cells subjected to various morbific influences, and thus lend support to the view briefly expounded. Such alterations in cellular nutrition may result from the action of substances normally generated within the body, but now produced in excess or in deficiency, in consequence of some derangement in metabolic equilibrium, or in themselves abnormal, or introduced from without in connection with infection or intoxication.

As bearing upon this subject, Dr. Theodore Klingmann (*American Journal of Insanity*, vol. lvii., No. 3, p. 519) has recorded the results of some observations

on the cells of certain algæ and protozoa. It was found that a variety of changes could be induced by artificial means: (1) Changes identical with the physiological appearances occurring in the cells when they die gradually from natural causes; (2) changes of a purely chemical character; (3) changes of a pathological nature due to toxic substances—the results varying with the intensity of the operating influence. In one series of observations metallic substances were employed to induce the changes described. In the second series blood serum obtained from patients suffering from various forms of so-called functional, nervous, and mental disorders was substituted. Analogous results were obtained in both series of experiments. A great variety of pathological conditions was found in the ganglion cells of rabbits and guinea-pigs treated with injections of toxic serum in varying dilution, the form of chromatolysis varying with the strength of the serum and the period of its activity. The use of blood serum from healthy individuals, on the contrary, yielded negative results.

THE PRISON ASSOCIATION OF NEW YORK SING SING PRISON.

A MEMORIAL has been presented by this association to the New York legislature, respecting the condition of the State prison at Sing Sing. The association's investigating-committee, the sanitary engineer, the warden, and the physician of the prison all concur in a severe indictment of the existing unhealthful plight of the institution. Their reports show that Sing Sing prison is absolutely unfit for human habitation. Sufficient light is entirely lacking. The cells are dark, unventilated crypts, in which men are compelled to exist on one-third the amount of air necessary for the average human being. Even this pitifully small supply of air is vitiated by foul and poisonous odors from the "backing up" of sewage and the deleterious emanations from defective drainage diffused throughout the prison. These dangerously unhealthful conditions which have engendered typhoid fever and tuberculosis are aggravated by the enforced overcrowding, by which two men are obliged to sleep together in a space that might answer for a dog's kennel, but into which no thrifty farmer would think, in these days, of immuring one of his cattle. Mr. Charles Wingate, the sanitary engineer, condemns the construction and arrangements of the prison, in unqualified terms of strong disapproval.

These facts were laid before the State board of health, which body, as a result of independent investigation, fully endorsed the findings of the committee of the Prison Association. Although the legislature has been yearly notified for some considerable period of the unhygienic state of Sing Sing prison, up to the present time no action has been taken. Stress has been laid in many medical journals recently, upon the fertile field afforded by ill-ventilated and overcrowded prisons as a means of propagating and spreading disease, and especially of tuberculosis. A significant object lesson of the truth has been given by the prisons of Alabama. It has been pointed out time and again that not only is a prison of this description inhuman to a degree, and dangerous to the health of the unhappy culprit incarcerated therein, but is also a distinct menace to the community. For all reasons then, for moral, physical, and economical, the fitting and obvious course of the legislature would appear to be to order Sing Sing to be razed to the ground, justly condemned as a relic of the dark ages of penology, and to erect in its stead on a suitable site a building constructed in conformity with the latest sanitary principles.

The urgent appeal of the committee of the Prison Association that a commission be appointed to consider what steps are necessary for the improvement, reconstruction, or centralization of the penal institutions of the State is founded upon a sound and reasonable basis and is deserving of the close attention of the authorities at Albany.

News of the Week.

Sterilizing Money.—The Cheshire National Bank, of Keene, N. H., has recently taken a very unusual precaution. Scarlet fever is epidemic in that town, and to prevent its spread the bank has put in a sterilizing oven, in which all the money which passes through its hands is to be sterilized.

Public Opinion on Bird Slaughter.—The New York *Evening Post* quotes the following denunciation of trap shooting which will find an echo in the hearts of all reasonable and humane members of the community: "Massachusetts has a law against the trap shooting of live birds, and the practice should not be tolerated in any State; and it will not be any longer in New York if public opinion, which appears to have become thoroughly aroused on the subject, is rightly directed. The gratification of a brutal instinct on the part of a few should not be permitted at the expense of a wholesale cruelty to helpless victims and a shock to public sentiment."

Stony Wolde Sanatorium.—The energetic measures now being taken in all parts of the world for the checking of consumption are evidenced by the various philanthropic schemes that are multiplying almost daily to attain this result. The New York *Evening Post* refers to one of the latest of these in this State thus: "A pressing need of the times is the establishment of sanatoria for working-girls, young married women, and children suffering from tuberculosis. For the purpose of founding an institution of this kind a committee of women has been formed, known as the Stony Wolde Sanatorium Building Fund Committee. In spite of several organizations in our city and State which are caring for tuberculous invalids, the number of the latter is so great that many urgent cases are suffering from lack of proper climatic treatment. In New York State alone during the year 1899 thirteen thousand persons died from tuberculosis, and the report of the State board of health for that year shows an increase of three hundred deaths from this disease

over the year preceding. Since tuberculosis has been classed as a contagious malady, patients suffering therefrom are not received at our city hospitals, excepting in cases of a very few institutions which have special tuberculosis wards. During the year 1900 ten thousand cases were reported to our medical health board, and it is estimated that at the present time in New York City alone there are thirty thousand cases." The proposed Stony Wolde Sanatorium will be non-sectarian, and the medical board by which it is to be conducted is composed of physicians of the highest standing in New York and Albany.

Honors for Sir William MacCormac.—His Majesty the King of Italy has promoted Sir William MacCormac to the degree of grand officer of the Order of the Crown of that country.

Death of an Eminent Foreign Professor.—Joseph Fodor, M.D., professor of hygiene at the University of Budapest, has recently died. He was born in 1843, studied under Pettenkofer at Munich, and later under Baron Liebig. Dr. Fodor was, after his master Pettenkofer, the best known of the European sanitarians, and did much toward rendering Budapest the healthy and beautiful city it now is. He was a man of many gifts, and was for some time joint editor of the medical journal *Orvosi Hetilap*.

Adulteration of Food.—Dr. Wiley, chief chemist in the department of agriculture, recently delivered an address on the above subject before the Westchester Woman's Club of Mount Vernon. He drew attention to the somewhat anomalous fact that while various States have laws forbidding the adulteration of foods, there is no national law regulating the matter, so that food which is adulterated in New York State can be taken to New Jersey and sold, the law prohibiting the sale of it in the State of New York. Some adulterations are harmful, while others are not; among the harmless list being the adulteration of coffee with peas, beans, chicory, etc. Samples of the various substances used to adulterate coffee were exhibited, and the statement was made that ninety-six per cent. of all the coffee that comes into the United States is from Brazil. Dr. Wiley referred to the manufactured wines, showing samples of port, sherry, and claret that were entirely innocent of the juice of the grape, and pieces of silk dyed different colors by these spurious wines. He further spoke of the adulteration of milk, butter, and spices, and other articles, the lecture being illustrated by specimens of various foods and their adulteration.

New Tuberculosis Cure Announced.—A multitude of cures for tuberculosis have been heralded from time to time with a loud flourish of trumpets, but all as yet have proved, in the words of the preacher, "vanity and vexation of spirit." So much has this been the case that whenever one hears now of another remarkable cure for consumption one is apt to be sceptical as to its true value. The latest remedy brought forward is in its way unique. Dr. Henry Harper, an English physician, it is reported, has been experimenting with urea, hypodermically injected, with wonderfully successful results. Dr. Harper noted the fact that, in spite of the beneficial effects of fresh air in the treatment of consumption, many of his patients came from the country, and further, that while the carnivora were comparatively exempt from the disease the herbivora were peculiarly liable to contract it. Again, his investigations showed him that gouty or rheumatic families were seldom the subjects of tuberculosis, while those who were especially prone were, as a rule, large vegetable and fruit consumers. He found that there were recorded several instances in which a severe attack of gout had either checked or cured cases of tuberculosis. The common belief is that gout and rheumatism are owing to an undue production of urea and uric acid in the system, which condition is aggravated by meat eating. Therefore, Dr. Harper argued that the presence of these constituents in the blood is antagonistic to the germ of tuberculosis. Acting on this assumption, he procured urea and began to use it in scruple doses four times a day on a consumptive patient. The treatment was begun on June 28, 1899, and continued with gradually increasing doses up to September 19th, when the patient was, to all intents and purposes, cured. So encouraging a result warranted a more extended trial of urea, and it is said that the same treatment has been pursued in nine other cases of indisputable tuberculosis, effecting a complete cure in some and great improvement in most of the others.

X-Rays without Electricity.—A cable to the New York *Sun*, April 2d, reports that it was announced on April 1st at a sitting of the Academy of Sciences that M. Curie, a chemist, had separated a new gas from rhodium. The gas is intensely phosphorescent, and will glow for months in the dark. It was also announced that M. Naudon, a scientist, had found means of producing *x*-rays without electricity, by exposing a metal plate to the rays of the violet end of the spectrum.

Smallpox and Vaccination in Paris.—*La Presse Médicale* has an interesting article by Dr. Roger on the above subject. Dr. Roger is in charge of the Isolation Hospital wards at Aubervilliers, and, in the article referred to, explains why smallpox lingers so long in Paris. He says that the continued prevalence of the disease is mainly due to laxness in carrying out vaccination and to faulty methods of performing the same. Dr. Roger concludes by saying: "The lamentable state of things, therefore, in Paris is that we know how to suppress smallpox, but we do not put our knowledge into effect. Compulsory vaccination and revaccination and an effective isolation of the infected — *ibi salus est*."

Objection of Hawaiians to Segregation and Vaccination.—The segregation of lepers and compulsory vaccination are looked upon by many Hawaiians as acts oppressive, especially to people of their race. While none of their representatives has as yet dared to come out squarely against segregation, a number of bills have been introduced to modify the law on the subject, and several bills have been introduced which

aim in one form or another at repealing the vaccination law. A largely signed petition was presented in the house of legislature for the repeal of certain sections of the laws for the segregation of lepers, the repeal of the compulsory vaccination laws, and the passage of a law to "license Hawaiians to practise medicine." The meaning of the last clause is to license what are called *kahunas;* that is, persons claiming occult power by means of old Hawaiian enchantments and ceremonials, to cure disease, to pray enemies to death, and generally to bring good or ill fortune. *Kahunas* exist at the present day and wield a great influence over the Hawaiians, but their practices are forbidden by law. A considerable number of deaths among Hawaiians are attributed by the Hawaiians themselves to the supernatural power of *kahunas*, and in some cases are undoubtedly due to the fear felt for their mysterious power.—*New York Evening Post.*

New Knights of St. John of Jerusalem.—Among the new Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England will be found Mr. Frederick Treves, Mr. A. D. Fripp, and Colonel G. S. Ryerson, M.D., their appointments being in recognition of their services tc the British troops in South Africa. Earl Roberts is also appointed to the order, as are the Duke of Portland, Mr. Langman, Mr. Alfred Moseley, and Mr. Van Alen, of New York.—*The Lancet.*

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held April 8th, Dr. H. A. Hare exhibited "An Interesting Case of Aneurism." The patient was an old colored man, with generalized arteriosclerosis, who presented a pulsatile, expansile swelling in the course of the right carotid artery above the level of the clavicle, in addition to various valvular murmurs. The suggestion was made that the vascular condition was not one of aneurism, but rather one of extreme compensatory tortuosity of a diseased artery. Dr. J. A. Scott exhibited "A Case of Endocarditis Resulting from Typhoid Fever." The patient was a young man in whom in the course of a mild attack of typhoid fever leucocytosis developed, and on further careful observation a mitral systolic murmur appeared, which grew progressively more intense with the passage of time and became attended with enlargement of the heart to the left and downward. Dr. A. O. J. Kelly read the report of "A Patient with Marked Enlargement of the Liver and Spleen," without anæmia or leucocytosis, or glandular enlargement, or a history of syphilis or of malarial fever or of a cause for amyloid disease. Dr. S. McC. Hamill read the report of "A Case of Aneurism of Thirteen Years' Standing Recently Operated on for the Removal of a Huge Cyst of the Broad Ligament." The aneurism was situated upon the arch of the aorta, and the operation was undertaken only upon the urgent demand of the patient after the dangers and the possibilities of the situation had been explained. Dr. Joseph Sailer reported "A Case of Aortic Regurgitation with Flint Murmur." There were audible during life systolic, diastolic, and presystolic murmurs, while after death the mitral leaflets and orifice were found perfectly free, and the aortic leaflets and orifice were the seat of disease. Dr. D. J. Milton Miller exhibited "Specimens Showing Thrombosis of the Right Innominate, External and Internal Jugular, and Axillary Veins from a Case of Aortic and Mitral Disease."

"Rudolf Virchow Fund."—To the American Medical Profession: On October 13, 1901, Rudolf Virchow will be eighty years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee containing among others the names of A. Bastian, v. Coler, A. Entenburg, B. Fraenkel, O. Israel, Fr. Koenig, C. Posner, and W. Waldeyer has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and ask for the sympathy and co-operation of all those engaged in the study and practice of scientific medicine all over the globe. The undersigned have formed a sub-committee for the purpose of making the American profession acquainted with the intentions of the Berlin committee, and urge their colleagues to participate in honoring the very man who has done more, these fifty years, than any other to make medicine a science, and international. Subscriptions should be sent to their secretary, who will receipt therefor. CHARLES A. L. REED, president of the American Medical Association; HENRY P. BOWDITCH, president of the Congress of American Physicians and Surgeons; WILLIAM K. WELCH, Johns Hopkins University; ROBERT F. WEIR, president of the New York Academy of Medicine; A. JACOBI, 110 West 34th Street, New York, secretary.

House of Mercy Hospital at Pittsfield.—An extensive hospital is shortly to be erected in Pittsfield by the House of Mercy. The projected building, as is fitting in an institution of this kind, is not to be distinguished by its external architectural adornments and decorations, but will be rather striking by its severe and plain simplicity. The hospital will have a 198-foot front and a depth of 50 feet, and will be built of red brick laid in white mortar, with sandstone trimmings. The hospital is to be constructed on the block principle, with a central building three stories high, and north and south wings two stories in height. The three sections will contain eye and ear department, ambulance department, and maternity department, and will be thoroughly equipped with all modern appliances. There will be fifty-two patients' rooms. The building will be semi-fireproof and stand back from the street thirty feet. A feature in the construc-

tion will be the fact that the maternity department is so situated that there is seclusion for the patients, and other patients are not subjected to the disturbance of "infants crying in the night."

Pennsylvania Society for the Prevention of Tuberculosis.—At the annual meeting, April 10th, Dr. Guy Hinsdale was elected *President*, and Dr. Alexander Heron Davisson *Secretary*.

Woman's Medical College.—The sum of $500 for five years has been guaranteed by the Alumnæ Association of the Woman's Medical College for a European fellowship for study abroad, to be awarded to applicants in the near future.

The Pennsylvania Hospital, which has been designated "the mother of American hospitals," will celebrate on May 11th the one hundred and fiftieth anniversary of its organization, and arrangements are being made for an appropriate observance of the occasion. The petition for the founding of the hospital was written by Benjamin Franklin, and was presented to the assembly of the province of Pennsylvania, January 23, 1751. The bill was after some difficulty passed by the general assembly May 7, 1751, and on May 11th received the approval of Lieut.-Gov. James Hamilton. On February 6, 1752, after sufficient money had been collected, a mansion in the city of Philadelphia was rented for the purposes of the hospital. The corner-stone of the first structure at present occupied was laid May 28, 1755, with Masonic rites, and the building was opened on December 17, 1756. Since then there have been gradual additions to the hospital, until to-day it is one of the best-equipped institutions in the world.

Acting Assistant Surgeon, Marine-Hospital Service.—The United States civil-service commission announces that on May 7, 1901, an examination will be held in any city in the United States where postal free delivery has been established, for the position of acting assistant surgeon in the Marine-Hospital service. The examination will consist of the following subjects: 1, letter writing; 2, anatomy and physiology; 3, surgery and surgical pathology; 4, chemistry, materia medica, and therapeutics; 5, bacteriology and hygiene; 6, theory and practice of medicine and general pathology; 7, obstetrics and gynæcology. Age limit, twenty years or over. From the eligibles resulting from this examination it is expected that certification will be made to the position of acting assistant surgeon in the Marine-Hospital service, at Portland, Me., at a salary of $600 per annum, and to other similar vacancies as they shall occur. This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. Preference may be given to eligibles who are residents of the district in which the vacancy exists. Persons who desire to compete should at once apply to the United States civil-service commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly forwarded to the commission.

Dr. Mazÿck P. Ravenel, of the University of Pennsylvania, Philadelphia, should be the gentleman credited in a recent issue with the work of tubercle dissemination by cows, and not Dr. Mazyck, as stated.

Philadelphia County Medical Society.—At a stated meeting held April 10th, Dr. Jay F. Schamberg exhibited "A Case of Dermographism" in an adult male, who applied for treatment for pruritus. Wherever the skin was irritated there appeared, after transitory pallor, flushing followed by elevation, with diffusion of the injection and then gradual pallor and fading. These phenomena are due to primary contraction of the cutaneous vessels, followed by their dilatation and the escape of serum, and at times also blood-cells. The condition is allied to urticaria, angioneurotic œdema, and other disorders comprehended in the term vasomotor ataxia. It is known also as factitious urticaria. Dr. J. Madison Taylor presented the "Report of the Committee on the Pay Hospital for Contagious Diseases," in which he recited the progress being made in the achievement of the desired object, and for which the continued support and encouragement of both the medical profession and the community were necessary and solicited. Dr. John B. Roberts read a paper entitled "The Doctor's Fee—a Plea for Honorable Dealing." He contended that while the fee of the physician should be ample in accordance with the skill and authority of the individual, it should not be extortionate, and that the standard should be the maximum the service is worth, and from which concessions could be made in accordance with the conditions present in the individuals. The practices of giving and accepting commissions, of any division of fees between consultant and attendant, of writing testimonials for secret medical preparations, and of the practice of corporations, such as insurance companies, in endeavoring to secure confidential information from physicians concerning patients without the knowledge or sanction of the latter, were unqualifiedly condemned.

Association of American Medical Colleges.—The next regular meeting of this association will be held at the Hotel Ryan, St. Paul, Minn., Monday, June 3, 1901. It will consist of two sessions, an educational and a business one. The educational session will be opened at 2 P.M. by the president's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are respectfully invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 P.M. the business session will be held, at which the amendments to the constitution, proposed by several colleges, will be considered. The report of the judicial council, the election of

members, and the election of officers for the succeeding year will close the programme. Albert R. Baker, M.D. (Cleveland, O.), *president;* Bayard Holmes, M.D. (Chicago), *secretary.*

Doctor Shot in the Foot.—Dr. Benson, of Guttenburg, N. J., was stopped early on Thursday morning, April 11th, by a man who threatened him with a pistol. The doctor struck the pistol from the man's hand, when it discharged, a bullet passing through the doctor's foot. After wrestling for a few minutes, the footpad succeeded in getting away.

Michigan Plague Case.—Charles B. Hare, the Ann Arbor student supposed to be suffering from bubonic plague, is on the road to recovery. Dr. Novy, the University of Michigan professor and one of the experts despatched by the government to San Francisco to investigate the plague situation there, says with regard to Mr. Hare's case: "Nothing has yet been decided, but he is recovering rapidly. He will be kept isolated until next week, or until it is certain he cannot spread infection."

To Regulate the Speed of Automobiles.—The senate committee of New York State on internal affairs has decided to report favorably Assemblyman Doughty's bill regulating the speed of automobiles in cities and incorporated villages to eight miles an hour and fifteen miles an hour outside of cities and villages. The bill was thus amended so as to give the park department in New York City power to regulate the speed of such vehicles upon park roads, streets, and avenues under its jurisdiction, while in the rest of the State local authorities may determine whether these vehicles may run faster than the minimum prescribed.

Children's Home at Albany Attacked by Smallpox.—The Lathrop Memorial Home, an institution located in the heart of Albany, is the scene of an outbreak of smallpox on a large scale. The home is mainly an orphanage, and is supported by Mrs. Leland Stanford. About thirty-two children are inmates of the home, nearly all being more or less stricken with the disease. One or two of the children who had been vaccinated have escaped infection, and only one of the attendant teachers has contracted smallpox of a mild nature. The disease is said to have been present for two weeks, but, the cases being mild, the attendants mistook it for chickenpox, and a physician was not called in at once. The local health board has quarantined the home.

Christian Science and Religion.—Clergymen of various denominations are decrying the principles of Christian Science, some of the ministers declaring that its tenets are not only entirely incompatible with true Christianity, but that it is the most subtle means of undermining Christian beliefs that has yet appeared. It can scarcely, however, be hoped that declaiming against this peculiar fad will have the effect of bringing the followers of Mrs. Eddy to reason. On the contrary, judging from the experience of the past, persecution, or apparent persecution, has ever tended to arouse the sympathy of the general public in favor of those attacked. To make martyrs is the surest way to strengthen and consolidate a belief, bizarre as it may be. Indifference is the most certain method of killing fads.

Woman Sanitary Inspector.—At the meeting of the Woman's Club of Orange on April 11th, an appropriation of $500 was made toward the salary of a woman sanitary inspector of Orange for a year, the woman to be appointed by the board of health on nomination by the joint committees of the women's clubs of the Oranges.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ended April 13, 1901. Medical Director W. K. Scofield detached from special duty at Philadelphia, April 27th, and ordered home to wait orders. Medical Director W. G. Farwell detached from the Philadelphia navy yard and ordered to duty in Philadelphia, special. Surgeon C. Biddle ordered to the Philadelphia navy yard, April 27th, as relief of Dr. Farwell. Surgeon S. H. Griffith ordered to duty at the Pan-American Exposition, Buffalo, April 25th, in charge of the exhibit of the Bureau of Medicine and Surgery, Navy Department. Assistant Surgeon R. B. Williams detached from the Pensacola navy yard and ordered to the Key West naval station, with temporary duty at Dry Tortugas. Medical Inspector J. R. Waggener detached from the naval hospital, Cavite, and ordered to the Mare Island hospital, having been condemned by a medical board of survey.

Much Sickness at Canton.—Robert M. McWade, United States consul at Canton, says the New York *Tribune*, reports ten thousand deaths from plague to have occurred there in the past six weeks, and that there are thirteen cases of smallpox on the United States monitor *Monterey.* Only one death has resulted on the *Monterey*, and the other cases of smallpox are doing well.

Leprosy in the Canaries.—United States Consul Berliner, writing from Teneriffe, says: "Leprosy is somewhat endemic among people here, on account of their eating a good deal of fish, often putrid, and their general uncleanliness. As to being contagious, the theory is generally discredited here, but, in my opinion, it is very infectious."

Smallpox in Foundling Hospital.—An outbreak of smallpox has been reported in the Foundling Hospital at Sixty-eighth Street and Lexington Avenue. There are about two hundred and fifty children in the institution, most of whom have been vaccinated recently. Inspectors of the board of health have been engaged in vaccinating all the others, and the managers of the hospital have thoroughly disinfected the building. As a result of these precautions it is not anticipated that the disease will make headway.

Accident to a Hospital in Japan.—A terrible fatality is reported from Tokio, where the hospital of the medical department of the university—a wooden structure—was destroyed by fire. No less than twenty-one patients lost their lives, and ten nurses and patients were seriously injured.

Plague Increases in Cape Town.—Plague in Cape Town is on the increase. On March 31st the total number of cases was two hundred and eighty-seven and the deaths numbered ninety-nine. It is also reported that a physician in attendance on plague cases has contracted the disease while performing a necropsy on a victim. The doctor is said to have had an abrasion of the skin on his hand, and to have become infected by this means.

Marriage Control in Indiana.—The Indiana legislature has passed a bill providing for the appointment of a marriage commission, to be composed of two women who are mothers, two physicians of note, and one attorney. The duties of the commission are to prepare a set of questions which it is proposed to require candidates for marriage licenses to answer, the idea being to prevent marriages between the unfit.

Wedding of a Physician which Cost Thirty Thousand Miles' Travel.—The Sunday *Sun*, March 24th, has this clipping from the *Evening Wisconsin*. Dr. Henry M. Bridgman, Cape Town, South Africa, and Miss Florence R. Jones, of the Argentine Republic, formerly teacher in the Racine High School, were married recently in Racine. The newly wedded pair will leave for Kimberley, South Africa, their future home, and when they arrive there, they will have travelled nearly thirty thousand miles to be married. The bride-elect was giving private instruction to a family of children in the Argentine Republic when she first met Dr. Bridgeman, and he soon after went to Cape Town and began practice, and when the engagement was announced Miss Jones travelled alone to Racine and the doctor came on from South Africa.

Typhoid in New Haven.—Owing to the prevalence of typhoid fever in New Haven the precaution has been taken to boil all the water to be drunk in schools.

Obituary Notes.—Dr. Frank Abbott, the well-known oculist, died in Buffalo on April 9th after a long illness. Dr. Abbott was oculist-in-chief at the General Hospital and the Eye, Ear and Throat Hospital of Erie County.

Dr. William J. Youmans, aged sixty-three years, died at Mount Vernon on April 10th. Up to a year ago he was editor of *The Popular Science Monthly*. His native place was Saratoga, and he graduated in medicine from New York University in 1865. After studying in England under Huxley, he returned to America and commenced to practise in Minnesota, but after three years abandoned it to join his brother in establishing *The Popular Science Monthly*. Dr. Youmans was well versed in chemistry, metallurgy, and physiology, and wrote upon these subjects for "Appleton's Cyclopædia." He also edited Huxley's "Lessons in Elementary Physiology."

Dr. William F. McClelland died at Denver, Col., on April 12th. Dr. McClelland, who had an international reputation as a successful and daring surgeon, was one of the first to recognize and make public the good effects of climatic influences of the mountain regions upon pulmonary diseases. The deceased physician was eighty years of age at the time of his death.

Progress of Medical Science.

New York Medical Journal, April 13, 1901.

A Shielded Piston Syringe for Urethral and Vesical Irrigation.—By J. R. Eastman. The objection to most of the instruments in present use is that being constructed on the fountain-syringe principle they are difficult to sterilize, may allow of gravitation to the bottom of the reservoir of small crystals of permanganate which may irritate the tissues, do not allow of an instantaneous shutting off of the current, make it difficult to gauge the pressure, and require considerable time for their preparation and employment. The author has devised an instrument which he describes as follows: It consists of a five-ounce metallic piston syringe with detachable blunt nozzles. A thin-spun metal shield surrounds the barrel. The shield is made movable, in order that it may be held up while the nozzle is introduced into a graduate or other vessel for filling. The syringe being filled, the shield is pushed down along the barrel and fastened by a slot-and-pin catch about an inch behind the tip of the nozzle. The advantages claimed are: (1) It is easily and entirely sterilizable. (2) The solution is taken from the top of a column of liquid, as, for example, in a large graduate, and crystals that may be present in the bottom of the receptacle are not taken up. (3) With the piston syringe the pressure exerted may be finely gauged by the resistance against the operator's thumb pressing the piston. (4) The force of the current may instantaneously be lessened or the stream entirely cut off. (5) The use of the instrument is attended with no inconvenience or loss of time. (6) It is easily transportable. (7) It is simple in construction and application.

The Preponderance of Male Stammerers Over Females.—By David Greene. Out of 256 stammerers, 229 of whom were males and 27 females, the author found the following conditions: Number of cases of stammering caused by faulty inspiration, males 139, females 3; by faulty expiration, (*a*) mismanagement of the voice, males 25, females 20; (*b*) defective articulation, males 8, females 0; (*c*) mismanagement of the voice and defective articulation, males 57, females 4. The reason assigned for the preponderance of male stammerers over females is the fact that in the male subject ordinary, quiet respiration for vital purposes is effected almost exclusively by the activity of the diaphragm; but, in speaking, a more considerable emptying of the quantity of air in the lungs must take place, and this can be effected only through the combined processes of diaphragmatic and costal breathing. In females, costal breathing is the habitual mode of respiration, hence their lungs are generally well supplied with the quantity of air which is necessary for speaking purposes, and cases of stammering caused by deficient inspiration are very rare among them.

The Correction of Deviations of the Nasal Septum with Special Reference to the Use of the Author's Fenestrated Comminuting Forceps.—By J. O. Roe. The paper is accompanied by several illustrations showing the various deformities of the intranasal structures, and the author claims for his well-known method of operation many advantages. He states that the superiority of the fenestrated over flat-bladed forceps for breaking up the base of the fragments at their bony attachments is apparent and that the former also obviates bringing strain on the septum and disturbing its upper attachments, thus opening the way for brain complications. Moreover, it completely removes the elasticity of the attachments of the deflected parts, facilitates the ready adjustment of the septum to its normal position, and diminishes to a minimum the length of time a support to the septum is required.

German Text Books Half a Century Ago; History and Reminiscences.—By A. Jacobi. Address delivered at the New York Academy of Medicine on the occasion of the celebration of the author's fiftieth anniversary of graduation in medicine.

The Pathology of Intra-Uterine Death.—By Neil McPhatter.

The Management of Gonorrhœa.—By B. Lapowski.

Medical News, April 13, 1901.

The Immediate and Remote Results in One Hundred Conservative Operations on the Ovaries and Tubes; with Brief Reports of Four Cases.—W. L. Burrage in his discussion of this subject states that it is his belief that, in order to arrive at just conclusions concerning these cases, they must be under observation for at least a year after operation. Out of 100 cases, symptomatic cure was recorded in 73, while 27 were not relieved. These figures must not be unduly emphasized, since a large number of the patients were pronounced neurasthenics, in which cases there is great difficulty in determining the relative causative effect

of disease of the uterine organs and disease of the nervous system on the symptoms presented in a given case. Anatomical cure (ovaries and tubes normal to feel and well placed) was noted in 44 out of 69 cases who came under observation—sixty-four per cent. Some enlargement or prolapse of ovaries and tubes was found in the remaining 25 cases. Pregnancy following operation occurred in 19 cases. In no instance, however, did pregnancy result after the resection of a closed tube, both tubes being closed at the time of operation. In order to estimate the probability of pregnancy occurring after conservative operations on the ovaries and tubes, all patients who are by any means barred from pregnancy, *e.g.*, those who take measures to prevent conception, widows, etc., should be eliminated from the list. Under these circumstances, 32.7 per cent. became pregnant. It may be stated that 34.5 per cent. of those who had previously borne children became pregnant after operation, whereas only 6⅓ per cent. of those previously sterile subsequently became pregnant. The amount of ovarian tissue present seems to have no definite relation to the amount of menstrual flow or to the intensity of sexual desire and gratification. The author believes the most unfavorable cases for conservative operations are those of pronounced neurasthenics who are approaching the menopause, also patients with long-standing gonorrhœal infection, and those having both ovaries thoroughly riddled with cysts. The author classes as conservative operations all those in which, an operation on the appendages being performed, not including cases of hysterectomy or suspension of the ovaries, one ovary, a portion of one ovary, or one tube or a portion of one tube was left behind.

Perforating Gunshot Wound of the Chest with Fracture of Both Bones of the Left Leg and Lacerated Wound of the Right Thigh; Recovery.—Victor Cox Pedersen reports the case of a man aged thirty-one years, who through irregular habits of life and long strain became hyperneurasthenic. On the morning of December 11, 1899, in a state of nervous excitement, he shot himself through the left chest; finding this effort in vain he jumped out of a third-story window. He was admitted to the hospital at 7:35 A.M. in a state of profound shock, with active delirium, flaccid abdomen, and the left chest less active than the right. He had received ♏ ix. Magendie's solution when first seen by the ambulance surgeon, and ♏ v. more in the reception ward, with atropine sulphate gr. $\frac{1}{100}$, strychnine sulphate gr. $\frac{1}{30}$, and a stimulating enema of whiskey. The wound of entrance was at the fifth space, three and one-half inches out; the wound of exit at the eleventh space, four and one-half inches out, on the left side. There were indefinite signs of fluid in the infra-scapular and infra-axillary regions. The heart was acting well. The abdomen was slightly rigid, but not distended. Simple complete Pott's fracture was present at the left ankle. There was a large lacerated wound in the right thigh almost reaching the bone, and nearly admitting the hand in its cavity. The gunshot wounds were covered with 1:5,000 wet bichloride dressing; the laceration was irrigated, packed, and covered with the same. The fracture was left in the temporary ambulance dressings. Operative interference was contraindicated by the general condition. The patient was kept absolutely quiet with morphine. His abdomen was rigid, distended, tender, and tympanitic. Perforation of the stomach was suspected. The Magendie solution was continued. On the third day the general condition was much better. A Volkmann splint was applied to the leg. The thigh wound was packed with iodoform gauze in bichloride solution. The diagnosis of gastric perforation was abandoned. On the fifth day the signs of peritonitis were disappearing. The management of the pistol-shot wound was daily changes of the wet dressings, followed by dry sterile dressings and aristol powder. Neither wound suppurated. The laceration was treated in the usual way. The fracture united in good position and with full function after the ordinary plaster splint. Skin grafts were used on the thigh wound. The patient was discharged May 8, 1900, cured. The forced quiet through sedatives, morphine, etc., appears to have saved his life.

A Study of Cases Presenting Symptoms of Asthenopia and Anomalies of the Ocular Muscles in which Ablation of the Middle Turbinal was Effective Treatment.—By Heber Nelson Hoople.

Tropacocaine Hydrochlorate: a Substitute for Cocaine Hydrochlorate in Spinal Anæsthesia.—By Willy Meyer.

The Akouphone and its Limitations.—By J. A. Kenefick.

Acute Traumatic Malignancy.—By William B. Coley.

The Boston Medical and Surgical Jour., April 11, 1901.

Oblique Subtrochanteric Osteotomy for the Lengthening of the Femur, and Correction of the Deformity of Flexion Resulting from Hip-Joint Disease.—E. G. Abbott describes his operation, which differs from that of the German savants by obviating the use of too powerful force in the separation of the bone and the destruction of much tissue subcutaneously, thereby reducing the liability to infection and injury to the blood-vessels and nerves. The points to which the author especially calls attention are: (1) The importance of making a radiograph, which enables one to determine the size of the femur, and the exact location at which the osteotome should be entered in order to free the attachment of the iliopsoas muscle to the trochanter minor. (2) The width of the osteotome must be regulated by the size of the bone, so as to secure a clean-cut surface by one passage of the instrument. The angle at which it is held must also be governed by the size of the femur.

A Case of Chin Left Posterior.—H. J. Swain reports a case in which successful delivery was obtained by first making gentle pressure of the head, so that it was placed above the brim between an assistant's hands holding it through the abdominal walls. As a foot could be easily felt, it was brought down, the assistant at the same time turning the head up. Delivery was easy as a half breech. The commonly accepted mechanism was impossible in this case, because, while the head was so far down that it could advance no farther without violence, the chin was not impinging against anything.

Pathology of the New-Born as Illustrated in the Practice of the Writer.—Frederic W. Taylor reports that out of 654 obstetrical cases in his pratice, 64 of the children were abnormal either at birth or during the first few days of life. Of infants stillborn there were 23; children dying within a few days, 22; children whose respiration was delayed, 10; deformities, 2; ophthalmia, 3; melena, 2; depression in the skull, 1; facial paralysis, 1. The author gives details of the various abnormalities.

A Review of the Literature of the Therapeutic Use of the X-Rays.—By Harvey P. Jowle.

The Jour. of the Amer. Medical Ass'n, April 13, 1901.

Reflections upon the Recent Status of Clinical Medicine.—Aloysius O. J. Kelly believes that medicine is the art of healing disease; and that it is founded upon various sciences. A knowledge of pathology is necessary to the physician. The results of the cultivation of the scientific spirit are obvious in all departments of medicine, but nowhere more conspicuously than in the field of etiology. The science of bacteriology has added infinitely to our store of knowledge and has been of incalculable benefit to humanity. The diagnosis of disease is and always will remain an art, but it is becoming more and more scientific. It is now known that in the majority of cases bacteria produce their injurious effects by reason of the poisons they elaborate. The exact nature of these poisons offers a fertile field for investigation. In the selective action of these toxins we find a rational explanation of many of the phenomena of the different diseases. The establishment of the doctrine of internal secretions is another result of the cultivation of the scientific spirit in medicine. Upon the doctrine of the bacterial origin of disease are founded the modern conception and practice of sanitary science. With regard to therapeutics and practical care of disease, it is certain that the scientific researches of recent years have taught us much. Serum therapy may be regarded as the crowning glory of the cultivation of the scientific spirit of the nineteenth century.

Immunity from Zymotic Diseases.—William J. Class concludes that in districts where a certain zymotic disease is endemic the germs of this disease are comparatively widely distributed, although in a very much attenuated form. Epidemics are due to these germs becoming virulent either by repeated passage through the animal body, or in some other manner not as yet known. It is only after attaining a certain degree of virulency that they are capable of producing a typical attack in a susceptible person. Immunity from or insusceptibility to a given zymotic disease is usually acquired through the activity of the attenuated germ, which, although not capable of producing a typical attack, is still capable of producing an antitoxic body. The presence of pathogenic bacteria in the normal body, described as a "latent infection" by Adami and others, is in accord with the theory formulated. These bacteria are probably an attenuated species, and their office is a beneficial one, as, through their activity, the animal organism is probably saved from a severe infection.

A Visit to "Jesus Hilfe," or the Leper Hospital at Jerusalem.—Jacob E. Schadle speaks of the origin and growth of the hospital, of its management and inmates, of leprosy in Palestine, and of leprosy investigations. He then discusses the clinical features of this dread disease and its treatment. There are numerous illustrations with descriptions. As to the communication of leprosy, he relates an instance of how it was conveyed through eggs. A leper lying in the sand of his yard threw the exfoliations from his body to the hens. The eggs of these hens were sold to a family, a member of which contracted the disease. The

author then compares leprosy and tuberculosis. The bacilli of the two diseases are strikingly alike. The distribution of the two kinds of bacilli in the tissues is very different, those of tuberculosis generally being arranged singly, while the lepra bacilli are always in large quantities in masses and clumps.

What Drug Standardization Means for the Physician.—A. R. L. Dohme states that drug standardization means that drugs shall always be uniform in therapeutic strength, which offers to the physician the advantage of always obtaining definite and uniform therapeutic effects in prescribing a standardized drug. It removes all element of doubt from the physician's mind.

The Present Status of Spinal Surgery.—Samuel Lloyd gives an extensive table of cases of Pott's paraplegia which have been operated on. The article is to be continued.

Lavage of the Stomach as a Therapeutic Agent in the Treatment of Habitual Constipation.—By C. D. Spivak.

Conjugal Tuberculosis; a Study of Case-to-Case Infection.—By H. M. Bannister.

Some Technical Supplements in Complicated Enucleations.—By M. F. Weymann.

Suggestions for the Reconstruction of Syphilitic Noses.—By John B. Roberts.

The Medical Treatment of Peptic Ulcer.—By Frederick C. Schattuck.

Yellow Fever and its Transmission.—By Charles Finlay.

Permanent Catheterization.—By J. Rilus Eastman.

Keloid following Traumatism.—By W. M. Cole.

Joint Tuberculosis.—By De Forest Willard.

Philadelphia Medical Journal, April 13, 1901.

Ligation of the Carotid Artery as an Operation Preliminary to Resection of the Superior Maxilla.—Carl Schlatter summarizes the observations obtained from his resections of the superior maxilla and from a study of the literature as follows: (1) By the application of a preliminary ligature the hemorrhage, as well as the danger from blood aspiration, is markedly diminished. (2) This ligation is highly recommendable in all anæmic individuals, and in those whose vitality has been lowered from cachexia and hemorrhages, provided they do not suffer from diseases of the blood-vessels, particularly arteriosclerosis. Exposing the bifurcation of the carotid in advanced cases is in itself indicated for the purpose of extirpating the lymphatic glands, which in this region are generally the first attacked by metastasis. (3) In by far the most cases ligation of the external carotid alone will suffice; the latter should be a permanent ligation. Conducted aseptically, the procedure is without danger. The ligature can be applied by enlarging above the incision which has been made for exposing the bifurcation. (4) In exceptional cases it becomes imperative to ligate the common carotid, which, if done temporarily, seems to be less dangerous than a permanent ligation. The author states that the limitations of this operation are greater in actual practice than at first appears.

Multiple Tumors of the Sciatic Nerve.—John B. Roberts reports the case of a man aged thirty-nine years, who fourteen years ago had first noticed three small tumors about the size of peas on the outside of the left leg near the knee. They were excised. For the last fourteen years the patient suffered with pain in the left popliteal region. About five years ago he felt a lump deep in the left popliteal space. Pain was continuous. On incision the sciatic nerve and its internal and external popliteal branches were found to be involved. About thirty-six growths were removed. There was practically no pain after the operation, and the wound healed by first intention. The tumors were fibromas. No marked numbness of the foot remained, and on the patient's discharge he had good motion in all the toes.

Thoughts on the Treatment of Diabetes Mellitus, being Part of a Clinical Lecture Delivered at the Philadelphia Hospital, March 13, 1901.—By James Tyson.

Ruptured Traumatic Aneurism of the Femoral Artery due to Gunshot Wound; with Report of a Case.—By Wallace Neff.

The Medical Relations of the Prevailing Forms of Food Adulteration.—By Henry Leffmann.

Venous Angioma of the Flexor Muscles of the Fingers.—By John B. Roberts.

Diabetes Mellitus as a Cellular Fault.—By Thomas C. Ely.

The Amer. Journal of the Medical Sciences, April, 1901.

Enteroptosis.—James R. Arneill declares that one dislocation, such as gastroptosis or nephroptosis, is usually but a manifestation of enteroptosis. Symptoms and anatomical signs on the part of one organ, however, may predominate. Enteroptosis is a disease of great importance to the general practitioner, for it is endemic the world over, and he is generally the first to be consulted by sufferers from it. These are cases which every day are being diagnosed as neurasthenia, spinal anæmia, nervous exhaustion, nervous dyspepsia, and change of life. It is easy to learn how to recognize an enteroptotic. She is slender, poorly nourished, pale, tired, neurasthenic in appearance, dragging about, and entirely lacking in vivacity and energy. The author then describes methods of examination, calling attention to Stiller's phenomenon—the costal stigma or floating tenth rib. The symptomatology is very varied. In many patients, nervous symptoms predominate. They complain frequently of palpitation of the heart and forcible pulsation in the abdominal aorta. Again, there are striking symptoms on the part of the stomach and kidneys. Many have uterine displacements. There is in many a congenital predisposition to this disease. Frequent childbearing, straining at stool, etc., are causes. Surgical treatment is indicated in some cases; in others, abdominal bandages or belts with properly applied pads may relieve symptoms. However, there must be a great deal of individualizing in the treatment of this condition.

Multiple Neuritis and Hæmatoporphyrinuria following the Prolonged Ingestion of Trional.—Stuart Hart observes that patients readily acquire the trional habit, which is difficult to break. He then reports the case of a woman aged fifty years, for whom trional had been prescribed. The whole amount ingested was not excessive—about thirty doses of gr. xv. each, a total of gr. cmx. for two months. The onset presented the picture of acute gastro-intestinal poisoning. After this there were an acute degeneration of the kidneys and the presence in the urine of hæmatoporphyrin. The first nervous manifestation was a neuritis of the vagus and a subsequent trophic disturbance in the heart muscle resulting in dilatation and valvular insufficiency which cleared up with the improvement in the muscular tone. There were extreme emaciation and a marked thickening of the tissues about the joints of the fingers. The urinary change appeared some time after the development of the nervous symptoms and a considerable period after the withholding of the drug.

A Contribution to the Study of Fatty Infiltration of the Heart Secondary to "Subpericardial Over-Fatness."—By J. M. Anders.

The Estimation of the Urinary Sulphates and of the Fecal Fat in the Diagnosis of Pancreatic Disease.—By David L. Edsall.

Premature Infants.—By Vanderpoel Adriance.

Primary Splenomegaly.—By N. E. Brill.

British Medical Journal, April 6, 1901.

Placenta Prævia.—R. P. Ranken Lyle states that the diagnosis of this affection is not difficult, and depends on the fact of the placenta being felt to be attached to the lower uterine segment. The prognosis as regards the mother depends on the variety of placenta prævia; on the treatment adopted, any form of mechanical dilatation of the cervix or the rapid extraction of the child being extremely dangerous to the mother; on the amount of interference; on early treatment. The prognosis on behalf of the child depends on the period of pregnancy, the amount of hemorrhage, and the rapidity of labor. Generally, the best treatment for the mother is the worst for the child. As to treatment, the conditions which should guide one are: complete or incomplete placenta prævia, the nature of the presentation, whether labor be absent or present, the character of the pains and the size of the os uteri, and whether the membranes are ruptured or not. The author then gives the advantages of version: it does away with the tampon and consequent danger of infection; it allows early operation; it arrests the hemorrhage with great certainty; it gives time for the patient to rally; it gives time for labor pains to set in and consequent natural dilatation of the cervix to occur; there is less danger of post-partum hemorrhage.

On a Uterus which Contained One Hundred and Twenty Fibroids.—J. Bland-Sutton reports this very rare case. He removed this organ by the abdominal route, leaving both ovaries and Fallopian tubes. The uterus had a peculiar oval shape and measured 10 cm. in the vertical and 15 cm. in the transverse axis. There were four sessile fibroids projecting into the cavity of the uterus. These tumors were about the size of pigeons' eggs. After the uterus was carefully hardened in methylated spirit, it was found to contain a multitude of fibroids, varying in size from a coriander seed to a cherry stone. The uterus itself was about the size of a fist. From the microscopical examination the structure of these tumors was observed to be that of a plain muscle tissue with alternate and whorled disposition of the spindles. The minute fibroids were strikingly like the large, fully developed fibroid. Each was globular and on section quite white. Each was sharply differentiated

from the uterine tissue by a thin capsule from which it could be enucleated. This specimen is certainly unique.

Note on Epilepsy and Heart Stoppage.—R. G. Hebb states that while he was listening to the heart of a patient suffering from aortic regurgitant disease, the heart suddenly stopped beating, and almost simultaneously he felt great pressure on the stethoscope. The patient was stiff and rigid, and was at once laid on the floor, when a general convulsion, intense though of short duration, occurred. The patient was quite unconscious; the lips were blue; there was no frothing at the mouth. In a few minutes it was all over and the patient sat up. He answered questions coherently and lucidly, and got up directly without the least difficulty. He was twenty-nine years of age and had had two similar attacks before. In none was there any warning or aura. In 1897 he had rheumatic fever.

Large Salivary Calculus without Symptoms; Spontaneous Extrusion.—George J. Maguire reports the case of a man aged forty-five years, who for four years had had a salivary calculus which never even caused a passing feeling of discomfort and certainly none of the pain usually incident to this affection. One day the patient noticed a small white spot on the floor of the mouth which felt hard and gritty on touching it with a needle. A few minutes later, while eating a meal, a large hard mass was suddenly, with some force extruded. The calculus was large, white, and ovoid, and weighed forty-five grains.

A Case of Spontaneous Version.—James J. O'Donnell, on examining a patient in labor, found the body of the fœtus in the abdomino-anterior position. He endeavored to turn the child, but being unable to do so without an anæsthetic, went to his own home to procure it. On his return he found the legs of the child protruding, but the head was above the brim. The child was extracted and the mother made a normal recovery.

The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.—By J. Mitchell Bruce.

The Value of Diphtheria Antitoxin in the Treatment of Membranous Non-Diphtherial Tonsillitis.—By J. N. d'Esterre.

The New Type of Scarlet Fever from a Public-Health Point of View.—By William Robertson.

A Case of Puerperal Infection Treated by Operation (Pryor's Method).—By Nutting S. Fraser.

A Preliminary Note on the Use of Ox Serum in Rectal Feeding.—By Otto F. F. Grunbaum.

A Note on the Separation of the Placenta in the Third Stage of Labor.—By J. D. Slight.

Case of Ectopic Gestation; Operation; Recovery.—By H. H. Lloyd Patch.

Eclampsia followed by Temporary Mental Derangement.—By John McElroy.

Tracheotomy in Cases of Thoracic Aneurism.—By F. de Havilland Hall.

A Plea for a Pro-Maternity Hospital.—By J. W. Ballantyne.

Bilharzia Hæmatobia.—By James T. Bays.

The Lancet, April 6, 1901.

A Case in which a Large Pyloric Tumor Disappeared after Gastro-Enterostomy.—By F. B. Jessett. The case is worthy of record as it is one in which a tumor of the size of a small cocoanut completely occluding the pylorus, and having all the naked-eye appearances of a carcinomatous growth, disappeared after operation; also because of the length of time the patient lived after the operation in perfect comfort, namely, ten years, being at the time of death sixty-six years of age. Special points of interest in the case are the following: (1) At the time of operation the tumor had all the macroscopical appearances of a case of carcinoma of the pylorus causing obstruction. At the necropsy the pylorus was found to be patent, although somewhat constricted, the mucous membrane covering it being apparently quite healthy; the pyloric orifice was situated immediately behind the constriction, which undoubtedly represented the seat of the tumor, so that possibly the tumor being in this position by its size blocked the pylorus which apparently was not implicated in the growth, and as the growth became atrophied and the obstruction removed the opening again became available for the passage of food. (2) It is most remarkable that this growth should have so completely disappeared, leaving only a small contracted cicatrix adherent to the liver to indicate its position. There had never been any vomiting of blood or other indications to account for its disappearance. Indeed, the tumor was quite prominent and had been demonstrated on several occasions after the operation up to within about two years of the patient's death when only a slight thickening could be detected. (3) Although evidently food had passed by the pylorus, yet the opening between the stomach and jejunum formed the main channel for the passage of food from the stomach into the intestine. The communication between the proximal and distal pouches of the stomach formed by the contraction and cicatrization at the seat of the tumor was very narrow, barely admitting the index finger, and it is difficult to understand why the patient did not suffer more inconvenience than she did from the passage of food from the one pouch to the other.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.—Third Lettsomian lecture by J. Mitchell Bruce. This lecture is devoted principally to prognosis and treatment and the writer passes in review the different therapeutic plans which are current. The great indication is the maintenance of compensation. The nutrition and activity of the myocardium can be increased and sustained by means of specific cardiac stimulants and tonics, such as strychnine, ammonia, and the digitalis group of drugs, with hæmatinics, stomachics, and laxatives to insure an abundant supply of wholesome blood, by the control of nervous influences—one of the conditions of healthy nutrition—and by the employment of the non-medical measures now so extensively used to increase the vigor and benefit the metabolism of the cardiac walls, particularly active and passive exercises and baths. When true failure of compensation ensues, as manifested by residual dilatation of the heart, mechanical congestion, and dropsy, the following rules may be carried out: First, we must not be afraid to purge these patients, if necessary every morning. Secondly, when the appetite flags and flatulence occurs, instead of slops a blue pill or dose of calomel should be given and light solids persevered with. Thirdly, nocturnal restlessness and sleeplessness are to be met unhesitatingly with permission to spend the night in an easy chair by the bedside. Fourthly, according to the author's experience, acupuncture and drainage succeed perfectly in these senile cases with dropsy, as much as ten pints or more of serum escaping in the course of twenty-four hours, to the complete and often lasting relief of the circulation.

On the Existence of Immunity after Typhoid Fever.—By B. A. Nicol. Contrary to the generally accepted belief that an attack of enteric fever confers some degree of immunity upon the patient against further attacks of the same disease, the author feels that this conclusion is based upon very flimsy evidence and gives certain histories which bear out his views. He is of the opinion that at present there is no proof existing of the presence of an immunity after an attack of enteric fever. Immunity varies much in different diseases and in different individuals; erysipelas leaves behind it apparently a predisposition to further attacks; diphtheria and pneumonia as far as we know give no protection; while an attack of one of the exanthemata usually protects its subjects very effectually. What place enteric fever is to take in this respect has still to be determined. The author's recent clinical experiences have led him to doubt the existence of any immunity in many cases. A large number of men in the present African campaign have, however, quite escaped the onslaughts of enteric fever, and it is reasonable to think that all must frequently have been exposed to the risks of infection. If we can discover the reason for their resistance to the disease, we may then hope to discover some method of general protection. Statistics may show that inoculation is a step in the right direction, but meanwhile we should not forget that the teachings of sanitary science to-day point out clearly many paths along which efforts at prevention can be successfully made.

Pathology and Treatment of Rheumatoid Arthritis.—P. W. Latham thinks that the clinical symptoms in this disease furnish undoubted evidence of pathological change in the nervous centres, the exact nature of which can be determined only by further microscopical investigations. In the earlier stages of the disease he thinks that continuous counter-irritation of the spine is of distinct service, and that it may also be usefully employed in the acute polyarticular variety. But when the disease is advanced, the ends of the bones are enlarged, and the cartilages are destroyed, one cannot hope to restore these to the normal condition by any counter-irritation. Such a measure would only increase the patient's discomfort. Nevertheless, in chronic cases, in which there are from time to time exacerbations of pain and swelling in some of the larger joints, the application of blisters to the spine is of use: and Latham has seen these conditions very quickly alleviated thereby and the further extension of the disease arrested.

Sclerotic Hyperplasia of the Pharynx and Naso-Pharynx.—By A. Brown Kelly. The author discusses the history of a case to which he gives the designation noted in the title. He concludes by saying that (1) the pharynx and naso-pharynx may be the seat of a sclerotic hyperplasia unconnected with syphilis, rhinoscleroma, or other known infective disease; (2) that a similar morbid process may

manifest itself beneath the vocal cords as subglottic hypertrophic laryngitis; and (3) that in the hyperplastic variety of hereditary syphilis the histological appearances closely resemble those of the above-described sclerotic hyperplasia.

A Modification of the Romanowski-Ruge Method of Staining the Plasmodium of Malaria and Other Protozoa.—By W. Hanna.

The Influence Exerted by Air upon the Exhibition of Anæsthetics.—By G. Flux.

Three Cases of Ascending Paralysis.—By T. A. Green.

Carcinoma of the Prolapsed Uterus.—By H. Snow.

History of Renal Surgery.—By David Newman.

Laryngeal Diphtheria (?).—By A. de W. Baker.

Berliner klinische Wochenschrift, No. 12, March 25, 1901.

A Case of Pneumo-pyopericardium.—By R. Sievers. The patient was a domestic aged thirty-two years, who when coming under observation presented evidences of old syphilitic infection and of present left-sided croupous pneumonia which had become gangrenous. The heart appeared normal. Some six weeks from the commencement of the pulmonary trouble examination revealed an absence of cardiac dulness and the appearance over the heart region of a metallic tinkle evidencing the presence of air and fluid in the pericardium. Death occurred four days later. The autopsy showed the pericardium considerably dilated and both layers covered with a purulent deposit. Section of the sac caused the forcible escape of a quantity of gas with a hissing sound. A communication was found existing between the sac and the collection of pus in the pleural cavity, and between the latter and a broken-down area in the lung tissue.

The Operative Treatment of Varices and Varicose Phlebitis.—By Dr. Karewski. This paper is a review of the various surgical procedures which have been suggested for the condition and a strong plea for excision of the affected vessels.

Progress of Investigation of Malaria in Italy.—By M. Koch and Coenen (concluding article).

The Prognosis of Brain Diseases in Childhood.—A continued article by H. Oppenheim.

Münchener med. Wochenschrift, March 19, 1901.

The Therapeutic Value of Heroin and Aspirin.—A. Nusch is a warm advocate of the first-named drug and considers it safer for general use than morphine, codeine, and dionine, the range between the therapeutic and toxic doses being much greater than it is for these preparations. Some observers place the upper limit of dosage at gr. $\frac{1}{10}$, but in the author's opinion up to gr. $\frac{1}{4}$ can be used with impunity. It is particularly as a sedative in the cough of phthisis that heroin surpasses other remedies of like nature; in dyspnœa of mild degree it is often useful, while in severe cases its action is but slight. As an analgesic its value is still *sub judice*, and whatever hypnotic powers it may possess are probably due to its sedative effect in relieving the cough and bronchial irritation. Aspirin (acetyl-ester of salicylic acid) has an extensive field of utility, and is of value not only as antirheumatic but also has antineuralgic, analgesic, and antipyretic powers. It possesses the active properties of the salicylates without producing any of their disagreeable by-effects, and may be used as a wholly equivalent substitute for these.

The Technique of Lorenz's Bloodless Operation for the Reposition of Congenital Dislocation of the Hip.—Schlesinger says that the enormous degree of force often necessary to effect reduction of the deformity by this method frequently results in serious accidents, such as fractures of the femur, injury of the perineum or genitals, pressure on the femoral vessels, etc., and describes a simple procedure by which the difficulties of the operation can be greatly diminished and all risks eliminated. After, by gentle manipulation, an attempt at reposition has been made, one assistant fixes the pelvis with both hands while another forcibly holds the limb in the position from which reduction takes place. A firm plaster-of-Paris dressing is now applied and allowed to remain three to four days, when it is removed and manipulation again tried. In most cases it will be found that reposition can be effected with the greatest ease (in one case reported it took place spontaneously in the dressing), while if difficulty is still encountered a repetition of the treatment insures success.

The Protargol Treatment of Gonorrhœa.—Niessen has treated two hundred and forty-four cases of acute gonorrhœa with one-half to three-quarter-per-cent. injections of protargol, and arrives at the following conclusions: Both silver nitrate and protargol in acute cases of infection of the anterior urethra cause the gonococcus to disappear from the secretion at about the same time, viz., the end of the third week. In solutions of the above-named strength no disagreeable symptoms were produced by protargol; the effect of stronger solutions was not tried. Even though it is not possible in all cases to prevent the progress of the process backward into the posterior urethra, protargol seems to insure greater freedom from complications than the nitrate, while in the mucous and serous stages, when no gonococci are present, astringents are to be preferred. Although protargol presents certain undoubted advantages, on the whole its use does not reduce the duration of treatment below that necessary with the best of the older methods.

The Treatment of Leg Ulcers.—O. Schultze recommends camphor as a cheap and easily applied substitute for the more expensive modern dusting-powders. An ointment having lard as a base and containing two per cent. of camphor with fifteen to twenty per cent. of zinc oxide is of great value; if this seems impracticable, zinc oxide may be added to an equal weight of four-per-cent. camphor solution in olive oil and the mixture applied on compresses.

A Further Case of Intestinal Obstruction Treated with Atropine.—W. Höchtlen was unsuccessful in the atropine treatment of his case and the patient succumbed, the cause of the obstruction being found to lie in massive adhesions about the junction of the ascending and transverse colon.

The Atropine Treatment of Intestinal Obstruction.—In Simon's case operation was averted and recovery brought about by the subcutaneous use of large doses of atropine.

The Treatment of Tuberculosis with Intravenous Injections of Hetol.—By A. Kühn.

Experimental Observations on Hand Disinfection.—By Paul and Sarwey.

Max von Pettenkofer.—By K. B. Lehmann.

Deutsche med. Wochenschrift, March 21, 1901.

The Surgical Treatment of Gastric Ulcer and its Sequelæ.—W. Körte reports on thirty-eight cases of operation for benign disease of the pylorus and its neighborhood, including thirty-two cases of stenosis following or accompanied by ulceration. In numerous instances the thickening was massive, simulating a malignant new growth, and while in most cases the hydrochloric acid was increased it was absent or diminished in seven of the number. The chief indications for operation were stenosis and secondary dilatation, though sixteen cases of perforation, and one of dangerous hemorrhage, are included in the list. Resection, gastro-enterostomy, pyloroplasty, and gastrotomy were tried, the conclusion being that gastro-enterostomy is the most generally useful procedure. Direct suture was done, the Murphy button being dispensed with. Resection is a suitable treatment for many cases, and is especially indicated when carcinoma is suspected, but it demands favorable conditions with absence of adhesions and greatly taxes the recuperative powers of the patient. The deaths reported were due in two cases to collapse, in two more to secondary bleeding from the ulcer, and in one each to pneumonia, pericarditis, and suppuration.

The Indifferent Dye Stuffs as Fat Stains.—L. Michaelis believes that in "Scarlet R" histologists and pathologists will find a satisfactory substitute for the osmic acid and Soudan iii. in general use as staining agents for fat. Chemically this substance is toluolazotoluolazo and naphthol, and possesses the advantage over osmic acid of staining every fat, and fat only. The myelin sheaths in the fresh or degenerated state, as well as the lipochrome of ganglion cells, can be clearly differentiated, the best combination for use being a saturated solution in seventy-per-cent. alcohol.

An Observation on the Demonstration of a Pirogoff Stump by Solger.—Kern comments on this demonstration by a description of two stumps which represented a period of use after operation of two months and three years respectively. Sections of the bones showed internal structural changes due to the altered conditions of stress which were undoubtedly progressive, since they were much more radical in the older preparation than in the recent one.

The Göttingen Typhus Epidemic of the Summer of 1900.—By P. Fraenkel (to be continued).

Experimental Observations on the Compensation of Sensory Ataxia.—By A. Bickel.

The Alleged Immunity of the Hedgehog to Cantharides.—By L. Lewin.

Trigeminal Disease as a Forerunner of Tabes.—By v. Fragstein.

Bulletin of the Johns Hopkins Hospital, February, 1901.

Two Examples of Bence Jones' Albumosuria Associated with Multiple Myeloma.—Louis P. Hamburger reports this case. The patient was a woman aged forty-nine years. In August, 1900, she was seized with sharp pain over the ninth left rib near the cartilaginous attachment. The pain was severe and increased on deep inspiration. There was

tenderness on pressure over the painful point. The condition resembled a fracture, though there was no history of trauma. Within three weeks the pain had gone. In September she complained of nausea without apparent cause. Her general health was worse; she had lost thirteen pounds in weight. Early in October she was seized again with pain in the mid-axillary line near the eighth rib. At this time the urinary condition was discovered. Since the past summer the patient had drunk more water than usual, and had voided a larger quantity of urine. On November 3d, excepting a slight pallor of the mucous membranes, physical examination was negative. The urine was very pale, of an acid reaction, with specific gravity of 1.004. It gave a white ring when floated over nitric acid. Heated to a temperature of about 55°, a heavy milk-white precipitate appeared. Boiled, the fluid became clearer, only to become more turbid on cooling. The addition of acetic acid to the fluid after reaching its maximum turbidity caused it to become clear again. A few drops of nitric acid yielded a precipitate which dissolved completely on boiling and reappeared on cooling. In the Esbach albuminometer the proteid content reached 0.27 per cent. The urine gave a strong biuret reaction. No casts were seen in a centrifugalized specimen. This, then, is a condition of albumosuria which is an accompaniment of sarcomatosis of the bone, of a very peculiar variety, originating in the marrow and known as myelomata, new growths affecting for the most part the skeleton of the trunk. The exact nature of the substance giving rise to the reactions of Bence Jones has not been determined. The origin of the proteid is as obscure as its character. The urine usually contains traces of albumin. As to myeloma it does not originate in the marrow cells as a whole, but in the plasma cell only. This disease is one belonging to later life and runs its course generally within two years.

Report of a Case of Fulminating Hemorrhagic Infection due to an Organism of the Bacillus-Mucosus-Capsulatus Group.—George Blumer and Arthur T. Laird report a case in which the intestinal tract was in all probability the primary seat of infection. The patient, a man aged twenty years, had been in perfect health and working till October 19, 1900. He went to work that morning as usual after a hearty breakfast, but returned just after noon. He went directly to bed complaining of feeling ill. He had pain in the abdomen, vomited, and purged, his bowels moving every few minutes. After twelve hours the vomiting had practically ceased, the bowels moved only once in about four hours, the temperature was subnormal, the hands and feet were cold and cyanosed, and the face looked pinched. At the end of twenty-four hours the mind was confused and the patient had completely collapsed. Death occurred at the end of thirty-six hours, there having been at no time the slightest tendency toward recovery. The case is of interest pathologically on account of the proliferative changes in the intestinal lymphatic apparatus discovered at autopsy. The solitary follicles throughout the small intestine were markedly swollen and, in the ileum, Peyer's patches were also affected. The mucosa of the intestine between the swollen lymphatic apparatus was congested and in places markedly hemorrhagic, in places the Peyer's patches contained discrete hemorrhages. The large intestine was normal. The mesenteric glands were swollen, some of them being pale, others hemorrhagic.

Abstract of Interim Report on Yellow Fever by the Yellow-Fever Commission of the Liverpool School of Tropical Medicine.—By Herbert E. Durham and the late Walter Myers.

Hyperextension as an Essential in the Correction of the Deformity of Pott's Disease, with the Presentation of Original Methods.—By R. Tunstall Taylor.

Preliminary Note of a Case of Infection with Balantidium Coli (Stein).—By Richard P. Strong and W. E. Musgrave.

Introductory Note to Drs. Durham and Myer's Report.—By William H. Welch.

The Edinburgh Medical Journal, April, 1901.

Osteomalacia.—W. E. Fothergill gives the following rules for the management of this disease: (1) In men and in non-pregnant women, internal medication should always be patiently tried, together with hygienic and dietetic precautions. In women, if the disease continues to progress, double oöphorectomy may be performed and followed up by continued medication. (2) In early pregnancy abortion may be induced and treatment continued as above. If a living child is specially desired and the symptoms are slight, pregnancy may be allowed to continue, medical treatment being kept up throughout. (3) In late pregnancy it is necessary to decide whether or not a living child can be born at term *per vias naturales*. If not, a choice must be made between the induction of premature labor and a pre-arranged Cæsarean section, as embryulcia should not be contemplated. (4) During labor, the child, if living, must be delivered alive by the method indicated by the circumstances of the case. If the abdomen is opened, the ovaries are removed, whether the uterus is also removed or not. Embryulcia is permissible only when the child is dead. Medical treatment must be continued after the operation, as relapses frequently occur.

Pernicious Anæmia; with an Analysis of Eighty-seven Published Cases, and an Inquiry into the After-History of Twenty-two Reported Cures.—Horace C. Colman considers that in the treatment of pernicious anæmia the most success may be hoped for from rest in bed, farinaceous diet, the use of some intestinal antiseptic and mouth wash, and, above all, from arsenic in increasing doses, and, after some improvement has been shown, from the additional and cautious use of iron. Should the arsenic fail, then recourse must be had to phosphorus and bone marrow. In very advanced cases temporary benefit may result from transfusion. Lastly, should a favorable result ensue from the use of arsenic, the patient should continue that drug for a very long period, even though feeling in perfect health.

On the Diagnosis of Thoracic and Cardiac Aneurism by the Roentgen Rays.—Hugh Walsham considers it the duty of the physician to make use of this method of examination in all doubtful cases of chest disease, especially if an aneurism be suspected. He describes the apparatus to be used and the method of applying it to obtain satisfactory results, and reports five cases in which the *x*-rays established a diagnosis which could not be made from the physical signs. He adds that the danger of dermatitis has been obviated by the introduction of the large coils now in use, which enable one to make an exposure so short that no injury can be done. In an experience of over five years he has never seen any injury arise from the exposure necessary for obtaining a skiagram of the chest.

On the Formation of Crystals, Dendrites, and Spinal Structures in Relation to Growth and Movement, Especially Rhythmic Movements.—By J. Bell Pettigrew.

Remarks on Two Cases of Enteric Fever, Complicated with Rigors and Exacerbations of High Temperature.—By Vincent Dickinson.

Light and Color Perception.—By F. W. Elbridge-Green.

The Scottish Medical and Surgical Journal, April, 1901.

Notes on the Treatment of Diseases of the Nervous System.—J. J. Graham Brown gives a detailed lecture on the treatment of paralysis resulting from lesion of the upper motor neuron. In cases of apoplexy he says that if the diagnosis is certain and if there are signs of a continuing hemorrhage, and if the site of the lesion is the usual one, it may be advisable to compress the carotid artery in order to diminish the rate of the circulation, and so allow of clotting and the arrest of hemorrhage. It may even be well to ligature that vessel in special cases. The quickest and most effectual way of reducing the intracranial tension is by blood-letting. But a clear and certain diagnosis of cerebral hemorrhage must be made, for in the case of embolism or thrombosis venesection would be very harmful. The cases in which it is likely to do good are those in which the face is darkly flushed, the pulse slow and full, and the coma deep and of long duration.

Uterine Retraction with Special Reference to the Mechanism and Management of the Third Stage of Labor.—D. Berry Hart sums up his views as follows: (1) The Porro uterus is an over-retracted uterus and does not indicate the normal amount of retraction of the third-stage uterus. (2) The "intact uterus" is not so markedly retracted as the Porro uterus at the site of the unseparated placenta, and gives a more reliable indication of the amount of retraction under normal third-stage conditions. (3) Retraction of the uterus is most marked in the parturient uterus where the membranes are attached, above the site of uterine rupture, and in the post-partum uterus, the attachment of placenta and membranes hinders full retraction. (4) The placenta is separated in the third stage during the elastic recoil of the uterus following a pain, and not during a pain. (5) No uterine pressure can directly separate the placenta with safety.

A Case of Erythema Multiforme, Closely Resembling Smallpox.—Norman Walker reports a case occurring during a smallpox "scare." The eruption on the face, neck, and back did not resemble smallpox, but on the hands the likeness was marked. The history of the case was altogether against such a diagnosis. The patient had been vaccinated two weeks before and a large scab testified to the efficacy of the inoculation. She had had no rigor, no dorsal pain, nor sickness, and the temperature was subnormal. After consideration and consultation with the health authorities, the diagnosis of smallpox was negatived, and the after-history of the case showed that the physicians were correct.

Notes on Blackwater Fever in Southern Nigeria.—By S. W. Thompstone.

Abdominal Cases.—By J. Scott Riddell.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

WEATHER AND PUBLIC HEALTH—PARLIAMENTARY PURE WATER AND PURE BEER—THE DEBATE ON TYPHOID IN SOUTH AFRICA—A DISCUSSION ON RHEUMATIC AFFECTIONS—NATIONAL HOSPITAL—DEFENCE OF MR. COUTTS.

LONDON, March 29, 1901.

THE weather has forced itself to the front even in this time of political and social excitement. Snow, blizzard, tempest, frost, pipes burst, and plumbers—such have been the subjects of conversation, but you will have learned of the most severe visitations by cable, and as we have a sudden change this afternoon with rain we take courage. The effect on the public health must be injurious. Many of the more noted men have been prostrated. Influenza is rife. Whooping-cough, too, has greatly increased.

The vigorous measures taken to cope with smallpox in Glasgow are beginning to bear fruit. The epidemic, it is hoped, is subsiding, as there are fewer cases, and the same news comes from surrounding districts.

A case of plague was brought to Southampton on a steamer. It was at once transferred to the isolation hospital ship and other measures were taken to prevent the spread of the disease.

In parliament the government has had some rebuffs which interest sanitarians, and there are not wanting many who think it has been shaken by these, as it unquestionably has been by the easy terms it has offered the Boers. On Tuesday four hours in the house of commons were devoted to the water bill of the county council. Ultimately it was rejected by a majority of only seventy-seven—a significant fall from one hundred and fifty. In 1880 London water wrecked a government. This year a new county council is returned with a mandate to brook no longer delay, and the government opposes with a promise to bring in a bill next year—a dangerous move. Next day pure beer took the place of pure water, and after a whole afternoon's debate the second reading was carried by one hundred and twelve majority. It is said the bill will not get through the remaining stages. The government seems afraid of the beer interests. It is even said they will not facilitate the bill to keep children from the public house, though the second reading was carried by a magnificent non-party vote.

The adjourned debate on typhoid among the troops in South Africa was resumed last Friday. The president, Sir Douglas Powell, referred to Dr. Howard's communication to the Washington Academy of Science on the part played by flies. He also mentioned the question of water conveyance and Lord Dundonald's newly invented water cart, a model of which was on view at the meeting.

Sir William Broadbent thought possibly we might have to revise our ideas as to typhoid being always conveyed in this country by water, directly or indirectly. With the troops, he remarked, there were predisposing causes, as debility, overwork, underfeeding, as well as gastro-intestinal catarrh and digestive troubles. He held it proved that diarrhœa and dysentery favored the origin of typhoid. The effect of a mixed infection might be more serious than that of the bacillus. He asked whether Europeans took typhoid to Africa or found it there? What was its incidence on the natives? Was the fever in South Africa the same as ours?

Sir William Church repeated what he said on a former occasion in defence of the commission, denying that they had hurried over their inquiry, though they had worked very hard to prevent delay. They met on the day of arrival and carried on their investigations for thirty-five days without excepting Sundays. He then passed on to the clinical aspects of the disease, which were of course not within the scope of the commission's duty. He was inclined to think inoculation had a modifying power, and he had often observed that it was imperfectly performed. He thought the chief source of infection was Paardeburg, where the river was full of dead horses and the British camp below that of the Boers. Experiments show that the bacilli live a short time in dry sterile sand, but as much as two hundred and forty days in soil, but it is not yet decided whether they sporulate or not—and spores might remain indefinitely. It was safe to assume they would live some time in dry dust, and this might explain cases in lone farms when there had been no communication with towns or other houses for weeks. Sand storms might play a part in conveying the disease. On the march the clouds of dust must have been immense. Flies were another danger. Sir William said flies so congregated round the typhoid patients that you could tell which were suffering from it as you entered a tent hospital.

The type of the disease among the troops seemed specially virulent. Many soldiers stuck to duty after the onset and thus contributed to the extension. The thirst under the hot sun was intolerable and it was not to be wondered at that the soldiers were injudicious in quenching it at any risk. It was often difficult to obtain fuel to boil the water. The Modder water sometimes resembled pea-soup and would clog any filter. He did not know why more Abyssinian wells were not sunk. Typhoid had always prevailed in armies since its distinction from typhus. Sir William thought that a sanitary medical officer should be attached to every camp, as was formerly the case.

Dr. A. Crombie gave statistics of one hundred and fifty consecutive cases of convalescence from the South African epidemic. They showed unusual frequency of second attacks, numerous cases of thrombosis and mucocolitis. The rash was reported to be profuse and in many cases to have extended over the whole body. These South African cases thus contrasted strongly with a form he had called bastard typhoid, common in India, running a mild course without rash, diarrhœa, complications, or sequelæ. The South African cases indicated either special virulence of the bacillus—a supposition negatived by the low mortality—or else a mixed infection. This latter view was supported by recent experiments and observations which pointed to the necessity of reconsidering whether the varying clinical picture called "enteric" might not be the result of such mixed infection.

Captain W. A. Ward, R.A.M.C., was convinced that flies played a prominent part in Ladysmith; the food was covered with them in masses. In one spot he found an enteric camp had existed some years ago. It could not be realized at home what difficulties they had to contend with. The clinical picture differed from that in England; the advent was sudden, the pain in the head very acute, and the rash peculiar, appearing on the sixth to eighth day, very profuse but with no relation to the severity of the attack. The temperature was often intermittent. The disposal of the dead was a difficulty. Places where typhoid patients had been buried would form future foci, and he was in favor of cremation. The question of inoculation must be treated with caution. Personally he was inclined to think that the inoculated men had milder attacks and less mortality.

Dr. A. P. Hillier remarked that in the tropics there were a number of unclassified fevers, called simple continued fever. In Kimberley, where he practised for seven years, typhoid recurred every summer and autumn, and the water supply was above suspicion. He thought dust conveyed the disease more often than water. Filtering and boiling he did not think made water safe. He would appoint more than one sanitary officer and supplement the army medical corps with physicians.

Dr. Horton-Smith pointed out the danger of the urine and the possibility of neutralizing it by urotropin.

Dr. Arthur Longhurst said there were not many types of typhoid, but in hot climates it was more severe and fulminating. He thought the bacillus might remain dormant in the system as the malarial microbe did. Typhoid was better treated in a tent than in hospital.

Dr. Tooth, in reply, said there was room not only for a sanitary officer, but a corps. Professor Wright had said the dose of inoculation should be adjusted to the patient, but he did not see how. He confirmed the statement that typhoid cases could be picked out by the flies around them. Some of the simple continued fevers were exhaustion, some a fever *sui generis*, but the majority mild typhoid; seventy-five per cent. gave the Widal reaction. Urotropin was not adapted for ambulant cases.

What is rheumatism? This question might very well produce such a sensation as that of the historical "what is a pound?" To many the word rheumatism or rheumatic is a sort of charm. Its utterance satisfies them that is something they understand—a pain they put down to cold and damp, referring it to the weather. We have succeeded in considerably contracting the number of cases to which the term rheumatism has been attached and in differentiating others in which it remains; but there is still no little confusion, even in the profession, owing to the indefinite way in which the term is employed. It is therefore not surprising that the public should rest satisfied with a word which includes so many aches and pains, and explain them as due to such ever-present causes as chill and weather. In view of these many questions connected with the word a discussion of them can scarcely be devoid of interest, and such a discussion has occupied two evenings at the Chelsea Clinical Society. It was opened on the 12th inst. by Dr. Archibald Garrod, who would limit the term rheumatism to rheumatic fever and its chronic sequelæ, or at any rate to conditions depending on the same morbid process. He said few would deny that acute rheumatism is an infective disease—a systemic malady in which joints and heart are both apt to suffer and which may implicate the skin, nervous system, and other struc-

tures. The process may smoulder on for years, and its manifestations are exceedingly numerous and various. The precise terms for discussion set forth were "the clinical and pathological relations of the chronic rheumatic and rheumatoid affections to acute infective rheumatism." Dr. Garrod addressed himself to the question thus set and expressed the opinion that three, if not more, forms of articular disease are included under the terms "rheumatoid" or "osteo-arthritis." He related cases of the fusiform, nodular, and crippling forms, contrasting the three with each other and with the senile hip-joint affection. He referred to the various points which had led some to look upon rheumatoid arthritis as a continuation of acute articular disease and stated that in the majority of cases it appeared to him to be a primary malady.

Dr. F. J. Poynton then read a joint paper by himself and Dr. Alexander Paine on the Infectivity of Acute Rheumatism, with especial reference to chronic types of the disease. They regard acute disease as due to one specific organism, and look upon pericarditis, pleurisy, and nodules as manifestations of the disease. From fourteen cases of rheumatic fever they have isolated a diplococcus which grows in streptococcal chains in liquid media; in staphylococcal masses on solid media. Though further researches may be desirable, they believe the organism to be the cause of the disease. In some cases malignant endocarditis is truly rheumatic and this is suggestive as to the nature of some joint lesions which run on to ulceration and destruction of cartilage.

Mr. N. C. Macnamara admitted that some cases of rheumatoid arthritis are attributable to gout, others to rheumatism or a neurosis, and held that others depend on toxic substances produced by organisms. Like Dr. Todd, he had seen cases which he attributed to the absorption of septic matter—as from the uterus or the sockets of the teeth in extensive caries. The cure for such cases would be the removal of the cause of the septic matter.

Dr. C. O. Hawthorne marshalled the several theories as to rheumatoid arthritis and the points for and against each. He seemed to favor most the idea of change in the trophic nervous apparatus or else the idea of rheumatism, but did not definitely adopt either. Loath to commit himself to the theory of a neurosis, he was not prepared, he said, to go so far as to say he held very strongly that rheumatoid arthritis was certainly rheumatism. When so much was vague and uncertain, he thought it was no reproach to halt between two opinions. The debate was adjourned at this point.

On Saturday last the Lord Chancellor presided over a meeting of the governors of the National Hospital for the Paralyzed and Epileptic which ended in a complete climb-down of the committee. More than two hundred supporters of the hospital were present, and a resolution was moved on behalf of the committee to the effect that an inquiry into the allegations of the staff ought to precede their demand for representation. An amendment was at once brought forward, and eventually carried, that a full and independent inquiry be at once instituted. It is significant that this inquiry is ordered to include "the position, functions, and acts of the secretary-director." This is the anomalous official whose proceedings have, I believe, brought on the trouble, and, as I told you when last alluding to the matter, ought to be dismissed. The choice lies between him and the eighteen distinguished members of the staff. He has written that the "hospital may encounter worse evils than the resignation of the staff," but no one outside the board he controls seems to agree with him. That board should also be displaced by the governors as unfit for the position it holds.

A voice has been raised within the profession in favor of Mr. Burdett-Coutts. *The Medical Press and Circular* accepts that gentleman at his own valuation—perhaps at a higher one. His excellent qualities are described in a leader, and among them, to the amazement of many, accuracy is included, notwithstanding the contradictions he has had to endure. The commission is referred to as appointed "to deal with one side of the question and to report favorably upon the army medical service." This service is said to have been "reponsible for the breakdown" and the defence to have been "entrusted to the incriminated department"—two unsupported charges which have been again and again disproved. According to this leading article, Mr. Coutts "has riddled through and through the commission and all its works," and it is pronounced, in the elegant terms of his speech in the House, as "the weakest and rottenest basis of reform." What can have happened to *The Press and Circular?* It used to be well informed on army questions.

In Insomnia try a hot bath at bed-time. In aged subjects give very small but frequently repeated doses of hyoscyamus.

OUR PARIS LETTER.

(From our Special Correspondent.)

MINERAL WATERS IN FRANCE. THEIR AMELIORATION—PRACTICAL SURGICAL INSTRUCTION IN THE PARIS FACULTY OF MEDICINE—CHAULMOOGRA OIL IN LEPROSY—WASHING OUT THE STOMACH IN GASTRORRHAGIA—TRINITROL AS A CARDIAC DRUG.

PARIS, March 23, 1901.

THE American medical men who were present at the Thirteenth International Medical Congress remember very likely having received a book on "The Mineral Waters in France," setting forth their special advantages, and indicating in what manner they were to be employed for the cure of different ailments. The number of watering-places in France is certainly very large, and perhaps no country in the world offers so great a variety of springs furnishing different kinds of mineralized water, with different conditions of heat, quantity of mineral subtances and gases. The chief trouble, however, and it is one that French physicians are aware of, is that no special pains are taken to bring before the international medical public the merits of such waters. Such is far from being the case in Germany, where the waters are extensively advertised; everything is done to attract foreigners, such as having hotels that afford a special cuisine, different amusements, the laying out of walks, and a certain cosmopolitan character in the place itself.

The book given to the members of the congress was destined to enlighten them in some measure, just as the yearly trips undertaken under the direction of Professor Landouzy are a means of giving practical instruction to the French physicians as well as to foreigners.

This question has been taken up seriously recently by a member of the chamber of deputies, M. d'Estournelles de Constant, who is getting up a series of lectures in different parts of France, on the natural advantages of the country where they are given. In a letter published in the *Temps*, the great French journal of conservative tendencies, M. d'Estournelles writes in the following manner: "In those regions where there are to be found not only mineral springs and special climatic conditions, but also the picturesque and historical sites sought after by patients, we shall try to make the inhabitants of the region understand that it is by our own initiative that we can attract travellers and thereby increase the profits of railway companies, hotel keepers, farmers, etc. We will try to show how France can be lifted up, rendered more prosperous and strong by organizing, transforming the public hygiene, and understanding her own true interests."

It will therefore be well for physicians to furnish those who are to speak on these different subjects, statistics and figures which will be of great help to them.

The general secretary of the *Presse Médicale*, M. de Lavarenne, has written recently some articles on the lack of surgical training shown by the average graduate from the school of medicine. According to this author, a great number of young doctors do not know how to handle a knife, and would be incapable of performing such simple operations as a kelotomy or even the opening of a simple abscess. Until recently the practical instruction given at the school of medicine consisted in showing the student how to find an artery or how to cut off a limb. Such operations are certainly of some importance, but are much less required than the different operations so often performed in ordinary practice. It was felt necessary to give the student some chance of learning something more about certain more complicated operations, such as the removal of a kidney, or a laparotomy. Dr. Tuffier, whose name is about as much heard as Doyen's, has started at the Collège de France a series of practical demonstrations, in which both professor and pupil operate on dogs which are placed under the influence of a narcotic. This new attempt has been advertised by means of posters placed on different public buildings, and it cannot but help to attract the attention of the public.

In answer to these articles by de Lavarenne, Dr. Hartmann, former assistant of Terrier, has written a letter in which he upbraids de Lavarenne with having neglected to speak of the courses which are given under his direction at the École Pratique of the Faculty of Medicine. Dr. Hartmann is helped by several prosectors or demonstrators, who choose different sections of surgical science, and perform the different types of operations before the students. These courses are not, however, gratuitous like those usually given at the Faculty of Medicine, and the average student does not care to make the extra outlay in time and money so as to acquire a sufficient knowledge of the operations which he will be called upon to perform later.

At the meeting of the Academy of Medicine, which took place on the 5th of March, several interesting communications were made by different members. Dr. Hallopeau read a report on a work by Dr. Tourtoulis concerning the treatment of leprosy by subcutaneous injections of chaul-

moogra oil. The author had obtained fairly good results and persistent amelioration. Dr. Hallopeau remarked that chaulmoogra such as is obtained in the hospitals of Paris is often adulterated, so that the results achieved are often quite variable.

Subcutaneous injections of oil are not always without ill effects, so much so that he has decided to give the oil by the mouth in doses of gtt. cc. to ccc. daily. Before believing that the remedy is the sole agent in the recovery it should be remembered that leprosy sometimes improves spontaneously. Dr. Ducastel said he considered chaulmoogra oil might have some effect in cases of tubercular leprosy, but that in nervous leprosy it gave no result. This treatment should be used exceptionally, in serious cases, as it was painful and dangerous and might sometimes cause pulmonary embolus.

Dr. Linossier advocated treating gastrorrhagia by washing out the stomach. He spoke of two cases in which the vomiting of blood could not be stopped and in which he obtained good results. Dr. Bondet said he washed out the stomach in ulcus simplex with a weak solution of perchloride of iron, and was favorably impressed by the treatment.

Professor Huchard has tried a new drug, called trinitrol, which he employs instead of amyl nitrite and trinitrin, the latter being not so lasting in their effects. Trinitrol, or tetranitrate of erythrol, is given in doses of 1 cgm. Six doses may be given in one day.

OUR CONSTANTINOPLE LETTER.

THE PLAGUE AND QUARANTINE—PARALYTIC HYDROPHOBIA—HEALTH-BOARD MATTERS.

CONSTANTINOPLE, March 12, 1901.

THE year 1901, so far, has been as remarkable for slackness in medical matters as in most other things.

Plague and quarantine for a time troubled the commercial world without exciting alarm in the population. It may almost be said that the vagueness of description of the disease and the irregularity of the quarantine caused cynical amusement.

On January 10th a case of plague was officially reported as having ended fatally in hospital at Stamboul. The patient was a certain Mehmed, a "caiqueyi," or native boatman, resident at Beicos, a village on the Asiatic side of the upper Bosporus. Quarantine of ten days against Constantinople was immediately imposed by Greece, Roumania, and Egypt; and Vaurla, which has been excluded in a former quarantine, was included in this. The old story—the doctor who attended the patient treated him for pneumonia. No other case has since occurred.

February 5th a case of plague was reported from Smyrna, and again came quarantine and disinfection, at first severe, then shortly modified; and so goes on a see-sawing form of quarantine and disinfection, which is little edifying to the hygienic cynics who think dirty streets, filth accumulations, and overcrowding as much worthy a health administration's notice and care as the "guarding the doors of Europe" against pestilence by the international delegates of the Ottoman health board.

That an alleged case of plague in such an out-of-the-way place as Beicus should have occurred is not explained, nor is it clear why, with such perfect means of isolation at hand and at the command of the sanitary council, an individual case of plague should be allowed to cause such inconvenience and loss to the shipping interests and passengers, even if the nature of the disease be confirmed by bacteriological investigation.

A case of hydrophobia is reported to have occurred in one of the suburbs. The patient died after having undergone the Pasteurian treatment. The interest of the case lies in the circumstance that the editor of the *Revue Médico-Pharmaceutique* issued a series of questions to the physicians who had seen the case, asking their opinions of the nature of the malady, which is described as "rage paralytique."

The short period of incubation and development, and especially the paralytic fever, which were considered more or less abnormal, appear to have cast doubts on the quality of the antirabic serum employed.

The patient, a man aged forty years, was bitten by a dog on January 31st. The bite was on the right leg, in the region of the tendo Achillis. The dog was examined by the chief veterinary of the school at Paucaldé and declared to be rabid. On February 4th Pasteurian inoculations were begun at the Antirabic Institution. On February 18th the patient had had fourteen inoculations, when suddenly, after coming out of a warm bath, he showed symptoms of paralysis of the lower extremities. On the night of the same day, and on the 19th, the thoracic organs and upper extremities in turn became paralyzed. Symptoms of glosso-laryngeal paralysis with complete aphonia and slight difficulty of deglutition followed. Other symptoms were negative. He had no other subjective symptoms than of stinging of hands and feet. Respiration was 24; pulse, 80; temperature, 37° C. Such, in brief, is an abstract of the case as reported by Dr. P. Remlinger, director of the Imperial Antirabic Institute. The patient died, forty-eight hours after the appearance of the first symptoms, from paralysis of the heart—twenty days after being bitten. There was no autopsy. In view of the symptoms it was asked, What is the nature of this affection—a hysterical paralysis; an acute ascending paralysis (Landry's disease); or paralytic rabies? The period of incubation was about eighteen days. The third day from being bitten he was submitted to the antirabic treatment, and it is stated that he complained of the pain of the injections. He went on foot daily to the institution and returned home after being injected. An interesting case, truly, inasmuch as the patient died from the most virulent and rarest form of rabies, in spite of the antirabic inoculations practised from almost the beginning.

Some differences of opinion have naturally had expression: *i.e.*, if this rare form of paralytic rabies might not be attributed to and classified under laboratory or experimental rabies. And the statement is made that since the foundation of the Antirabic Institution of Constantinople by Zoéros Pacha, no case is recorded among the inoculated who died presenting the form of paralytic rabies, although this form has been observed elsewhere. There are some points in common with the case of the late Lord Daneraille, who, it may be remembered, died with marked symptoms of rabies after inoculation at the Pasteur Institute at Paris. To include such cases in the paradoxical category is to exclude the possibility of a faultily prepared serum.

The international members of the Ottoman sanitary board still maintain their protest, and hold out against the palace nomination of Nanyk Bey as successor to the late sanitary inspector, Dr. Vitalis. The question has now become a diplomatic one, as the respective embassies support their delegates and have had a meeting on the subject in dispute. In the mean time a *modus agendi* has been arranged, and the affair may be indefinitely prolonged.

Dr. Clemow, the British delegate to the Ottoman health board, is down with typhoid.

Reviews and Notices.

URINARY DIAGNOSIS AND TREATMENT. By JOHN WAINRIGHT, M.D., etc. Chicago: G. P. Engelhard & Co. 1900.

THIS is a very satisfactory handbook for both the student and the practitioner, well gotten up and containing a number of good plates of the microscopic appearances in different specimens of urine. A number of diseases characterized by marked changes in the urine receive separate consideration from the therapeutic standpoint.

THE USE OF THE ROENTGEN RAY by the Medical Department, U. S. A., in the War with Spain. Prepared under the direction of Surgeon-General G. M. STERNBERG, U. S. A., by W. C. BORDEN, Captain and Assistant Surgeon, U. S. A. Washington: Government Printing Office. 1900.

THE Roentgen ray was extensively tried during the late war, and this volume embodies the results of its use by the United States army. The method seems to have been very successful, and to have been very skilfully applied. The most important part of the present work is the plates which are many and excellent. They all show how very useful the *x*-ray is in locating a missile which causes so little local disturbance as the high-velocity bullet. A number of interesting clinical histories are given with their *x*-ray findings and ultimate result, so that a really valuable contribution to the literature of the use of this aid to diagnosis is offered.

MEDICO-SURGICAL ASPECTS OF THE SPANISH-AMERICAN WAR. By Lieutenant-Colonel NICHOLAS SENN, Chief Surgeon, U. S. V., etc. Chicago: American Medical Association Press. 1900.

THIS volume embodies the experiences of its author in the war of 1898, and consists chiefly of letters upon various subjects having to do with the medical aspects of that war. Most of the subject matter is in a popular strain, and there is very little of scientific value. A few interesting cases of bullet wound are detailed, but most of the surgical cases cited are entirely without interest, and the medical cases are chiefly typhoid and malarial fevers very superficially discussed. Extended criticism is unnecessary.

REPORT ON AN OUTBREAK OF PLAGUE AT SYDNEY, 1900. By The Chief Medical Officer of the Government and President of the Board of Health. Sydney: W. A. Gullick, Government Printer. 1900.

THIS interesting brochure contains descriptions and analyses of three hundred and three cases of plague, occurring at Sydney, N. S. W., during the outbreak of the disease in the past year. The cases are gone over carefully and are interesting from the clinical point of view, as their histories are minutely followed. Considerable bacteriological work was done at the time of this outbreak, and it receives a share of attention in the present publication.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By EGBERT H. GRANDIN, M.D., Gynæcologist to the Columbus Hospital, with the collaboration of GEORGE W. JARMAN, M.D., Gynæcologist to the Cancer Hospital. Third edition, revised and enlarged. 8vo, pp. 511. Philadelphia: F. A. Davis Company.

THE third edition of this work appears in an enlarged form, the authors having added a chapter on the anatomy and embryology of the subject. Like the preceding editions the special feature of the book is its essentially practical character not only in the text, but also in the numerous half-tone illustrations, all of which have been taken from life under the authors' personal direction. To avoid confusion the many theories and various deductions therefrom have been avoided, the object being to teach what is considered best in the most forcible manner, so that the student in doubt can have proper guidance from practical advisers. The work should be possessed by all those engaged in obstetrics, even though they have a well-stocked reference library on the subject.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS; or, the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M.A., M.D., Aberd. Prof. of Materia Medica and Therapeutics in the University of Michigan; formerly Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute of the University of Strasburg. Second edition, revised and enlarged. Illustrated with 47 engravings. Pp. 732. Philadelphia and New York: Lea Brothers & Co. 1901.

THE fact that the second edition of this work has been demanded within a little more than a year from the appearance of the first issue proves that it has supplied something needed by the profession at large. What may be termed the special advantage of the author's teachings is to be ascribed to his scientific methods, for he has cut loose as much as was possible from the empiricism of the past and deals with reasons deduced from experimental research, making a system of therapeutics far more satisfactory to the practitioner. It is safe to say that works of this kind will tend to check indiscriminate medication and to upbuild drug treatment on a foundation hitherto only too weak. In this edition the changes are few, and among them we note the incorporation of the most recent articles on alcohol and salt action.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and other Topics of Interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia, U. S. A., with the collaboration of JOHN B. MURPHY, M.D., ALEXANDER D. BLACKADER, M.D., of Chicago; H. C. WOOD, M.D., of Philadelphia; T. M. ROTCH, M.D., of Boston; E. LANDOLT, M.D., of Paris; THOMAS G. MORTON M.D., and CHARLES H. REED, M.D., of Philadelphia. With regular correspondents in Montreal, London, Paris, Leipsic, and Vienna. Vol. III. Tenth series, 1900. Philadelphia: J. B. Lippincott Company. 1900.

THE title tells so much and the work is so generally known that few words of commendation seem necessary. The volume now issued contains in addition to the usual collections of clinical lectures a monograph of sixty-six pages on the scientific modification of milk, by Thompson S. Westcott, of the University of Pennsylvania. There is also a symposium on genito-urinary diseases, by various well-known writers, and Dr. L. Webster Fox contributes an interesting paper on injuries of the eyelids and eyeballs.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION at the Fifty-sixth Annual Meeting, Held in Richmond, Va. Pp. 353. Published by American Medico-Psychological Association. 1900.

IN addition to the lists of officers and members and general society reports this pamphlet contains many interesting articles read by members of the society. Degeneracy, epilepsy in the insane, mental responsibility, traumatic hysteria, and many other subjects which interest the alienist are described and discussed. It makes a neat volume of interesting contents.

CHIRURGIE DES VOIES BILIAIRES. Par le DR. VICTOR PAUCHET. Avec 9 figures dans le texte. Paris: Librairie A. B. Baillière et fils. 1900.

THIS little brochure of less than one hundred pages takes in all modern methods connected with gall-bladder surgery from contusions to cholangiectomies.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY. Twenty-first Annual Session. 1900.

THE scientific contributions presented at this session of the Louisiana State Medical Society were of a uniformly high order of merit. An interesting address on expert and opinion evidence was delivered by W. W. Howe, of the New Orleans bar.

TEXT-BOOK OF HISTOLOGY. By DR. PHILIPP STOHR. (Third American from Eighth German Edition.) Translated by Dr. EMMA L. BILSTEIN. Edited with additions by Dr. ALFRED SCHAPER. Philadelphia: P. Blakiston's Son & Co. 1900.

THE last edition of this excellent text-book will be again gratefully welcomed by American students of histology. New illustrations and additional text have been added by Professor Stöhr to the eighth edition, thus bringing this book to date with the latest ideas on histology and histological technique.

THE A B C MANUAL OF MATERIA MEDICA AND THERAPEUTICS. By G. HARDY CLARK, M.D. Pp. 197. Philadelphia: Boericke & Tafel. 1901.

THIS little volume, intended for homœopathic practitioners, is a digest of the most important drugs, arranged alphabetically. Characteristics, toxic effects, dose, and therapeutic effects comprise the four headings under which each drug is treated. The doses are given in the regular and in the homœopathic methods.

FLASHES OF WIT AND HUMOR; or, A Brief Study of the Best Things of the Brightest Minds. By ROBERT WATERS, Author of "Intellectual Pursuits," etc. New York: Edgar S. Werner Publishing and Supply Company. 1900.

As the author states in his preface, the object of this little book is simply to afford an hour's recreation, a respite from care, a smile and a laugh, to those weary brain workers who are oppressed by many daily burdens. It well fulfils its aim.

ENLARGED TONSILS CURED BY MEDICINES. By J. COMPTON BURNETT, M.D., London, England. Philadelphia: Boericke & Tafel. 1901.

IT is always interesting to look at a problem from various points of view, and as the author advocates in this case ideas which are undoubtedly embraced by the minority of practitioners, his accumlated experience of twenty years is a valuable contribution to the non-operative treatment of enlarged tonsils. He states that he has been able by medicines to cure the great bulk of his cases. He uses various drugs according to the case, *e.g.*, baryta, thuja, antirheumatic remedies, etc.

KING'S AMERICAN DISPENSATORY. By HARVEY WICKES FELTER, M.D., and JOHN URI LLOYD, Pharm. M., Ph.D., Professor of Chemistry, Pharmacy, and Toxicology in the Eclectic Medical Institute, Cincinnati. Entirely rewritten and enlarged. Eighteenth edition. Third revision. In two volumes. Vol. II. Cincinnati: The Ohio Valley Company. 1900.

IT was over a year ago that the first part of this extensive work was reviewed in these columns. We are pleased to note the completion of the task, believing that long intervals elapsing between the parts of a work of this kind are a serious inconvenience, at least, to the possessor of the portion first appearing. The revision appears to have been very carefully made. The volume begins with "Galanga" on page 905, and ends at page 2172—followed by a general index. There are in all 260 illustrations (woodcuts). There are a number of tables of weights, doses, solutions, atomic weights, specific gravities, etc. As a whole, the work has undergone considerable improvement and new matter has been added.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Eleventh Series. Edited by H. L. BURRELL, M.D., W. T. COUNCILMAN, M.D., and C. F. WITHINGTON, M.D. Boston: Published by the Trustees. 1900.

THIS is an interesting collection of clinical papers upon various subjects, by members of the staff of the Boston City Hospital. The papers cover cases observed during

the past year, and many of them are of unusual interest. Among others, those On Fracture of the Spine, On the Use of very Large Doses of Diphtheria Antitoxin, and On Tuberculous Peritonitis, cover subjects which are always important. However, all the material is useful, and it is a matter for regret that more of the hospitals in this city do not also publish similar scientific reports, instead of the usual perfunctory pamphlets on ways and means, etc.

TRANSACTIONS OF THE CLINICAL SOCIETY OF LONDON. Vol. XXXIII. London: Longmans, Green & Co. 1900.

BESIDES the usual lists of members and reports of the society, this volume contains many instructive articles, which, in fact, form nine-tenths of the work. Unusual cases arising in the practices of the various members are described in detail and are accompanied by excellent half-tone illustrations which are most helpful. Many branches of medical investigation are thus aided by those well able to describe, comment, and observe in their special fields.

THE UNITED STATES PHARMACOPŒIAL CONVENTION. Abstract of the Proceedings of the National Convention of 1900 for Revising the United States Pharmacopœia, Held at Washington, May 2, 3, and 4, 1900. Philadelphia: J. B. Lippincott Company. 1900.

THIS little pamphlet contains the interesting address of Dr. Horatio C. Wood, the president of the association, together with the reports of the committees and a reprint of the constitution and by-laws. It is of use to both pharmacist and physician.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. December 1, 1900. New series, Vol. IV., No. 2.

THIS interesting little pamphlet contains the obituary notices of Dr. Alfred Stillé and Dr. J. M. Da Costa, together with the usual scientific articles, which include Experimental Tuberculosis in Cats, the Dissemination of Tubercle Bacilli by Cows in Coughing a Possible Source of Contagion, Two Cases of Glioma of the Retina, and Description of Instruments.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second edition, revised and largely rewritten. Vol. I. Philadelphia and New York: Lea Brothers & Co.

THIS illustrated work presents in its new form a reconsideration of diabetes, diphtheria, spasmodic croup, the exanthemata, typhoid, pneumonia, influenza, and a number of other diseases. Nearly half the articles are said to be entirely new, while the rest of the material has undergone a complete revision. There are also new illustrations. The chapters are briefly: General Therapeutics, H. C. Wood; Prescriptions, J. P. Remington; Sanitation, H. B. Baker; Foods, I. B. Yeo; Exercise, E. M. Hartwell; Rest Cure, J. K. Mitchell; Electro-Therapeutics, Rockwell; Hydrotherapy, Baruch; Climate, Solly; Mineral Waters, Crook; Massage, Moore; Disinfection, Coplin; Diseases of the Thyroid and Thymus, S. J. Meltzer; Rheumatism, James Stewart; Diabetes, James Tyson; Blood, Ralph Stockman; Syphilis, Edward Martin; Tuberculosis, Flick; Scrofulosis, Chrystie; Scurvy, C. E. Banks. Remington's article on prescription writing will be most useful to students. The others are written largely for the practitioner.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, etc., and F. F. BURGHARD, M.D., M.S. (Lond.), F.R.C.S., etc. In seven volumes. Vol. IV. The Treatment of the Surgical Affections of the Joints (Including Excisions) and the Spine. Philadelphia and New York: Lea Brothers & Co. 1901.

VOLUME IV. of this excellent work covers dislocations and other injuries of joints, and the various forms of disease occurring in joints, with the treatment, so that a large part of the section is devoted to orthopædic surgery, upon which subject it is an excellent handbook. In dislocations of the shoulder the greatest prominence is given to Kocher's method of reduction, and the heel-in-axilla method is given second place in point of utility, with which conclusions practically all surgeons are agreed. The treatment of the complicated dislocations of the shoulder by operative means is well discussed. The method of treating sprains is very well given and the matter is classified in a way that should appeal strongly to the student class. Massage is given a deservedly prominent place in this connection. The authors have more confidence in the method of maintaining continuous irrigation in infected joints than we think the method which they describe justifies, though that method is the one usually recommended in surgical works. Among inflammatory conditions, tuberculosis naturally receives most attention, chiefly from the therapeutic point of view, with very little on the pathology of the subject. What the authors consider best in orthopædic apparatus receives full attention, and the subject is well illustrated. Injuries and diseases of the spine are included in this volume, and the prognosis in the presence of symptoms of spinal-cord injury is pronounced bad, so that operation does not hold out any prospect of permanent or extensive improvement. It is unfortunately necessary to recognize the correctness of this point of view. There is a chapter, contributed by a third author, upon the different forms of exercise which are useful in the correction of certain spinal deformities. The illustrations are very good and add much to the clearness of the descriptions. Volume IV. well sustains the good reputation made by the previous three sections.

ORTHOPÆDIC SURGERY: A Handbook. By CHARLES BELL KEETLEY, F.R.C.S., Surgeon to the West London Hospital; Member of the British Orthopædic Society; Corresponding Member of the American Orthopædic Association. London: Smith Elder & Co. American Agents, G. P. Putnam's Sons. 1900.

THIS is essentially a volume for the leisure hours of the practised worker, rather than a guide to put into the hands of the student, for while the author's boldness in challenging long-accepted views and theories, and his skill in upholding his own opinions, are well adapted to interest and instruct one grown old in the art, the general trend of the work is too iconoclastic to make it proper meat for less seasoned stomachs. It is a valuable contribution to the not overrich literature of this branch of surgery, since it embodies the results of many years' observation and practice in a specialty yet new enough to furnish many problems for elaboration and sufficiently complex to encourage difference of opinion, but it is to be regretted that in his zeal to overthrow the idols of Baal the author has not always paused to provide satisfactory substitutes for the theories he demolishes, and that when he does become philosophical his meaning is often obscure and hard to fathom. The chapter on scoliosis is particularly mettlesome in its attacks on current beliefs as to the causation of the deformity, but its logic, though vigorously expressed, is not always convincing, and at the end, though it is plain that, Ishmael-like, the author's hand is against every man's, his own position is not very clearly defined. The sections on treatment are perhaps the most useful and suggestive in the book and more than compensate for the defects of other portions, though it is suprising to find no mention made of tuberculous disease of the knee, while the corresponding lesion of the spine receives very careful and extended consideration. Of the numerous illustrations, those from other works and from photographs are, on the whole, very good, but the original drawings are, for the most part, poor, and some of them (witness those on pages 256 and 257) surprisingly bad.

GRUNDRISS DER INNEREN MEDICIN. Für Studierende und praktische Aerzte. Von Dr. MAX KAHANE in Wien. Mit 65 Abbildungen. Leipzig u. Wien: Franz Deuticke. 1901.

IN this volume, dedicated to Nothnagel, the author has successfully accomplished his purpose of producing a work to occupy the middle ground between the epigrammatic terseness of the compend and the diffuse prolixity of the more pretentious system or encyclopædia. Avoiding the meticulous attention to detail that so often mars the German text-book in Anglo-Saxon eyes, he has attained the golden mean most happily, and continental Europe is to be congratulated on the appearance of a book that seems worthy of comparison with that favorite of all English-speaking students, Osler's "Practice of Medicine." The scope of the two is not quite the same, however, for, although about equal in bulk, the newer work does not contain any articles which at all approach in length or completeness the more important ones in Osler—the masterly essays on tuberculosis and typhoid fever, for example—while it is somewhat richer in its description and discussion of minor and other topics, such as acute gonorrhœa, which the American author has left to the specialist. The illustrations, which are taken from Sahli's text-book on clinical examination, are good as far as they go, but are too few in number to give the book rank as an illustrated work, and might better have been omitted altogether. Treatment is very summarily dealt with, though a number of different plans are usually indicated, which often are suggestive and vary enough from the methods in vogue in this country to be interesting. Altogether, the chief excellence of the work lies in the admirable force and clearness with which the salient points of each subject are presented, and it will be valuable to American readers desirous of viewing the medicine of to-day through foreign spectacles.

Clinical Department.

REPORT OF A CASE OF MALARIAL HÆMATURIA.

By P. L. BELLINGER, M.D.,
WATERPROOF, LA.,
EX-PRESIDENT OF THE PARISH BOARD OF HEALTH.

J. T——, white, male, aged twenty-four years, spent the major portion of his life in the Louisiana swamps. He was exposed during the last few years, through dissipation, to every possible harmful influence. On September 16, 1900, he was taken with ordinary third-day chills and fever, which lasted four days under home treatment, the patient keeping his bed till after the passage of his chill day, when he again exposed himself to the hot sun, indulging slightly in beer, returning home at a rather late hour on Friday night, September 21st. He then complained of feeling very ill and soon retired. Upon voiding his urine he noticed it had a bloody character. A physician was summoned at once, who pronounced the case one of hemorrhage from the bladder. Treatment (of the nature of which I am ignorant) was instituted, but the hemorrhages increased both in frequency and quantity. The father, who had had personal experience in swamp fever, suspected the latter in his son, and advised a change of physicians, at which time I was called—it being the fifth day of the illness—in time to witness the eighteenth hemorrhage. The diagnosis was plainly written on the man's countenance, the entire body was of a deep bronze color, intense agony was plainly denoted by his deep sighs and groans, with a restless tossing of the head; the breath was foul and quickly drawn, the tongue was heavily coated, the pulse was rapid and weak, and the temperature 100° F. Physical examination showed a normal heart and lungs; the spleen was slightly enlarged, the liver was in a high state of congestion and exquisitely tender, the abdomen was tense and slightly painful on pressure, and the bowels were inactive.

Owing to the profound infection and great loss of blood, together with his long illness and debilitated condition, I realized the importance of heroic efforts, and placed him on the following treatment, I may say, without hope: Strychninæ sulphatis, gr. $\frac{1}{40}$; liq. potassæ ♏ x. was given every four hours with gtt. v. of turpentine on sugar. ℞ Hydrarg. chlor. mitis, gr. vi.; Sodii bicarbon., gr. x.; Podoph., gr. ¼. M. ft. chart. iv.; one every hour. ℞ Pot. bitart., ʒ i.; Sod. hyposulph., ʒ ss.; Aquæ, q.s. ad ʒ vi. M. S. Tablespoonful every hour.

Milk as a diet was given in quantities of two ounces every three hours, and small quantities of beer and champagne were allowed at frequent intervals. Twenty-four hours later I again visited my patient and, contrary to all my expectations, I found such gratifying improvement that I became almost hopeful. The urine was voided three times during my absence; it showed no signs of blood, was ample in quantity, and perfect in color. The bowels had acted well—relieving the liver, thus alleviating the agonizing pain. The temperature was normal; the pulse, 85, but very weak. The skin was a little clearer. The patient was talkative and cheerful, and was slightly propped in bed and smoking a cigarette, of which I did not approve. The treatment was continued with strych. sulph. gr. $\frac{1}{60}$ every four hours. I omitted all else, and gave positive instructions about the nourishment, which was to be largely milk, alternated with concentrated beef tea. I left the man at 10:30, doing as well as I could expect. I was hurriedly called at 2 P.M. the same day, but being engaged for the moment, I reached him only two hours later, and to my great surprise he had been dead one hour, dying very suddenly, and I presume from heart failure.

Conclusions: 1. Had the above treatment been given earlier in his illness, would not the results have been better? 2. Had I, even at the late hour of my visit, supplied a circulating fluid in shape of a decinormal salt solution, would that have changed the result? 3. Alcoholic subjects in swamp fever, as in pneumonia, have small hope.

MALARIA IN A CHILD OF THREE WEEKS.

By J. C. JOSEPHSON, M.D.,
BALTIMORE, MD.

Baby Rosenfeld became ill when a week old. His mother had lived in a malarial district in the South, and had had several attacks, the last one on the eighth puerperal day. Ever since then the child had been ailing. Every afternoon, about three or four o'clock, he would become blue and have a slight spasm. Then he would have a fever. He was very restless, took the breast badly, was pale and small, and had a very marasmic look. In the morning there would be no fever. I first saw him about the twelfth day of his illness on November 30, 1900, in one of his typical attacks. The child was pale and bluish, and had a slight spasm of the muscles of the face. The breathing was jerky. The temperature was 102°. The spleen was much enlarged. He had been treated for consumption since he first became ill, by a certain ignorant but very popular practitioner, one of those "years-of-practice" men that we have here. There was absolutely nothing abnormal in the chest. The regular periodicity of the attacks, the mother's history, and the enlarged spleen convinced me that I had to do with a case of malaria, and five days' dosing with quinine—at first four grains a day and later two grains—cured the child entirely, and he has been flourishing ever since.

THE TREATMENT OF ASCITES.[1]

By ARTHUR H. BIGG, M.D.,
DETROIT, MICH.

The treatment of ascites has often proved unsatisfactory, the fluid, although evacuated, returning again and again until the case has terminated by exhaustion, or by the progress of the primary lesion. The reason for this, in the case of medical treatment, may be accounted for, in part, by the complications that usually exist, rendering necessary a careful discrimination in the use of drugs, lest, while directing our efforts energetically to the subject in hand, a line of treatment should be adopted that would be incompatible with the welfare of another organ, itself the subject of morbid action, as the heart or the stomach.

It is with the view of encouraging a brave, rational treatment of this disorder, even when seriously complicated, that I have ventured to come before you with this essay, the scope of which includes but a segment of the circle of its medical treatment, being limited to the consideration of but one principal drug and two or three of its useful congeners.

In speaking of Momordica Elaterium, I bring no new agent to your notice, but I have thought it possible that, like myself formerly, some of you may have shunned the drug, or used it with trepidation, through the fear inspired by its characterization in the books that its employment is attended with danger to the patient.

[1] Portion of paper read before the Detroit Academy of Medicine May 8, 1900.

And there is no question that the too free use of this invaluable remedy, unmodified by suitable correctives, is capable of producing unpleasant and even alarming depression, but, once having witnessed the exact and beautiful work it can be made to do, when combined with effective corrigents, there is little doubt that you would surrender your prejudice at discretion, and henceforth give it a place of distinction in the list of your therapeutic agents.

To the fathers who gave the drug its name, which means "a driver," it was a horse that frequently took the bit in its teeth and carried the poor patient perilously near the brink of the river Styx, if not into that dark stream, but then the fathers knew comparatively little of the possibilities of digitalis, still less about the sustaining power of strychnine, and nothing whatever of the efficiency of glonoin in preventing syncope and collapse. Therefore, from the point of view of a practitioner at the close of the nineteenth century, they were excusable for their failure to discover the full merit of one of the most valuable drugs in the materia medica, for could they but have put to the proof the following combination, in pill or capsule, they would, in observing its effect, have done swift justice to elaterium in their description of its capabilities:

℞ Elaterin[1] ..... gr. $\frac{1}{15}$
Strych. sulph ..... gr. $\frac{1}{30}$
Glonoin ..... gr. $\frac{1}{100}$
Ext. digitalis (Lyon's scales) ..... gr. $\frac{1}{2}$
Caffeinæ citrat ..... gr. i.
Pulv. caryophylli ..... gr. i.

M. For one capsule. S. Give one capsule every three to six hours.

I have here disclosed a formula which may be relied upon for the removal of ascitic fluid. If there be a tendency to nausea, the addition of an eighth of a grain of cocaine muriate, or the substitution of it, temporarily, for the digitalis, may be thought advisable, but, with some such necessary modifications, unless there is present an inflammatory condition of the intestinal tract, or a gastritis, I should boldly attack any case of ascites with the pill prescribed above, with the confident expectation of rapidly removing the fluid without material discomfort and with no risk whatever to the patient. I say "no risk" and use the words advisedly, within the limitation that must ever mark our discussion of the action of drugs, owing to the idiosyncrasies and complications that we meet, and which are likely to confuse our best-laid plans of attack upon intrenched disease.

It is necessary here to emphasize the importance of pushing the treatment. Four to six copious evacuations per diem may be maintained, by giving the drug as above directed, until permanent relief is obtained. Nothing need be expected from a tentative, timorous course. That way failure lies, and a broad way it is and strewn with numberless mortifying experiences and stranded reputations of apostles of the healing art who have followed its uncertain leadings. There is often found a proper field for placeboic medication, but none that can justify guess-work as to dosage, least of all the condition under discussion. It approaches as nearly exact medication as perhaps any instance in the range of therapy. What have we in such a case to contemplate? An adventitious collection of fluid in a cavity of the body that is in immediate proximity to the intestine, which, when its whole surface is considered, forms the largest secreting organ in the body, comprising, according to Meckel, no less than fourteen hundred square inches of a closely packed glandular apparatus. Such being the case, the simple problem is so to employ a natural law as to cause the filtration of the fluid through this membranous diaphragm that lies between it and the open bowel which will give it exit. The solution of the problem lies in the introduction of an irritant, which in this case is our eliminant drug, into the system, which so stimulates the nerve supply of the secretory apparatus of the bowel, that it taps the congested venous trunks of the mesenteric system, thereby causing a diversion, or exosmosis, of the watery portion of their contents into the bowel, and the ultimate reabsorption and complete removal of the pent-up accumulation of peritoneal fluid.

This I take to be the rationale of the therapeutic process that I have here sought to elucidate, and which, because of the great satisfaction it has given me in my employment of it, I wish to recommend to others for trial in cases that indicate its use.

The foregoing argument seems to justify the following conclusions:

1. By the courageous use of cardiac stimulants, combined with carminatives, the depressing tendency of the most active hydragogue cathartics, simultaneously administered, may be so obviated as to render their continuous and prolonged use entirely safe.

2. The efficacy of such cathartics, notably elaterin, when given with the object of removing ascitic fluid, is greatly promoted by the coadministration of drugs which elevate arterial tension.

3. In the treatment of abdominal dropsy with the agents suggested in 1 and 2, a coincident weak heart, so far from constituting a contraindication of such treatment, may be regarded as an incentive to a persevering trial of it, in which case good results to the heart itself may be expected.

[1] The active principle, elaterin, and not the crude drug, elaterium, should be used.

SIMULTANEOUS EXTRA- AND INTRA-UTERINE PREGNANCIES.

By F. V. CANTWELL, M.D.,
TRENTON, N. J.,
SURGEON TO ST. FRANCIS' HOSPITAL.

The following case is of sufficient rarity to justify record:

Mrs. X——, white, aged twenty-seven years, American. Father, mother, and three sisters are alive and well; one brother died in infancy. The patient had scarlet fever and whooping-cough when a child. Menstruation began at sixteen years, and was always regular, with but little pain. She married when she was twenty-three years old. She has one child, three years old. I was present at the birth of this child, and the delivery was a difficult instrumental one, under anæsthesia, followed by a pleasant recovery. One year and nine months ago she had a miscarriage at seven months; cause unknown.

I was called to see her on January 1, 1901, in consultation with Dr. Walter Madden. About four weeks before, she was taken with nausea and violent retching, with sharp pains in the lower part of the abdomen. These pains were intermittent, occurring every other day. She had missed no menstruation since the miscarriage, twenty-one months before; her last period was December 8, 1900, since which time she noticed a very slight bloody discharge. The uterus was as large as at ten weeks of pregnancy and the cervix was soft and swollen, with an open os. To the left there was a small sensitive lump. Extra-uterine pregnancy was thought of at this time, but a diagnosis of normal pregnancy was made and remedies to control vomiting were given. Her pulse at this time was 90, and her temperature over 99°.

Pain and retching persisted until she was forced to remain in bed. I saw her again on January 14th. She looked somewhat thinner, but showed no evidences

of bleeding. She had a bloody discharge, mixed with small shreds, from the uterus. My examining fingers brought away some dark, thick, bloody, shreddy mucus. The uterus had only slightly increased in size, but the growth of the tumor was marked. The cervix was deep in the hollow of the sacrum and the os was well dilated. The fundus uteri could be felt pushing out the abdominal wall, which was thin and relaxed, much to the right of the median line. Its outline could even be seen. With the middle finger in the rectum and the index finger in the vagina a soft, boggy, very sensitive, and ill-defined mass could be made out to the left. At my first visit I felt assured that the pregnancy was normal, but now I was positive that an extra-uterine pregnancy existed. A finger pushed for some distance into the uterine cavity found nothing but the velvety deciduous lining.

She complained of frequency of urination, with pain, also a feeling of fulness and pressure in the rectum. I advised removal of the extra-uterine pregnancy, and she was sent to St. Francis' Hospital for that purpose.

On arrival at the hospital she showed some evidences of bleeding, a pulse going up to 120, a temperature of 99⅘°, and considerable exhaustion.

An examination two hours before operation showed a very appreciable enlargement of the mass, due to blood clots in the pelvis.

I did not curette the uterus; first, because there was no indication of any harm from its contents and the decidua seemed to be coming away naturally. Second, because the indications of bleeding had become so pronounced that it would have been bad practice to add anything more to the exhaustion of the patient. Third, because in my experience of ten operations for extra-uterine pregnancy, without a death, the uterus always got rid of the decidua without interference. In one case a peculiar sharp rise in temperature two weeks after operation might be explained by slight infection and absorption of this membrane.

Operation, January 17th, 11:30 A.M. An incision down to the peritoneum showed the dark color of old blood in its cavity. When the abdomen was opened the pelvis was found full of fluid blood and old clots. Enough of these were removed to allow me to see that the left tube was distended, measuring about four by two inches. Its walls were so thinned out as to leave nothing but the shiny, stretched peritoneum covering them. The tube had not ruptured and the blood came from the open mouth of the fimbriated extremity through which was pushing a clot. After the ovarian and uterine arteries were secured the tube and its contents were removed. The abdomen was cleansed of all blood and clots, flushed well with decinormal salt solution, and closed with through-and-through sutures. While the belly was open I noticed that the uterus was larger than is usual in these cases, but it did not enter my mind that it contained a three-months' fœtus. The patient was in bed at 12:30 P.M. and rallied well.

At 10 A.M., on January 18th, she expelled without pain or discomfort, and without knowing it, a three-months' fœtus which looked as if it might have been alive the day before. On January 19th the membranes with the placenta and part of the cord came away entire. Distinct from the fœtal sac, yet continuous with the edge of the placenta, was a cast of the uterus. This was the deciduous membrane which had lined that part of the uterus not taken up by the placenta.

The tumor was a much dilated tube surrounding a hard, almost organized blood clot. In the centre of this clot, lined with a very delicate shiny membrane, was a cavity containing a minute fœtus, two or three weeks old. This was so softened and macerated that upon being placed in water it disintegrated. The ovary removed contained a corpus luteum.

I believe this to have been a twin pregnancy and not superfœtation. In all probability the uterine fœtus came through the tube first, and the change in the lining caused by its passage was enough to arrest the advance of the second fœtus for a time sufficient to allow of its growth to a size which hindered its journey through the tube. The right tube and ovary were left *in situ*, as they were normal. In a majority of my cases it has not been necessary to remove the opposite tube.

The tubal conception died early, probably from pressure, while the uterine fœtus throve amain until the operation caused its untimely plucking, although judging from the open condition of the uterine canal this fœtus could not have remained a much longer time.

The number of twin pregnancies reported in the literature of extra-uterine pregnancy suggests to my mind a causative relation.

Whether or not this explains the phenomena occurring in this case, it at least is a plausible theory of the cause of some extra-uterine pregnancies which has not before been exploited. I have to thank Dr. R. R. Rogers, Jr., for assistance at the operation, and Dr. M. Reddan for notes of this interesting case.

The patient left the hospital, well, on February 16th.

SUPPURATIVE PAROTITIS COMPLICATING CROUPOUS PNEUMONIA.

By ARTHUR STERN, M.D.,

ELIZABETH, N. J.

An inflammation of the parotid gland, complicating pneumonia, is an extremely rare occurrence. Juergensen, in Ziemssen's "Handbuch der speciellen Pathologie und Therapie," remarks that he himself never saw a case. He mentions that in the hospitals of Vienna this complication was met six times in five thousand and seven hundred and thirty-eight cases, that is, one in a thousand, and that Grisolle mentions it as a very rare combination. This author says that parotitis is mostly found in persons older than sixty years, and in the gland of one side only, but that one completely diseased. He further mentions that the development of the inflammation takes place rapidly; the result is putrefaction or gangrene. He says the complication is extremely dangerous. It was my good fortune to see the following case:

Mrs. B——, German, about sixty-five years of age, a thin woman, previously in good health, was taken sick suddenly February 18, 1900, with a chill. I saw her the following day, when she presented all the typical signs of a croupous pneumonia of the left side. The case in itself did not show anything extraordinary, except the low temperature very often found in pneumonia of old people. The crisis took place in the night of February 26th–27th. On the 28th, she complained of pain in the left cheek, which, on examination, presented the picture of an acute parotitis.

Fluctuation being present on the 4th of March, I made an incision under Schleich's local anæsthesia and a considerable amount of pus was discharged. A specimen of this pus was examined bacteriologically, and a diplococcus was found, which was thought to be identical with the diplococcus pneumoniæ. Healing was very slow, as the whole gland sloughed away. The patient was well by the 15th of April.

The interesting feature of this case is the presence of a diplococcus. It could be easily explained by a migration of the germ into the gland through the mouth by the ductus stenonianus. But, as a rule, suppurative parotitis is considered a metastatic trouble, as we sometimes meet it in general septicæmia or puerperal fever. Taking this as the case, the germs

per cent. in towns of from 5,000 to 10,000 inhabitants, up to 18 or 20 per cent. in towns of more than 30,000 inhabitants. Infantile mortality is extremely high in France. In the years 1896–98 it reached the number of 247 annual deaths under one year of age per 1,000 infants and had been in 1887–90 at the still higher rate of 317 per 1,000 infants. Of the total deaths at this age, 39.9 per cent. were due to infantile diarrhœa. These figures sufficiently indicate that the vital statistics and public health are both at a low ebb in France, and that much persistent and steady work is required in order that that country may overtake its neighbors in an important branch of civilization.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended April 12, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, Los Angeles	March 23d to 30th	1	
Oakland	March 16th to 23d	1	
San Francisco	March 23d to 30th	7	
District of Columbia, Washington	March 30th to April 6th	2	
Florida, Jacksonville	March 30th to April 6th	19	
Illinois, Chicago	March 30th to April 6th	9	
Indiana, Evansville	March 23d to 30th	1	
Terre Haute	March 18th to 25th	1	
Iowa, Clinton	March 30th to April 6th	1	
Ottumwa	March 16th to 23d	1	
Kansas, Wichita	March 30th to April 6th	17	
Kentucky, Lexington	March 30th to April 6th	8	
Louisiana, New Orleans	March 30th to April 6th	8	2
Shreveport	March 23d to April 6th	4	
Michigan, Detroit	March 30th to April 6th	3	
West Bay City	March 30th to April 6th	2	
Minnesota, Minneapolis	March 30th to April 6th	20	
Nebraska, Nebraska City	March 2d to 23d	7	
South Omaha	April 1st to 6th	6	
N. Hampshire, Manchester	March 30th to April 6th	6	
New Jersey, Newark	March 30th to April 6th	2	
New York, New York	March 30th to April 6th	42	8
Ohio, Cincinnati	March 29th to April 6th	3	
Cleveland	March 30th to April 6th	35	2
Pennsylvania, McKeesport	March 30th to April 6th	1	
Philadelphia	March 30th to April 6th	..	1
Pittsburg	March 30th to April 6th	3	
Steelton	March 30th to April 6th	1	
Rhode Island, Riverpoint	March 10th to April 8th	5	
South Carolina, Charleston	April 2d	*	
Tennessee, Memphis	March 30th to April 6th	22	1
Nashville	March 30th to April 6th	14	
Utah, Salt Lake City	March 30th to April 6th	28	
Virginia, Roanoke	March 1st to 31st	71	4
West Virginia, Wheeling	April 1st to 8th	2	
Wisconsin, Green Bay	March 31st to April 7th	2	
* A few.			
Smallpox—Foreign and Insular.			
Argentina, Buenos Ayres	February 1st to 28th	37	21
Austria, Prague	March 8th to 23d	7	
Belgium, Antwerp	March 8th to 16th	3	1
China, Hong-Kong	February 23d to March 2d	9	7
Egypt, Cairo	March 4th to 11th	..	1
France, Paris	March 16th to 23d	..	6
St. Etienne	March 1st to 15th	1	
Great Britain, England, Bradford	March 8th to 23d	3	
Liverpool	March 16th to 23d	2	
Southampton	March 16th to 23d	1	
Scotland, Glasgow	March 22d to 29th	..	11
India, Bombay	March 5th to 12th	..	10
Calcutta	March 2d to 9th	..	85
Karachi	March 3d to 10th	12	4
Madras	March 2d to 8th	..	11
Mexico, Progreso	March 22d to 29th	8	
Netherlands, Rotterdam	March 23d to 30th	2	
Russia, Moscow	March 8th to 16th	4	3
Odessa	March 8th to 23d	13	3
Warsaw	March 8th to 16th	..	9
Spain, Malaga	March 1st to 15th	..	2
Switzerland, Geneva	March 2d to 9th	1	
Philippines, Manila	February 16th to 23d	..	1
Porto Rico, Ponce	From beginning of epidemic to March 15th	132	
Yellow Fever.			
Costa Rica, Port Limon	April 6th	1	
Cholera.			
China, Hong-Kong	February 23d to March 2d	..	6
India, Bombay	March 5th to 12th	..	4
Calcutta	March 2d to 9th	..	26
Straits Settlements, Singapore	February 2d to 23d	..	1
Plague—Foreign and Insular.			
China, Hong-Kong	February 23d to March 2d	7	6
India, Bombay	March 5th to 12th	..	1,196
Calcutta	March 2d to 9th	..	557
Philippine Islands, Manila	February 16th to 23d	7	6

The Use of Calf Lymph in Epidemic Smallpox.—One of the great advantages possessed by the glycerinated calf lymph now used for vaccination, over the older method of direct vaccination from arm to arm, the facility, namely, with which large quantities of it can be quickly prepared when required for purposes of revaccination in case of threatened epidemics, is well illustrated by the events which have lately taken place in Glasgow, where smallpox has assumed epidemic proportions. Many hundreds of cases have occurred, and as a not unnatural result a great demand for revaccination has arisen—a demand so great as to have already led to the performance of the operation in nearly a quarter of a million cases since the outbreak began. It would clearly have been quite impossible to effect anything approaching such an extensive revaccination by the older methods, from arm to arm, and even with tubes it would have been very difficult to obtain a sufficiently large supply of human lymph of a good quality. With calf lymph, however, all is plain sailing.

Gift of Dr. Storer to Boston.—Dr. Chadwick, the librarian of the Boston medical library, the new building of which was opened in January, referred in the following terms to a presentation to the library by Dr. Storer: "Within the past month we have received from Dr. Horatio R. Storer, of Newport, R. I., formerly of Boston, the gift of a most remarkable collection of medical medals, numbering twenty-three hundred pieces. Only two other collections exist in the world commensurate with this, that of Dr. Joseph Brettaur, of Trieste, and that belonging to the library of the surgeon-general's office in Washington. Of the six other great collections that have been formed during the past two centuries, all have been scattered except that of Rueppelli, which was bequeathed to the Seargenbergische Gesellschaft of Frankfort. Considered either from its historic interest, its æsthetic merits, or its pecuniary value, I consider this gift the most noteworthy that this association has so far received. It is to be known as the Storer collection of medical medals, in memory of Dr. D. Humphreys Storer, the father of the donor, and it is to be in charge of a son of the donor, Dr. Malcolm Storer, an accomplished numismatist."

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

HUMAN PLACENTATION. By J. Clarence Webster. 8vo, 120 pages. Illustrated. W. T. Keener & Co., Chicago, Ill.

THE INTERNATIONAL MEDICAL ANNUAL. By William Murrell, M.D. 8vo, 682 pages. Illustrated. E. B. Treat & Co., New York.

A SYSTEM OF PRACTICAL THERAPEUTICS. By Hobart Amory Hare, M.D. 8vo, 841 pages. Illustrated. Vol. III. Lea Brothers & Co., Philadelphia, Pa.

A HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By Samuel O. L. Potter, M.D. 8vo, 950 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

GALL-STONE DISEASE. By Prof. Hans Kehr. 8vo, 370 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

A COMPEND OF HUMAN PHYSIOLOGY. By Albert P. Brubaker, M.D. 12mo, 264 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

THE MEDICAL NEWS POCKET FORMULARY FOR 1901. By E. Quin Thornton, M.D. 16mo, 287 pages. Lea Brothers & Co., Philadelphia, Pa.

MEMORANDA FOR POISONS. By Thomas Hawkes Tanner, M.D. 24mo, 175 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

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EXPERIENCES WITH TRACHEOTOMY.[1]

BY JOHN ROGERS, JR., M.D.,
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THE performance of a tracheotomy is generally postponed to the last possible moment, owing to the dread of various possible dangers and difficulties which experience shows are greatly overestimated. Asphyxia at the time of the operation from inhalation of blood, or subsequent sepsis and pneumonia, or tracheal granulations or cicatrices, are not to be feared so much as a prolonged and exhausting dyspnœa. This was forcibly impressed upon me by my first case of chronic laryngeal stenosis. A middle-aged man in fair general condition entered the hospital with rather marked laryngeal obstruction. This had existed for several days, and seemed to place him in no immediate danger, although he had to remain in a semi-recumbent position. But while I was considering the advisability of palliative treatment, he suddenly dropped dead. It was apparently from exhaustion and syncope.

In suitable cases, and they can hardly be mistaken, tracheotomy is such a humane and life-saving procedure that there should be no hesitation in adopting it, even if the only instrument at hand is a penknife. The operation itself is so simple that the narration of the following cases must largely consist of the preceding and subsequent history.

CASE I.—C. M. D——, twenty-five years of age, was admitted to Gouverneur Hospital August 18, 1896, suffering from severe laryngeal dyspnœa. She could breathe only while in a sitting position and by using all the accessory muscles of respiration. Laryngoscopic examination showed simply a general thickening of the whole interior of the larynx. There was an indistinct specific history, beginning in 1893, followed by hoarseness and aphonia. The present difficulty in breathing began in April, and had gradually grown worse. Immediate tracheotomy was attempted under general ether anæsthesia. As the recumbent position almost stopped respiration, the anæsthetic had to be given with the patient propped up by sandbags. This made the neck difficult of access, and with the first few whiffs of ether the larynx closed completely and struggling began. While she was forcibly restrained, the knife was plunged into the median line, just below the lower edge of the thyroid cartilage, which was grasped by the fingers of the left hand. The wound was dilated by the finger, a cannula inserted, and the patient restored to consciousness by artificial respiration. Inspection then showed that the cricoid cartilage and first two rings of the trachea had been divided. In the haste of the operation a considerable amount of blood entered the trachea, but recovery was uneventful. There were no appreciable rise of temperature and no bronchitis or pneumonia, and on the fourth day the patient was out of bed.

[1] Read before the section on surgery of the Academy of Medicine, February 11, 1901.

The subsequent history illustrates the difficulties in treating chronic laryngeal stenosis, and also shows how roughly such a larynx can be handled. The condition did not improve, and, in addition, a firm cicatrix developed just above the tracheal fistula. On November 15th, under chloroform, with the assistance of Dr. O'Dwyer, this was forcibly dilated with urethral sounds passed from below up and a large metal intubation tube inserted. It had to be vigorously pushed from above, while counter-pressure was made on the outside of the larynx. This was worn with comfort for a week, and then suddenly became clogged with mucus, and was extracted just in time to prevent death from asphyxia. I have never since then dared to use a metal intubation tube.

In January another attempt at prolonged intubation was made with a hard-rubber instrument, but difficulty in swallowing, a complication much more common in adults than in children, forced abandonment of the treatment.

Two years later, or in February, 1899, the larynx was opened in the median line, from the tracheal fistula to the hyoid bone. It was found almost completely obliterated by dense cicatricial tissue, and its lumen could only be followed as one follows the urethra in cases of impermeable stricture. Some attempt was made to excise the cicatrices, but the resulting space was only an open wound with more or less collapsible walls. An intubation tube was then inserted and kept from being coughed out by an attachment which could be screwed into the tube at a right angle through the fistula. This was carried in the larynx with comfort for three months, and then removed, as a cure seemed assured. But twelve hours later there was a fit of coughing, followed by dyspnœa, and the cannula had to be replaced. Further treatment was refused until April, 1900, when, under chloroform, the larynx was again dilated with urethral sounds and the intubation tube reinserted. This time it was retained four months, but after removal there was a repetition of the previous experience.

I have not the least doubt that this woman could be cured by intubation continued uninterruptedly for about eight months or a year, and I intended to follow this course, but the patient was nervous and excitable, and addicted to beer, and the gastritis from which she constantly suffered seemed to be aggravated while she was wearing the tube, and caused some eructation of gas, which she firmly believed would choke her. These eructations were her sole complaint, and led her to insist upon removal of the tube too soon. Some œdema of the incompletely atrophied tissue seemed to follow, and she would then become frightened and refuse treatment.

The noteworthy matters bearing upon the subject of the paper in this case are the following:

The attempt to administer ether for the original tracheotomy caused the already obstructed larynx to close tightly. The operation had, therefore, to be performed in haste and under difficulties, and the opening was made too high or through the cricoid cartilage.

Two years later the laryngotomy showed that above the fistula the larynx was completely filled with cica-

tricial tissue. Its tortuous lumen was represented by a mere thread of mucous membrane. The condition was a great deal worse than at the time of the first operation, and was undoubtedly largely the result of it, as it is well known that the nearer to the vocal cords a so-called tracheotomy is placed the worse is the subsequent cicatrix above it.

It is also worth remarking that, in spite of the roughest kind of handling in this case in rapid dilatation and intubation, there was never even a bronchitis.

Case II.—M. C——, forty-two years of age, was admitted to Gouverneur Hospital on December 16, 1898, suffering from severe laryngeal dyspnœa. There was an indistinct history of syphilis, with hoarseness and aphonia, culminating in dyspnœa, which had gradually increased during the last two months. Laryngoscopic examination revealed only a general thickening of all the intralaryngeal soft parts.. I very foolishly attempted an immediate tracheotomy under general ether anæsthesia. As in the previous case, a recumbent position was impossible, and the ether vapor or the excitement and struggling, or both, caused the larynx to close. Forcible restraint was necessary, and as breathing had ceased anyway, the head and neck were extended, the thyroid cartilage was grasped and steadied with the left hand, and an attempt made to expose the cricoid and trachea. But death from asphyxia seemed so imminent that the hemorrhage and landmarks were disregarded, and the knife was simply plunged in as near as possible to what seemed the median line and sawed down. I then could not make the dilator enter the trachea, and so forced my finger through the wound, and followed it with the cannula. With the aid of artificial respiration the patient was finally restored to consciousness. The cannula, however, could be kept in place only with difficulty, and it was discovered that the cricoid and the first two rings of the trachea had been cut well over on their right aspect. But I did not enlarge the wound transversely, as I feared subsequent cicatrices. The temperature began to rise on the following day, and there was some emphysema of the neck. Considerable cellulitis followed, and was accompanied by a suspiciously erysipelatous blush, but, under wet dressings, the infection subsided. The malposition of the tracheal fistula, however, gave constant trouble, as the cannula frequently slipped out of place, causing immediate recurrence of the dyspnœa and a resort to the dilator to reinsert the cannula through the crooked wound. It is interesting to note that beyond the emphysema and cellulitis no other complications arose.

Ten days after the tracheotomy, or on December 27th, as the laryngeal stenosis seemed to be growing worse, Dr. W. K. Simpson, under cocaine anæsthesia, introduced an adult, hard-rubber intubation tube. He used all the force the inserter could bear while I made counter-pressure on the outside of the larynx and guided the tip of the instrument past the fistula. Feeding proved very difficult, as is usually the case in adults, but the patient finally learned to take liquids through a tube in the Casselberry position. At the end of a week the tube was coughed out and not afterward replaced, as there was no return of the dyspnœa. The fistula rapidly contracted to a small sinus, from which, in the latter part of January, there was discharged a piece of necrosed cartilage about three-eighths of an inch square. This was apparently a portion of the lateral half of the cricoid through which the original incision had penetrated.

In this case, as in the previous one, ether anæsthesia was unwise, as the vapor seemed immediately to increase the dyspnœa to complete obstruction. The danger of speedy death from asphyxia and the struggling combined to make a careful tracheotomy impossible, and the opening was, therefore, made too high and at one side. This lateral position favored the escape of mucus into the deeper parts of the neck, and the frequent manipulations for the insertion of the displaced cannula led to serious infection. Recovery, to be sure, occurred, but it might properly be ascribed to "good luck" more than anything else. The cicatricial stenosis, so common after crico-tracheotomy, probably did not develop because the wound was allowed to heal promptly. The loss of a portion of the cricoid cartilage has produced no ill effects.

Case III.—D. C——, five years of age, was seen in consultation October 11, 1900, and was suffering from severe laryngeal dyspnœa. There was a history of hoarseness and cough, beginning in 1897. In 1898 some "pieces of flesh" had been removed from the larynx with instruments by a specialist. Some temporary improvement followed, but a few months later the child became aphonic, and began to have dyspnœa on exertion. On October 5, 1900, she had caught cold, and the dyspnœa became more marked. I was called to intubate on October 11th, and found cyanosis, with stridulous and very difficult breathing. The temperature was 100° F.; pulse, 140. There was some bronchitis, but no pharyngitis nor tonsillitis could be discovered.

The history seemed clearly to indicate papilloma, complicated by acute laryngitis, and I decided upon a preliminary tracheotomy, as I had recently heard a colleague narrate a fatal experience with an exactly similar case, in which, at the autopsy, masses of papilloma had been found to have been forced down in front of the intubation tube and firmly wedged, like a gun-wad, in the lower part of the trachea, thus causing immediate asphyxia.

Under chloroform anæsthesia the trachea was carefully opened in the median line, just below the cricoid cartilage. It was noticeable that there was very little struggling, and the chloroform did not increase the dyspnœa. The wound was held apart by forceps, and the trachea and larynx were found almost completely filled with masses of friable and seemingly pedunculated tissue. It bled freely at the slightest touch, and this aided in concealing its true character. This was then scraped out with a sharp spoon, and as large an intubation tube as would pass with slight force was inserted through the larynx with the idea of stopping the rather troublesome hemorrhage, and at the same time of producing a pressure necrosis or atrophy of any of the supposed papillomata which might have escaped the curette. The wound was drawn together loosely with catgut. The child recovered quickly from the anæsthetic, and in a few hours took water and afterward milk through a tube in the Casselberry position. Late that evening she insisted on sitting up in bed, and while reaching for a glass of milk, without any previous warning, suddenly dropped dead.

I did not suspect the true cause of the trouble until I received the pathologist's report that "the excised tissue consisted of masses of fibrin and pus and represented an acute process of diphtheritic type." It was an instance of laryngeal diphtheria and heart failure. No autopsy was obtainable, but with the long history of aphonia and dyspnœa I do not doubt that there were also papillomata.

Chloroform did not aggravate the dyspnœa, as has been my experience with ether, and should be used when a general anæsthetic is necessary. The hemorrhage produced by scraping the interior of the trachea looked alarming, but was mostly coughed out, and ceased entirely after intubation—at least, there was no evidence afterward to the contrary in the wound or the expectoration or behavior of the patient.

Case IV.—J. M——, thirty-six years of age, was admitted to St. Francis Hospital May 15, 1900, on the

verge of asphyxia from what appeared to be laryngeal stenosis. He was propped up in a chair, deeply cyanosed, covered with sweat, and with cold extremities. Breathing was stridulous, or rather of a noisy, choking character, in slow gasps, and required the vigorous exercise of all the accessory muscles of respiration. He was only semi-conscious and could not articulate, and no history was obtainable. A few minims of cocaine were hastily injected in the middle line of the neck, and the upper extremity of the trachea was exposed and opened with the patient held in a sitting posture, as recumbency completely closed the air passages. There was no struggling nor increase of dyspnœa, and consequently the operation could be done with care and properly.

To my dismay no relief followed the insertion of a cannula, and he seemed about to die, when I seized a stomach tube, which happened to be on an adjoining table, and pushed it, open end down, about five inches into the trachea. There was an immediate long, comfortable inspiration, and breathing became regular and easy, and continued so with this aid alone for over a week, or until a long, flexible wire cannula could be made.

After the operation, it was ascertained that difficulty in breathing had begun suddenly three weeks previously after heavy lifting. It subsided in about half an hour, but was severe while it lasted. Another attack occurred a week after the first, and again followed exertion. Between the attacks there had been no change in the voice and no dyspnœa. The second attack was subsiding, but on the morning of the day he was admitted to the hospital it had suddenly become severe and urgently required relief.

While he was wearing the cannula, it was noticed that the instrument might become plugged with dried mucus, and yet breathing could be carried on through the space around the tube without much difficulty. The long cannula could also be removed after some days, and respiration would continue natural for a longer or shorter time and then suddenly be almost completely obstructed. The left vocal cord was found paralyzed, and this led to a diagnosis of probable aneurism of the aorta, though no other physical signs of this condition could be discovered. The intermittent character of the dyspnœa was very puzzling. After the tracheotomy and all the subsequent manipulations with the cannula, there was never any rise of temperature, nor any disturbance whatever.

On June 1st the dyspnœa recurred in spite of the long cannula, and I expected death from asphyxia. A certain low point of obstruction could not be passed with any instrument. The man was fully conscious of all efforts made in his behalf, and was every minute becoming worse. As a last resort I inserted my finger through the fistula, and thrust it down until I could feel the aneurism pulsating on the tracheal bifurcation. I continued to press as the patient struggled over on his left side, when my finger slipped by the tumor, lifting it up and entering the left bronchus. I thought I had burst the aneurism into the mediastinum, but was relieved to find that the dyspnœa had been relieved. Consciousness soon returned, and perfect comfort followed for ten days. Then suddenly the aneurism ruptured into the trachea, and death followed within a few seconds.

Though these last two cases terminated fatally, the result cannot be ascribed to the tracheotomy or subsequent manipulations. Chloroform in one instance and cocaine in the other lessened the difficulty of the operation as compared with those cases in which ether was used. The necessity of operating with the patient in the sitting or semi-recumbent posture is noticeable.

The following cases were reported by me in the *Annals of Surgery* for May, 1900, as instances of laryngeal stenosis, and so will be only briefly referred to here in their bearing upon tracheotomy. They all followed diphtheria and intubation:

Case V.—M. M——, eight years old, had diphtheria and was intubated in the Willard Parker Hospital in May, 1896. The stenosis persisted, and the larynx was curetted in July, and a laryngotomy performed in October, and again a year later (October, 1897). Slight improvement followed intermittent dilatation, but the tracheal cannula had to be retained. She was admitted to Gouverneur Hospital in January, 1900, with a deformed but pervious larynx. There was no record of pneumonia, bronchitis, or infection during all this time.

I followed my usual course in these cases, and intubated with as large a tube as the larynx would admit and closed the tracheal fistula. The intubation was difficult, as the larynx, probably as the result of the numerous operations, was misplaced forward under the hyoid bone, and was not easy to enter. The same difficulty was encountered when the tube was changed in March, but the fistula had not entirely healed, and so respiration, impossible through the larynx, was not completely cut off. But at the next change in May the wound in the neck had closed, and when the tube was removed respiration ceased. I could not make the instrument enter the larynx, and after two or three ineffectual trials, as death seemed imminent, I plunged a knife into the centre of the old cicatrix until firm resistance was encountered. The incision was lengthened downward, dilated with the little finger, and a cannula inserted. Artificial respiration finally revived the patient, though at first I feared the œsophagus had been entered, as breathing had stopped, and there were no escape of air from the wound and no coughing. The wound was then found to have been made through the remains of the cricoid cartilage and the first one or two rings of the trachea—a laryngo-tracheotomy or high tracheotomy. Intubation was then accomplished, the cannula removed, and recovery was without incident.

At the next change of the tube, for cleansing, in July, I first reopened the trachea at the site of the old wound to prevent any repetition of the last experience. There then seemed some improvement in the larynx, and I inserted a specially made tube with a circumference greater than the largest stock size. At the next change, in October, natural respiration, though difficult, was for the first time possible. But intubation was still necessary, and as auto-extubation had never happened, the child was sent home. This accident, however, occurred two weeks later, but, though there was some dyspnœa, she managed to breathe for more than six hours, when she was again intubated. The tube was changed in the latter part of November, but, though the larynx remained open, there was enough dyspnœa to make it seem wise to continue the treatment.

Case VI.—C. S——, five years old, was intubated for diphtheria at the Willard Parker Hospital in May, 1898, and was brought to Gouverneur Hospital in June, 1899, still breathing through an intubation tube. She was treated like the last case, with large tubes changed as seldom as possible until March, 1900, when a cure seemed obtained. But a week later the dyspnœa suddenly returned at night, and the house surgeon performed an impromptu high tracheotomy, I believe with a penknife—at any rate, there was no time for preliminaries, as the child had become unconscious when he arrived. The knife was simply plunged into the trachea high up, the wound dilated with forceps, and a cannula inserted. As usual in these emergency cases, the cricoid cartilage was cut. The following day the cannula was removed, and the obstruction, whatever it was, was found to have subsided. There

was no difficulty in breathing when the fistula was occluded. Some infection of the wound, however, followed, and a week later the supraclavian fossæ became swollen, and eventually a considerable abscess was opened on each side of the base of the neck. During the first week in May the dyspnœa began to recur and demand relief.

Under chloroform, which did not perceptibly increase the difficulty in breathing, it was found impossible to pass any instrument through the larynx from above. The obstruction was located at the upper end of the high tracheotomy cicatrix. There was no difficulty above this. The trachea was, therefore, again opened just below the cricoid cartilage, and the incision revealed a dense cicatricial stricture, no evidence of which had existed before the first tracheotomy, and it is, therefore, fair to presume that it resulted from that operation. The stricture was dilated rapidly with urethral sounds until a specially made large intubation tube could be inserted. There was no reaction from this somewhat rough handling. The tube was changed in August, and again on October 1st, and then a cure seemed assured. But the dyspnœa began gradually to reappear, and on October 13th the tube was reinserted, and left until November 20th. Since then there has been no difficulty, except that articulation is possible only in a hoarse whisper. I expect that this will improve in the course of time, as it has done in my other cases, until a fairly good voice is obtained.

Case VII.—I. B——, eight years old, was intubated in the Willard Parker Hospital in December, 1896; she was tracheotomized there for uncontrollable auto-extubation in March, 1897, and again intubated and finally transferred to Gouverneur Hospital in October, 1897. A week after admission auto-extubation occurred, and her trachea was opened rather high in the site of the old cicatrix by the house surgeon in a very impromptu manner. An old knife and a pair of scissors, which happened to be in the ward, were the instruments. But the child's life was saved, and no disturbance of any kind followed. In January, 1898, I performed a laryngotomy, and made the condition much worse, as the wound became infected and some of the laryngeal cartilages sloughed out. In August the extreme cicatricial stenosis was dilated from below up with urethral sounds and a large intubation tube inserted. This was left undisturbed, with one change in the middle of September, until November. A cure was then obtained, and there has been no relapse since.

I will not go into more particulars as regards this case, as I have reported it in detail before; but it is noticeable that she submitted to two tracheotomies, one of which at least was through the cricoid cartilage, and was performed in extreme haste by an inexperienced man, who had never previously even seen such an operation; yet the œsophagus was not wounded, and there were no infection, no bronchitis, and no pneumonia. The subsequent early resort to intubation undoubtedly prevented the dense cicatricial stenosis so common in such cases. But this resulted afterward from my laryngotomy, and was made worse by the infection and slough of the cartilages. I can only add that the cure obtained by intubation, with large tubes inserted for long periods, seems now to be permanent and perfect.

In this series of seven cases there are four laryngotomies and ten tracheotomies without a death which can be ascribed to the operation. In the majority of instances the tracheotomy was performed under difficulties and in great haste, and yet no serious results followed. The most troublesome problem was the struggling and the anæsthetic to prevent it, and the impossibility of placing the patient in the most convenient and accessible position. The adults suffering from extreme dyspnœa could not breathe at all except while in the sitting or semi-recumbent posture. In two cases ether was foolishly attempted, and owing to the closure of the glottis consequent upon the irritation of the vapor and the struggling (it is probably a combination of both), the operation had to be performed with practically nothing but the sense of touch as a guide. Cocaine in the third adult was a great improvement, and should always be used when the patient is controllable; but children or patients who cannot be kept quiet require chloroform, and in no instance did it cause trouble.

Most of my patients suffered division of the cricoid cartilage, and experience seems to demonstrate that such an operation, if the cannula has to be worn for any length of time, invariably leads to subsequent bad cicatricial contraction, which can be cured only by prolonged intubation. I believe, however, that it can be permanently overcome in every instance, of no matter how long standing, in the manner indicated above.

Laryngotomy, except for tumor, is absolutely useless. The high opening of the respiratory passages, on the other hand, has some distinct elements of safety in its performance. One involuntarily chooses this locality in emergencies, especially in short-necked subjects and in children, and the knife, entering obliquely with the point directed somewhat upward, will be stopped by the broad posterior portion of the cricoid, and thus prevented from wounding the œsophagus. I have several times been conscious of a firm resistance, such as might offer to the further advance of the knife, and believe that it has often prevented serious complications. A low tracheotomy presents only the doubtful advantage of a less probability of subsequent stricture above a long-retained cannula. On the other hand, there is a serious risk of wounding some of the big veins at the upper border of the sternum. I have seen these so dilated in cases of extreme chronic dyspnœa that they were readily palpable. The hemorrhage in any form of tracheotomy is somewhat troublesome, and if a large vein were injured death from asphyxia might occur before the vein could be secured, or by bleeding into the trachea. This, by the way, in ordinary cases, seems to be of surprisingly little moment, and a considerable amount of blood can be aspirated without causing the least harm.

If the stenosis is not chronic, and there is hope of a speedy cure by a simple tracheotomy and the wearing of a cannula a couple of weeks, and also if a careful dissection is possible, the low operation is preferable. But in chronic cases, in which the stenosis must afterward be overcome, and in cicatricial stenosis (in which, by the way, one can practically guarantee a cure with intubation and patience), the low operation is exceedingly troublesome. The lower the fistula the more difficult it is to pass an intubation tube by it, and subsequently to keep the lower end of the instrument from slipping out and catching in the wound. This may readily prove a fatal accident unless skilled assistance is at hand.

In general, and especially for emergencies and for chronic stenosis which must subsequently be treated by intubation, the high operation is safer and better than the low.

Granulations are often heard of as serious dangers in cases of long-retained cannula. They are generally represented as developing in the trachea from the irritation of the tube, and at its withdrawal more or less completely blocking respiration. This complication cannot be common—at any rate, it was not encountered in any of the cases mentioned above, and in several of them the cannula has been worn for quite long periods; in the first case for over four years, with the exception of three comparatively short intervals for in-

tubation. Granulations certainly do develop at the upper angle of a high tracheotomy wound, but do not in themselves give trouble. They are merely a prelude to the subsequent cicatrix, which draws the trachea together in a dome-shaped pouch above the cannula, and this contraction seems to be the worse the nearer the wound is to the vocal cords.

In conclusion, I might remark that it is not always possible to diagnose on the instant the locality of the obstruction, as evidenced in Case IV., but if a short cannula does not relieve the dyspnœa, a long one should be tried, and a stomach tube is a good substitute.

RECURRENT VOMITING OF NERVOUS ORIGIN.[1]

By LOUIS FISCHER, M.D.,

NEW YORK.

Leyden, of Berlin, was the first to describe[2] the condition known as periodical vomiting. He regards this disease as a pure neurosis, and compares it to the gastric manifestation of tabes. The most pronounced symptoms enumerated by him are great abdominal pain, scanty urine, great exhaustion, and absence of fever; his patients were adults. Griffith in a paper presented to the Association of American Physicians, May, 1900, describes four cases of so-called recurrent, or cyclic, vomiting. Some of these attacks, occurring every three to three and a half weeks, appeared without any assignable cause, with no indiscretion of diet and without any symptoms of indigestion. Constipation was always present. In some cases, when the constipation was relieved, the vomiting ceased; in others, in spite of relief of the constipation, the attacks of vomiting continued. This showed that there was no clear association between the relief of the constipation and the cessation of the vomiting. The ratio of uric acid to urea in one of his cases was as 1 : 116.

The vomiting is obstinate, oft repeated, and mucus, as well as bile, is ejected. Frequently an almost pure gastric juice is ejected. The examination of the gastric contents, made with the usual test meal of a cup of tea without sugar or milk, shows an excess of hydrochloric acid—hyperchlorhydria. Leyden believed that the movement of the bowels, which usually followed severe attacks of vomiting, was the result of the vomiting spell.

Griffith reports a retracted or flat abdomen in his series of cases. This is contrary to my own experience, in which there is and has been marked distention of that region.

Thirst is intense, evidently due to the abstraction of liquid from the system, plus the inability to retain any fluid ingested.

Anorexia is usually present. This frequently changes, as in the case reported by me to-night, to hyperorexia. The appearance of the tongue is in marked contrast to that noted in attacks of indigestion. In the latter it is always furred and coated; whereas in this neurotic condition the tongue is clean.

The breath: Rachford, in describing some experience with periodical vomiting, notes a sickening odor—a decided fætor ex ore. Griffith believes this arises from the presence of acetone.

Sore throat was frequently present in my cases, and also the lump in the throat—globus hystericus. The temperature rarely was above normal, the highest temperature noted being 100°, during a persistent constipation.

Respiration was markedly irregular, occasionally sighing, at other times absolutely normal.

The painful affections described by Leyden and Rémond are different from the non-painful variety described by Fenwick, Symes, and Gee. Rachford believes that attacks of vomiting may be due to lithæmia or some condition allied to it, and that there is an absorption and storing up in the system of leucomains. He regards the condition as a lithæmic gastroneurosis, allied to migraine, with toxic substances floating in the blood, not necessarily uric acid but some toxalbumin allied to it.

The following case of a girl about fourteen years of age has been under my care and observation for six years. When she first came to me at the age of eight, she had this history:

Minnie B—— was first brought to the children's service of the German Poliklinik in 1895. She was a breast-fed child, and her nursing lasted two and one-half years—a prolonged period. She walked at about the end of her eighteenth month. Dentition seemed to be rather troublesome, for the mother stated that the child's teeth first appeared when about one year old, and that the patient had convulsions associated with the eruption of each new tooth. She has always been a very delicate child, compared with the other children in her family.

Family history: Both parents are living and in apparent good health. Her mother states that she has had eight children in all; five are living, and three have died—one of diphtheria, another of scrofulosis (probably tuberculosis), and a third of summer complaint.

The mother further stated that she had never miscarried. There is no history of any chronic nervous disease or any affection which could be called a really "neurotic" element in this family.

Previous illness: The patient had the following diseases since birth: Convulsions, as previously stated, during the period of dentition, rachitis, very decidedly owing to improper feeding, and to the prolonged nursing period mentioned in the clinical history. She had a severe attack of variola when about two years old, the evidence of which is still plainly visible on her face.

When the child was eight years old, she was attacked with pertussis extending over a period of nine months, with very violent paroxysms of cough. At this time the child suffered with gastric pains, similar to the kind from which she still suffers, so that her present illness was associated with the whooping-cough, paroxysms of cough ending in vomiting. After the cough subsided, vomiting remained, and although it is six years since the first attack, the symptom at times is very severe. She had measles when she was nine years old, which lasted in all about two weeks, without any noteworthy complication remaining; and she frequently suffered with tonsillitis.

Her menstruation appeared when she was thirteen years old, recurring at regular monthly intervals until about one year ago, when the menses ceased entirely for a period of nine successive months. They reappeared after appropriate treatment with tonics, iron, and, principally, proper food, with improved hygiene. She is quite regular, although she tells me that some months she menstruates but one day. No vicarious menstruation has appeared at any time during the cessation of the regular flow.

Present condition: She continually complains of pain in the stomach, which is not distinctly localized. It is located on the left side more frequently than on her right; also at the epigastrium.

Chemical examination of gastric contents: The continued gastric pain, increasing after the ingestion of food, made the diagnosis of ulcer probable. There

[1] Presented to the section on diseases of children, New York Academy of Medicine, February 14, 1901.

[2] Zeitschrift f. klin. Med., 1882, iv., 605.

are also continual backache, and pains in the extremities. This same condition has lasted uninterruptedly for a period of about six years, during which time therapeutic skill has frequently been vainly tested. The gastric contents have frequently been examined with a test breakfast consisting of a cup of tea and a water roll, no sugar or milk having been added to the tea. On several occasions I have found an excess of HCl, so that a distinct hyperchlorhydria could be diagnosticated. At other times, with the same diagnostic means, a perfectly normal gastric juice was found. To satisfy myself that no error had been committed during the chemical examination of the gastric contents, I referred this patient to Dr. Dauber for a corroborative examination. He confirmed my findings, and added that he believed we could exclude gastric disease in this case, and he further believed that the vomiting was distinctly neurotic in character.

Hyperorexia: An interesting point is that my patient is always hungry and has a distinct hyperorexia.

Vomit: Blood has never been present, although large quantities of mucus have been vomited mixed with the food.

Frequency of vomiting: While the patient has vomited a dozen times during one day, there are many days in which she has vomited but once, and rarely a day with no vomiting at all.

The intestinal canal: The abdomen shows considerable distention, and flatus is common. The bowels seem to be tender on palpation, and constipation has always been a marked symptom. In fact, this patient has had no regular unaided evacuation of her bowels since she has been under treatment, in spite of the fact that nux vomica, gentle faradization, cascara sagrada, malt, and general hygienic measures have been strictly carried out. If the day passed without a movement, I have insisted on an enema being given to relieve the bowels; if necessary, every evening before retiring.

The urine, examined many times, showed the presence of acetone, also of indican. The following is the record of one careful examination made at my request by Dr. J. Henry Wurthman:

Specific gravity 1,026. Urea, 6.24 grains to an ounce of urine. No albumin; no sugar. Indican scanty. Acetone present. Uric acid, excess.

The presence of acetone indicates a disturbance of metabolism, showing a decided toxæmia; but it is well known that acetonuria *per se* does not cause vomiting.

Nervous symptoms: The patient constantly complains of headache, pains, and burning sensations in the eyes, and dizziness also; she is extremely irritable, has bad dreams when asleep, but otherwise suffers with insomnia. She also complains of pains in the back, arms, and legs, and of a general well-marked hyperæsthesia of the skin. She frequently falls in a faint. She has cold extremities in winter and summer.

The skin: The cutaneous circulation is exceedingly poor, and her lips are frequently cyanotic, in spite of energetic friction of the skin, and cold sponge baths.

The mental condition is certainly poor, inasmuch as the patient's memory is bad. She does not care to read, broods about her condition, and, I believe, constantly exaggerates her symptoms, to enlist sympathy. She shows distinct evidences of hysteria minor.

The heart's action is quite feeble. At times there is a slight blowing murmur which can be heard in the vessels of the neck. This is attributed to the general anæmic condition. The pulse has always been feeble and small but regular, with no intermission.

An examination of the blood showed marked leucocytosis. With the hæmoglobinometer (Fleischl), forty-five per cent. was found. The child frequently complains of enuresis and, besides this, of bed wetting; the urine passes from her when she coughs or sneezes.

Treatment: Absolute rest for the stomach has been tried by ordering the child to bed for weeks at one time, and administering ice and ice-cold drinks. All food was ordered thoroughly peptonized and all cereals were dextrinized by adding malt.

When vomiting was most pronounced no food was given per mouth, and rectal feeding of peptonized yolk of egg and of peptonized milk was resorted to. In spite of this method of feeding, some liquid would be vomited, which on examination corresponded to pure gastric juice.

The patient's weakness was such that rectal feeding could not be continued for a very long time. The frequency of the vomiting having lessened, it was deemed most expedient to feed in the regular way, and to give larger doses of bromide continually. Besides, semi-solid diet was ordered, and the patient told to abstain from drinking liquids, like soup, coffee, and water. Coffee and tea and alcoholics were absolutely forbidden, and the child has not been allowed to attend school.

Duration of attacks: This child's condition has seemed to improve under the following therapeutic measures: 1. Lavage, after which she improves for a week or more. 2. Morphine or opium in small doses. 3. Sodium bromide gr. x.–xx., repeated every few hours. 4. Hyoscyamine hydrochlorate gr. $\frac{1}{120}$ per dose, three times a day. Besides, faradization, massage, and cold baths, showers, diet, iron, and general restorative treatment, including hypophosphites and cod-liver oil, have been tried. Rich nitrogenous diet (concentrated foods), rest for stomach with ice locally, and an abdominal support (bandage) have been ordered.

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TOBACCO AS A FACTOR IN GLYCOSURIA.

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I HAVE observed that the habitual or excessive use of tobacco is not only apt to aggravate an existing glycosuria, but that it is also—though much less frequently—the causative factor of a glycosuric condition.

I found that tobacco may influence the pre-established pathological output of urinary glucose in the following ways:

First. By protracting the duration of transitory glycosuria, and by imparting to alimentary mellituria a certain degree of chronicity.

Second. By increasing the quantity of dextrose in the twenty-four hours' urine, in the transitory as well as the chronic forms of glycosuria.

Third. By transforming the lighter degrees of chronic glycosuria into the graver forms.

Cases of alimentary glycosuria prolonged by the

excessive employ of tobacco are by no means uncommon. To determine the influence of tobacco in this respect I have repeatedly made the following experiment: An individual with the tendency to alimentary glycosuria, after the complete evacuation of his bladder, is ordered to ingest 150 gm. of dextrose, preferably in the place of his usual midday repast, and to abstain from any work for the rest of the day. The urine for the following six, eight, or more hours is collected separately and examined for glucose. The latter probably appears in the urinary secretion until the sixth, more rarely until the eighth, hour after its ingestion. The same experiment is repeated the next day, but the patient is ordered to smoke at least three or four strong cigars in the afternoon. On this day it will be found that the glycosuria frequently persists for eight, ten, or even more hours.

In an inveterate consumer of tobacco the transitory character of a mellituria may become more or less obliterated or may disappear entirely. I have observed this phenomenon in a number of instances; in some of the cases the modified, transitory glycosuria, on account of its apparent obstinacy, greatly resembled the glycosuria of diabetes.

The diurnal excretion of glucose after indulgence in tobacco may become greatly enlarged.

R. J——, aged forty-nine years, German, banker, has been affected with chronic glycosuria for the past ten years. During this time he has lost about 15 kgm. in body weight. He is a slave to tobacco and has been so since his boyhood; he consumes, on the average, from twenty to twenty-five of the strongest Havana cigars every day. He also partakes of liquors, but in moderation only.

September 12, 1900. Body weight, 77.5 kgm. Urine: specific gravity 1,030; glucose (mean percentage of the twenty-four hours) 2.15 per cent.

After the institution of an exclusive meat-fat diet, the body weight became reduced, but not the glucose output.

October 28, 1900. The patient, still under rigid antiglycosuric regimen, excreted more sugar than he ever did before, viz., 4.75 per cent. The patient, however, asserts that he feels stronger and more energetic than for years, although his body weight has in the mean time fallen to 75 kgm.

October 30, 1900. The patient smoked but six cigars during the last twenty-four hours. The amount of urine voided for that time was 1,850 c.c.; its specific gravity was 1,022, and its content of glucose amounted to 9.6 gm., or about 0.5 per cent.

October 31, 1900. The patient has refrained from smoking since yesterday. Urine: specific gravity, 1,023; glucose, 0.5 per cent.

November 1st. Continued abstinence from tobacco. Urine: specific gravity, 1,023; glucose, 0.75 per cent.

November 2d. Continued abstinence from tobacco. Urine: specific gravity, 1,024; glucose, 0.75 per cent.

November 4th. The patient admitted having smoked about twelve cigars during the day. Urine: specific gravity, 1,030; glucose, two per cent.

November 11th. The patient adheres to the prescribed diet, but smokes excessively, contrary to instructions. Urine: specific gravity, 1,029; glucose, 2.8 per cent.

November 13th. The patient has not smoked on the previous day. In order to point out to him the baneful influence of tobacco upon his glycosuric condition he was induced to smoke but two cigars on this day, shortly after breakfast. 11 A.M. (two hours after consumption of two cigars), urine: specific gravity, 1,028 glucose, 1.5 per cent.)

3 P.M. (six hours after consumption of two cigars), urine: specific gravity, 1,025; glucose, 1.5 per cent.

5 P.M. (eight hours after consumption of two cigars), urine: specific gravity, 1,024; glucose, 0.75 per cent.

8 P.M. (eleven hours after consumption of two cigars), urine: specific gravity, 1,019; glucose absent.

While, as a general rule, the lighter cases of chronic glycosuria are not aggravated by moderate use of tobacco, this substance, when excessively employed, may become a potent factor in the transformation of the lighter into the graver forms of this condition.

S. H——, aged forty-eight years, American, merchant, was affected with glycosuria for three years when he applied to me for treatment in February, 1898. The patient was a moderate smoker, and his glycosuria, although the urine contained occasionally as much as seven per cent. of dextrose, could not be considered one of the graver forms, as it yielded readily when the carbohydrates were excluded from his food, and as 100 gm. of breadstuffs were again well tolerated after two weeks' dieting. Toward the termination of April, more than two months after the glycosuria had totally vanished, there was reappearance of urinary glucose. I could not account at the time for this unusual occurrence, as the patient—for which fact I had ample proof—adhered strictly to the prescribed diet. The contents of sugar in the urine varied between 1.5 and 2.7 per cent., which figures were not lowered even when the patient was put under the most rigid antidiabetic regimen. About a month after the re-establishment of glycosuria, the condition of the patient, whom I saw weekly, beame alarming. He had lost almost 8 kgm. of body weight in four weeks; adynamia was present to a very marked degree; his intellect seemed clouded and his memory had materially diminished. The output of carbamid amounted to over four per cent. There could not have been any doubt that the patient was affected with a grave type of diabetes. Closer questioning brought out the fact that the patient, to console himself for his monotonous and unsavory repasts, had used tobacco to a very great extent, and it was found that the reappearance of urinary glucose was synchronous with the first overindulgence in the Indian weed. As the patient would consent to only temporary and partial withdrawal of tobacco, it could never be ascertained whether the glycosuria would be entirely suppressed when the former was totally and permanently banished. The temporary, partial withdrawal of the weed was always followed by a slight improvement of the glycosuria and the other symptoms. Confinement of the patient in a sanatorium did not prevent his obtaining tobacco in any desired quantity. I was finally compelled to decline further treatment of the patient on account of the continuous disregard for my advice and admonitions. He died about nine months later.

The following is another case in which, from a light type, the graver form of diabetes was induced by tobacco:

M. L——, Hungarian Hebrew, aged forty-seven years, consulted me in the spring of 1898. He presented the clinical picture of diabetes. Glucose occurred to the amount of 2.75 per cent. A diet with partial exclusion of carbohydrates reduced the glucose, after one week, to 1.5 per cent., after three weeks to one per cent., and after five weeks to 0.66 per cent. As the patient did not submit to a more rigid diet, the sugar output never declined below the last-named figure. However, in six weeks of partial dieting he had gained almost 6 kgm. in body weight, and the symptoms of diabetes, with the exception of the glycosuria, had subsided. The patient had been for years a moderate smoker; on my advice he had taken a vacation, and finding now more leisure hours at his disposal than in former times, inadvertently began to consume larger and ever-increasing quantities of tobacco. When the patient presented himself a month later, that is, about ten weeks after he first started to diet himself, he had not only lost the previously gained 6 kgm. of body weight but 0.5 kgm. in addition thereto.

The phenomena indicative of diabetes were again exhibited, but in a more aggravated form than ever before. A rigid fat-meat diet was instituted with some beneficial results. The urinary glucose fell from 3.25 per cent. to two per cent. after one week's employment of this regimen, but the patient's weight declined also. The weight became stationary only after the complete withdrawal of tobacco and after four weeks of the strictest dieting. The output of glucose during this time, and for the next eight months, after which period he passed from under my observation, on no occasion declined below one per cent.

These cases stand by no means isolated. I could relate a number of others in which the aggravation of the diabetic symptoms can be definitely traced to the consumption of excessive amounts of tobacco.

The foregoing data tend to illustrate the influence of tobacco upon an already established glycosuria; that tobacconism may be the direct cause of the glycosuric symptom the following case will evidence:

S. L. C——, American, aged fifty-two years, bank president, first consulted me on January 21, 1900. The patient stated that he was a diabetic for two years past; that he had during that time been under the treatment of half a dozen prominent physicians; that he was keeping a rigid antidiabetic diet; that his urine, since the discovery of glycosuria, was never free from sugar; and that, in spite of all the dieting, the sugar output, in absolute figures, was about the same as when he began treatment.

The patient was non-luetic; he had lost about 11 kgm. in body weight; but, with the exception of some nervousness and anxiety, had felt well; his memory had materially weakened and he noticed a gradual decline of sexual desire; he had never suffered from pruritus or any other skin affection, neither was he ever affected with dipsosis or with bulimia. He was not predisposed to affections of the upper air passages nor did he complain of a uric-acidæmic tendency. For some time he had been quite irregular in his habits of living; he had always slept well. An examination of the patient did not disclose any organic abnormality. His weight was 106.5 kgm. The urine showed among other characteristics the following: Amount excreted in twenty-four hours, 2,800 c.c.; acidity, 0.46 per cent.; specific gravity, 1,022 at 15.5° C.; carbamid, 1.8 per cent.; glucose, 1.35 per cent.

In order to determine the influence of the diet upon the glycosuria, the patient was put under a most rigid antidiabetic regimen. After four days his condition was unchanged; the diurnal output of urine, however, had decreased to 2,100 c.c. and its specific gravity to 1,019.5. When the patient presented himself for a second examination he acknowledged his addiction to excessive quantities of extraordinarily strong cigars—eighteen, twenty, or even more during the day. He reluctantly promised to smoke but eight cigars during the following twenty-four hours. Under a liberal diet, one free from sugars but not from other carbohydrates, he did not excrete even a trace of glucose on that day. During the next four days the patient was not restricted at all in his diet, but his daily allowance of cigars was reduced to six. During this period not a particle of glucose made its appearance in the urine. The patient was under observation for another fortnight, during which time he was permitted to partake of everything in the way of ingesta; his moderate use of tobacco during this period was on no occasion followed by glycosuria.

January 9, 1901. The patient is now in the best of health and has gained over 10 kgm. in body weight. He does not and has not put any restriction upon himself as regards his diet. His urine is free from glucose, and he admits that after overindulgence in tobacco he must suffer the penalty—glycosuria.

The literature contains almost nothing concerning the relation of tobacco to glycosuria or diabetes mellitus. Attention is drawn by a few authors to the fact that the excessive use of tobacco exerts a more baneful influence upon the diabetic than upon the healthy individual, and they suggest withdrawal of tobacco from such diabetics in whom certain disorders, as affections of the heart, eyes, and respiratory organs, have ensued.

By no means do I venture to maintain that nicotine poisoning is the causative factor of tobacco glycosuria or of the aggravation of a pre-existing mellituria. The fumes of the burning tobacco leaf contain very little if any nicotine, as this is readily decomposed by the heat. The fumes contain a series of volatile picolin salts, as pyridin, collidin, picolin, and lutidin; they also contain minute quantities of acetic, oxalic, and hydrocyanic acids, carbon monoxide and some other gases.[1]

Nicotism in its chronic and severe form may give rise to certain neuroses and psychoses. Glycosuria or diabetes frequently occurs in the train of disorders of the nervous system. Indirectly, therefore, we could feel tempted to consider nicotine poisoning as an eventual precursor of glycosuria. The etiological relationship of neuroses or psychoses to glycosuria or diabetes, however, is still problematic. Besides, the tobacco neuroses are hardly ever met with in smokers of tobacco; they are almost always the result of excessive chewing of the weed. A coexisting neurosis and glycosuria may arise from a common cause, and the symptom appearing last need not be the consequence of the condition which prevailed first, or they may take their origin from different sources altogether. As, moreover, the neurotic and psychic phenomena in my cases were of such a mild character that I cannot possibly associate them etiologically with the occurrence of glycosuria, I must preclude nicotine as an important factor in the production of tobacco glycosuria. Besides nicotine, the empyreumatic, acrid substances liberated on burning or heating the fermented tobacco leaves may call forth a tobacco toxicosis. As the influence of these empyreumatic compounds upon the animal organism is such a varying one, and as they—in the form in which they are introduced into the body—principally affect the mucous membranes, I also exclude them from any important participation in the causation of tobacco glycosuria.

The most poisonous matter contained in tobacco smoke, the one whose toxicity in this respect has never been fully appreciated, is carbonic oxide gas.[2]

The presence of carbon monoxide in the fumes of tobacco, it being a product of imperfect combustion, is always assured. While the obnoxious influence of nicotine may be successfully combated (without injuring even the good qualities of the tobacco), we have no means of suppressing the formation of carbonic oxide in the burning cigar. The amount of CO evolved is not only dependent upon the quality of the tobacco, upon its degree of moisture and its combustibility, but also upon the mode of manufacture of the cigar and upon the latter's consistency. It stands to reason that the greater bulk of CO evolves from the innermost layer of the cigar, from whence it eventually will unite with the fumes. Much less CO originates from tobacco smoked in pipes. The greater surface exposed to the air and the looseness of the packing permit a more rapid and complete combustion. I have observed tobacco glycosuria only in smokers of cigars and never in those who consume tobacco in pipes exclusively.

[1] Heinrich Stern: "The Toxicity of Tobacco and a Method of Eradicating it." Medical Review of Reviews, April, 1899, and St. Louis Medical and Surgical Journal, May, 1899.

[2] Stern: *Loc. cit.*

Habitual and excessive indulgence in tobacco may induce chronic carbon-monoxide intoxication. Some pathological phenomena commonly ascribed to chronic nicotism, may also be indicative of chronic poisoning from carbonic oxide gas. Nausea, vomiting, gastric catarrh, anorexia, decline in body weight, hemicrania, vertigo, dyspnœa, asthma, paralytiform affections, and some other symptoms may be met with in nicotism as well as in a chronic carbon-monoxide toxicosis.

The subject of chronic CO poisoning from the consumption of tobacco, to my knowledge, has heretofore never been taken into due consideration by toxicologists, medical jurists, and physicians. Nicotism, which is thought synonymous with tobacco intoxication, is but one form of the latter. The CO arising from incomplete combustion of the weed may occasion another seemingly not infrequent form of tobacco intoxication. There may be, as a matter of course, synchronous occurrence of both types of intoxication.

I have not examined the blood of all my cases of tobacco glycosuria for CO. In four instances, out of a total of seven, I found the blood of a decided lighter hue. The blood of two patients, subjected to spectral analysis, did not definitely show the presence of carbon-monoxide hæmoglobin. The blood of one patient reacted positively with Katayuma's test [1] and with NaOH.[2] Katayuma's reagent gave negative results in the other six instances; NaOH demonstrated the presence of CO in two more cases.

It is an established fact that in chronic CO poisoning glucose is very often found in the urine. Hesse and Friedberg[3] were the first to discover mellituria in man, following CO poisoning; after Richardson and Bernard, independently of each other, had observed the same phenomenon in animals some years previously.

The glycosuria of an acute, non-lethal CO intoxication, in almost every instance, is limited in degree as well as in duration. Frerichs in his cases found that the CO glycosuria never persisted longer than for two or three days, and that in but one instance the glucose output lasted four days; he had never seen a case in which the excreted sugar amounted to more than 1.5 per cent. CO poisoning, originating from the continued and excessive use of cigars, persists just as long as its causative factor continues. The glycosurias in the train of this condition, it is evident, may attain a certain degree of chronicity. The intensity of the mellituria in chronic CO intoxication is apparently moderate; in all those instances in which the output of urinary glucose exceeds two or three per cent. we may assume that the CO glycosuria concurs with another mellituric condition.

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Ether Narcosis.—W. Reinhard refers a large portion of the post-operative pulmonary troubles, pneumonia, bronchitis, etc., to the often enormous secretion of mucus and saliva produced by the anæsthetic. By the routine use of small doses of atropine, which may advantageously be combined with morphine, given hypodermically three-quarters of an hour to an hour before the anæsthesia is begun, these difficulties may very largely be obviated and the danger of cardiac or respiratory failure also be much diminished.—*Centralblatt f. Chirurgie*, March 16, 1901.

[1] Equal parts of ammonium sulphate and acetic acid, added in very small amounts to blood diluted fifty times with distilled H_2O, will impart to CO blood a bright cherry color; normal blood thus treated, assumes a greenish-gray discoloration which is sometimes tinted with red.

[2] Blood diluted twenty times with distilled H_2O, to which an equal volume of NaOH solution has been added, attains, if normal, a dirty brownish hue; if it contains CO, the mixture will be albescent at first, but become light red later on.

[3] Friedberg: "Die Vergiftung durch Kohlendunst," 1866.

PITYRIASIS VERSICOLOR OF THE FACE.

By WILLIAM S. GOTTHEIL, M.D.,

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Some time ago I recorded a case of pityriasis versicolor occurring upon the palms; which was unique, since the concurrent testimony of all authorities is to the effect that it never appears in that locality. It is almost the same with the face; the parasitic growth occasionally extends from the chest on to the neck and even to the jaw; but I can find no record of primary infection of the face, and involvement of that part alone. It has been my fortune, however, to meet such a case recently, and under circumstances which might well lead to an erroneous diagnosis.

The patient was a young colored man, in whom the eruption was situated on both cheeks, the right eyelid and temple, and nowhere else upon the body.

It looked like a pure pigment atrophy, one of the leucodermas not uncommon in the dark-skinned races; and this was the diagnosis made at first sight. The spots were dingy white, much lighter than the normal skin, sharply circumscribed, and non-elevated. On the left cheek were several larger affected areas with circinate borders, evidently caused by the coalescence of smaller circular lesions, a number of which were scattered upon the cheek outside. The right cheek was almost entirely occupied by an uncolored patch stretching to the nose, lips, and angle of the jaw, and up on to the temple and right eyelid. Here also there were a few isolated circles. The patient had had the spots for several weeks, and they had been slowly growing in size.

Close examination of the lesions revealed the presence of a slight furfuraceous scaliness, and the scales under the microscope were found to be full of the characteristic microsporon. They could be readily scraped from the surface; yet the patient claimed that he washed his face with soap and water daily.

The points of interest about the case are the appearance of the lesions as circular grayish-white discolorations upon a dark surface, instead of yellowish or

reddish-brown stains upon a light one, and that they appeared upon the face only, where their persistence is as unexplainable as upon the palms, and almost as rare. The grayish-white color was undoubtedly caused by the white scales of epithelium upon the epidermis. The combination of colors of the microsporon and the dark epidermis alone would probably cause a simple darkening of the tissues.

The patient was rapidly cured, of course, by washing the affected area several times daily with 1:3,000 solution of bichloride in tincture of green soap.

144 West Forty-eighth Street.

AN EXTREME CASE OF SIMPLE ANÆMIA.

By ROLFE FLOYD, M.D.,

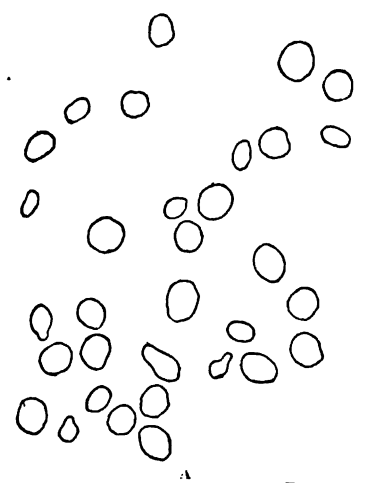
AND

WILLIAM J. GIES, Ph.D.,

NEW YORK.

History.—X——, female, nineteen years old, single, mulatto, waitress, was admitted to Dr. Delafield's service at Roosevelt Hospital, November 13, 1899. Her mother was dead of consumption. She had had no previous illness which could bear on the case. Her health had always been good. In April, 1899, she had been delivered of her first child, at term, in an institution. A normal puerperium followed. She was set to work again as soon as possible. In August she began to feel weak and to suffer from headache and vertigo. About one month later she began to notice dyspnœa on exertion with marked cardiac palpitation, and slight cardiac pain at times. In October a persistent diarrhœa began, of six to eight large, fluid, fecal movements a day, containing no blood or mucus and not associated with tenesmus or colic. Marked anorexia but no vomiting accompanied the diarrhœa. She had to give up work. In November she fainted once and her ankles became moderately œdematous. She continued to nurse the infant till the first week in November. She had not menstruated since her pregnancy.

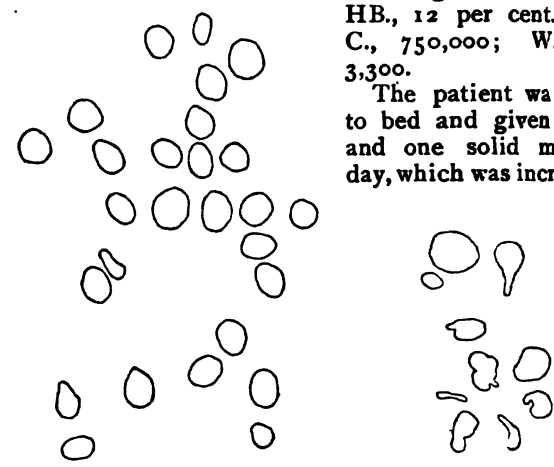
On admission to the hospital she had almost no red color in her skin or mucous membranes. The moderate pigmentation natural to her race gave the surface of her body a leaden hue, but there was no tendency to a yellow cachectic color. She was poorly nourished but not markedly emaciated. There were no abnormal physical signs over the lungs and no dyspnœa while she was quiet. The heart was normal in size and position, its action weak, rapid, and slightly irregular. There was a hæmic systolic murmur at the apex and one over the second left space. The pulse corresponded to the heart action. The arteries were neither thickened nor contracted. There were no abnormal signs over the abdomen, which was thin and retracted. There was slight œdema of the ankles. The voice was weak, and the general weakness and apathy were very marked indeed. Temperature, 101° F.; pulse, 140; respiration, 36. The urine was acid, pale, clear; s. g. 1.011; it contained no albumin and no sugar. Microscopical examination was negative. Blood: HB., 12 per cent.; R. C., 750,000; W. C., 3,300.



A B

Fig. 1.

The patient was put to bed and given milk and one solid meal a day, which was increased to three meals two weeks later. She was started on gr. xxiv. of sulphate of iron and gr. $\frac{1}{10}$ of arsenious acid in twenty-four hours, and two weeks later the iron was increased to gr. xxxix. A little codeine was given to control the diarrhœa.



A B

Fig. 2.

During the first week she was in the hospital, her temperature ran between 101° and 103.8°, averaging 102°; during the second week between 98° and 101°, averaging over 100°, and showing a tendency to reach its maximum about noon and its minimum about midnight; during the third week about the same as in the second, the breaks being more pronounced and sustained; during the fourth week between 98° and 100.6°, averaging 99.4°, with the same tendency to rise about noon; during the fifth week it never reached 100°, and after that time it ran a normal course.

The œdema disappeared in a day or two. After ten days' treatment her general strength began to improve. After two weeks her appetite commenced to come back, her voice and pulse grew stronger. Pulse, 90; respiration, 20. At this time, also, the diarrhœa began to yield. During the third week her color began to return and she was able to leave her bed. The changes for the better, once instituted, proceeded with surprising rapidity and she left the hospital, two months after entering it, practically well.

The symptoms, then, which the change in the composition of the blood caused in this case, besides the pallor, were marked general weakness, some headache, syncope, dyspnœa on exertion, cardiac palpitation, disturbed heart action, anorexia, diarrhœa, and œdema of the ankles. The absence of menstruation cannot certainly be attributed to the change in the blood, because of the nursing. It is noteworthy that there was neither bleeding, nor vomiting, nor cachectic color of the skin.

After leaving the hospital she continued to take gr. xv. of sulphate of iron a day for two weeks, and since then she has taken practically no medicine. One month after leaving the hospital she began to menstruate and has been regular ever since. She has been steadily employed for over one year now, and, except for being somewhat prostrated by the extreme heat last summer, has enjoyed perfect health. She was last seen February 5th of this year.

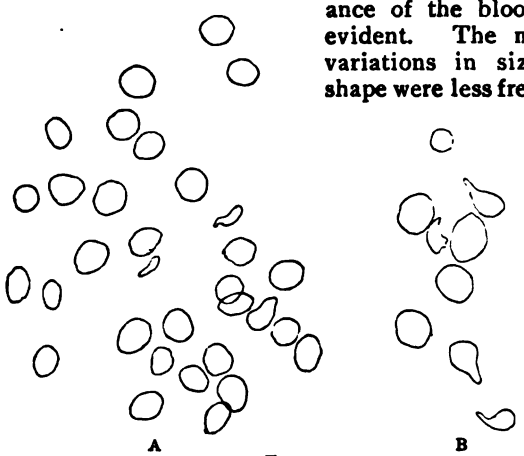
Blood.—The blood was examined once a week during the patient's stay in the hospital, and, after her discharge, at first every two weeks, then every month or two, and latterly at intervals of three or four months. The HB. examinations were made by Fleischl's method.

The outlines of the corpusles were traced with a camera from smeared preparations (A), but, in order to obtain accurate figures of the small and deformed cells, at each of the first eight examinations a few of these were traced from a specimen of fresh blood before crenation had set in (B). Following are the records of each examination:

On admission: HB., 12 per cent.; R. C., 750,000; W. C., 3,300. The red cells varied considerably, but not extremely, both in size and shape. A number of red cells were larger than normal (macrocytes), measuring 10.5 μ in diameter, a number were small and deformed (microcytes). The HB. was moderately unevenly distributed. "Ringing" and extreme pallor of the cells were not present, except in the small deformed cells, at this or any subsequent examination. A very few nucleated red cells (normoblasts) were found. Changes in the coloring matter of the red cells were not observed. The white cells for the most part were normal. A considerable number of degenerating white-cell nuclei were to be seen and an abnormally large percentage of small mononuclear leucocytes (over thirty per cent.) were present, a feature which obtained in the first seven examinations, *i.e.*, as long as the differential counts were continued. There were no excess of eosinophiles and no myelocytes at that time or later (Fig. 1).

Second week: HB., 18 per cent.; R. C., 645,300; W. C., 4,200. The appearances were identical with those above described.

Third week: HB., 25 per cent.; R. C., 1,016,000; W. C., 5,600. A distinct improvement in the appearance of the blood was evident. The marked variations in size and shape were less frequent,



A B

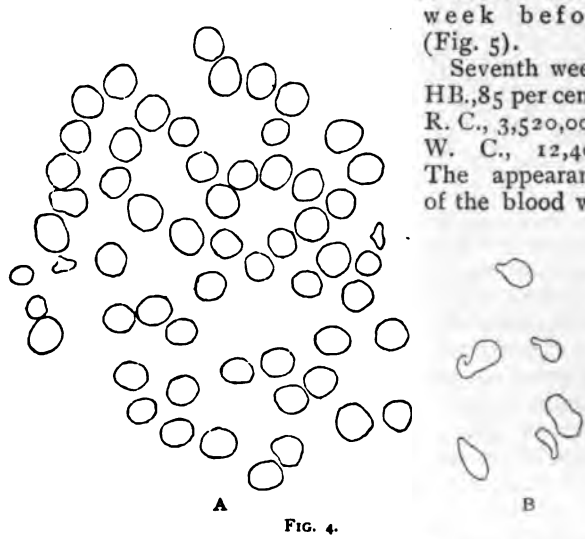
FIG. 3.

the moderate variations were still universal, and there were still a number of macrocytes. The HB. was more evenly distributed. One nucleated red cell (normoblast) was found. The white cells were practically normal (Fig. 2).

Fourth week: HB., 45 per cent.; R. C., 1,568,000; W. C., 5,600. The universal variation in size and shape was less marked, but the considerable variation of a certain number of cells persisted, dividing the red cells more or less into two classes. The HB. was pretty evenly distributed except in the small and deformed cells in which it was irregular and often deficient. The tendency to form macrocytes was less pronounced (Fig. 3).

Fifth week: HB., 58 per cent.; R. C., 2,556,000; W. C., 9,200. The universal change in shape and size was distinctly less than at the preceding examination. Marked variation in size and shape persisted in a small number of cells, and a pretty strict division of the red cells into two classes could at this time be made. The macrocytes had practically disappeared. HB. was evenly distributed in all the cells except the small and deformed ones (Fig. 4).

Sixth week: HB., 66 per cent.; R. C., 2,900,000; W. C., 11,800. The great majority of the cells had nearly reached the normal limits of variation in size and shape. Every here and there a markedly deformed and small cell was still to be seen. HB. as week before (Fig. 5).



A B

FIG. 4.

Seventh week: HB., 85 per cent.; R. C., 3,520,000; W. C., 12,400. The appearance of the blood was practically as in the sixth week, except that the general appearance of the cells was slightly more even (Fig. 6).

Eighth week: HB., 90 per cent.; R. C., 3,556,000; W. C., 11,400. The appearance of the blood was now normal except for the small and deformed cells usually deficient in HB., which could be found in every second or third field (Fig. 7).

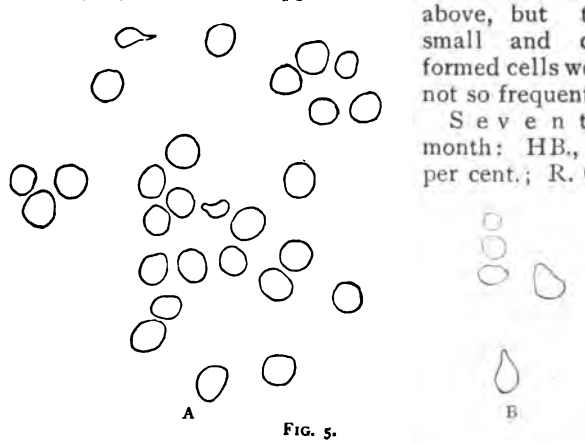
Ninth week: HB., 97 per cent.; R. C., 3,796,000; W. C., 7,000. The appearance was the same as at the eighth week, but the variation in size and shape of the small cells was not so marked. Just after this examination the patient left the hospital.

Eleventh week: HB., 78 per cent.; R. C., 3,500,000; W. C., 10,200. The general appearance of the blood still fell within the normal limits of size and shape variation, but there was slightly more variation than two weeks before. The small and deformed cells were seen in every third or fourth field (Fig. 8).

Thirteenth week: HB., 82 per cent.; R. C., 3,786,000; W. C., 5,000. The appearance was the same as at the preceding examination.

Fourth month: HB., 76 per cent.; R. C., 4,592,000; W. C., 7,200. The appearance was the same as at the last preceding examination. Small and deformed cells were still present.

Sixth month: HB., 87 per cent.; R. C., 4,496,000; W. C., 8,200. The appearance was the same as above, but the small and deformed cells were not so frequent.



A B

FIG. 5.

Seventh month: HB., 77 per cent.; R. C., 4,712,000; W. C., 9,000. The variation in size was still within but close to the normal limits; the shape was regular. Small and deformed cells were growing still less frequent.

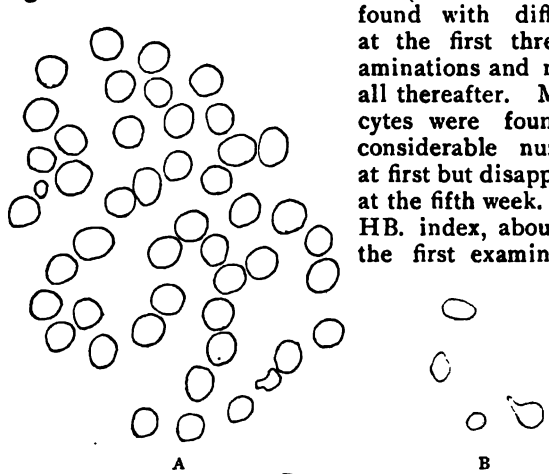
Eighth month: HB., 80 per cent.; R. C., 4,800,000.

The cells had grown a little more regular in shape. The small and deformed cells had practically disappeared—one or two were found (Fig. 9).

Eleventh month: HB., 73 per cent.; R. C., 4,196,000; W. C., 5,800. The variation in shape was again within but close to the normal limit. One small and deformed cell was found after considerable search.

Fifteenth month: HB., 70 per cent.; R. C., 4,712,000; W. C., 6,800. The variation in size had again become less. No small and deformed cells were found (Fig. 10).

In the above set of observations the following features are noteworthy: Starting with about the most depleted condition that is compatible with life, the blood, under a maximum dosage of gr. xxxix. of ferrous sulphate and gr. $\frac{1}{10}$ of arsenious acid in a day, passed to a condition approximating the normal, with a subsidence of all the symptoms in a period of seven weeks. Then, the treatment being entirely suspended a little later, the blood continued in about the same condition for one year and one month after convalescence had been established. The variation in size and shape of the cells, at first very marked though not extreme, steadily diminished until the normal limits were reached at the eighth week, never again to be transgressed. An inconsiderable and diminishing number of the cells, however, continued to be small and deformed as late as the eighth month. Nucleated red cells (normoblasts) were found with difficulty at the first three examinations and not at all thereafter. Macrocytes were found in considerable numbers at first but disappeared at the fifth week. The HB. index, about 1 at the first examination,



A B

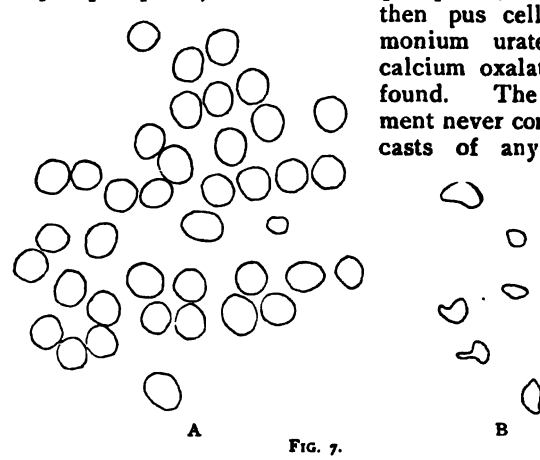
Fig. 6.

increased till it was a little over 1 and remained so throughout the active period of convalescence. It then fell slightly below 1 and stayed there. The absence of "ringing" and pallor of the cells was therefore to be expected. Both the HB. and the number of red cells reached the full normal limit but at different times. The white cells, reduced in number at first, rose distinctly above the normal count at the seventh week, then fell again to normal and remained there. No myelocytes were seen. The accompanying chart will make some of these points more clear.

The case is classed as simple anæmia because of the rapidity and degree of the recovery. The age, the medication—almost exclusively ferrous sulphate—the absence of cachexia, the continued absence of all symptoms without treatment, are corroborative points of interest. It is not unlikely that the patient is now tending toward a relapse of moderate severity as is frequent in simple anæmia.

Urine and Fæces.—Our chemical examination of the urine and fæces gave us the following data[1]:

Urine: The urine varied in color from a very pale to a deep golden yellow. Several samples were more highly colored than normally. The reaction was usually alkaline; once or twice amphoteric (litmus). A slight sediment settled out in each twenty-four hours' urine. This usually contained epithelial cells, triple phosphate, and calcium phosphate; now and then pus cells, ammonium urate, and calcium oxalate were found. The sediment never contained casts of any kind.



A B

Fig. 7.

The specific gravity ranged from 1.011 to 1.019. Once it was 1.022. The volume for twenty-four hours varied between 515 c.c. and 1,011 c.c.

The following substances were invariably absent[1]: coagulable proteid, proteose, dextrose, leucin, tyrosin, lactic acid, diacetic acid, oxybutyric acid, hæmoglobin, cholesterin, acetone, ptomains, and bile salts.

The substances present in each sample, in quantities approximately equal to normal amounts, were: urea, uric acid, chlorides, phosphates, sulphates, indican, creatinin, alloxuric bases, oxalic acid, phenol, and nucleo-albumin (mucin).

Several samples contained unusual amounts of uroerythrin. Each of these contained bile pigment also, but no bile salts. Urobilin appeared to be markedly increased in some of the urines.

The following table presents the results of a few quantitative analyses of twenty-four hours' urine passed during three successive days during the second week:

	First Day.	Second Day.	Third Day.
Urea	18.500 gm.	23.600 gm.	19.800 gm.
Uric acid	.481 "	.527 "	.613 "
Alloxuric bases	.066 "	.093 "	.080 "
Ratio, uric acid to urea	1 : 38.5	1 : 44.8	1 : 32.3
Ratio, alloxuric bases to uric acid	1 : 7.2	1 : 5.6	1 : 7.7
Volume	680 c.c.	884 c.c.	862 c.c.

Fæces: Several daily portions were completely fluid. Usually the daily mixed fæces were partly fluid and partly solid. The odor was always very strong, those of aromatic bodies and fatty acids predominating. A few samples were yellowish in color; usually they were greenish-gray to greenish-black. The more solid portions were never homogeneous, varying much in color and composition. Small mucous clots were contained from time to time. The reaction was always alkaline.

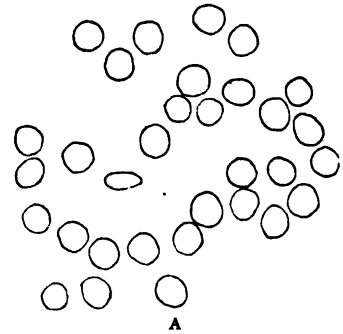


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Fig. 8.

The solid matter, examined under the microscope, contained starch granules, muscle fibres, connective-

[1] Analyses of urine and fæces were made daily during the first four weeks, in the department of physiological chemistry of Columbia University, at the College of Physicians and Surgeons.

[1] In all of our chemical tests, on both urine and fæces, we employed the methods our own experience and the work of others have shown are the most satisfactory.

tissue fibres, fat droplets, pigmented particles (yellow), epithelial cells, triple phosphate, soap crystals, calcium phosphate, and myriads of bacteria.

We were unable at any time to find albumin, peptone, proteose, urea, ptomains, blood corpuscles, Charcot-Leyden crystals, hæmatoidin crystals, or cholesterin in crystalline form.

The following substances, in dissolved form, were readily identified, however, by the usual methods, some only occasionally: cholesterin, bile salts, fatty acids, indol, skatol, phenol, tyrosin, alloxuric bases, stercobilin, hydrobilirubin, nucleo-albumin (mucin), and bile pigment.

A review of the chemical data of this case brings out the fact clearly that little was found which may be attributed to any single line of metabolic disturbance —practically nothing that may be said to be peculiar to the anæmic condition.

The specific gravity of the urine was low, its color usually pale, and the volume somewhat less than the average, yet the fluctuations were mostly within the normal limits. The sediment contained nothing of special significance. The amount of urea was low, that of uric acid and alloxuric bases at, or somewhat above, normal; but the ratios of urea to uric acid, and of uric acid to alloxuric bases were within the customary fluctuations. Chlorides, phosphates, and sulphates appeared to be relatively as great in amount as urea. Deductions from our quantitative results cannot be very accurate, however, since it was impossible in this instance to regulate satisfactorily the quantity and character of the patient's food.

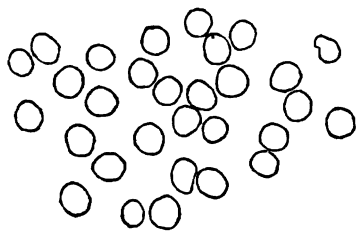

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FIG. 9.

Albuminuria of hæmic origin was suspected in view of the fact that albumin has been eliminated in the urine during anæmia, but coagulable proteid could not be detected at any time. The uroerythrin we found several times, along with a little bile pigment, and the increased urobilin in some of the urines, rather suggest that the normal pigment metabolism was somewhat disordered, but as the first two substances were present only a few times, little importance can be attached to their occurrence. Although ptomains, putrescin particularly, have been found in the urine during pernicious anæmia, they were entirely absent in this case. The absence of lactic acid is also noteworthy, several observers having assumed it to be a constant constituent of the urine in pernicious anæmia.

There appeared to be little of special significance in the composition of the fæces.

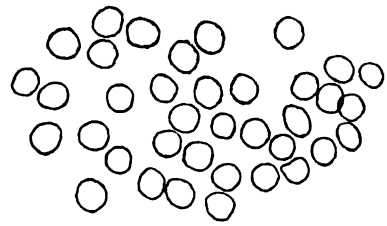

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FIG. 10.

These results are valuable, we think, chiefly because of their negative character, and we are inclined to believe that, up to the present, few if any special chemical qualities of the excreta have been definitely established as pathognomonic of the various anæmic conditions. Unfortunately, practically all of the work of the past in this direction has been of a very fragmentary character; the results differ widely, and most of them have been recorded with little regard for such influences modifying the usual course of metabolism as the quantity, character, and composition of the food; various secondary pathological conditions; to say nothing of other incidental factors of importance.[1]

A Compared Case of Pernicious Anæmia.—In connection with this case we wish briefly to call attention to another. A woman, sixty-four years old, had been gradually losing strength but not flesh, and getting pale and sallow for one year. She had grown much more rapidly worse for two months. She presented marked anorexia, no vomiting, constipation, no pulmonary or cardiac symptoms, no evidence of bleeding anywhere. When admitted to the hospital she was well nourished, but very pale and sallow. Her lungs were normal. Her heart was normal in size and position; its sounds were very weak, its action was slightly irregular, the pulse corresponding. Artery was normal. No abnormal signs were elicited over the abdomen. Slight œdema of the ankles was present. The voice was very weak. Extreme general prostration was evident. Temperature, 99.4° F.; pulse, 76; respiration, 28. The urine was acid, s. g. 1.012, with a considerable trace of albumin and a few hyaline casts.

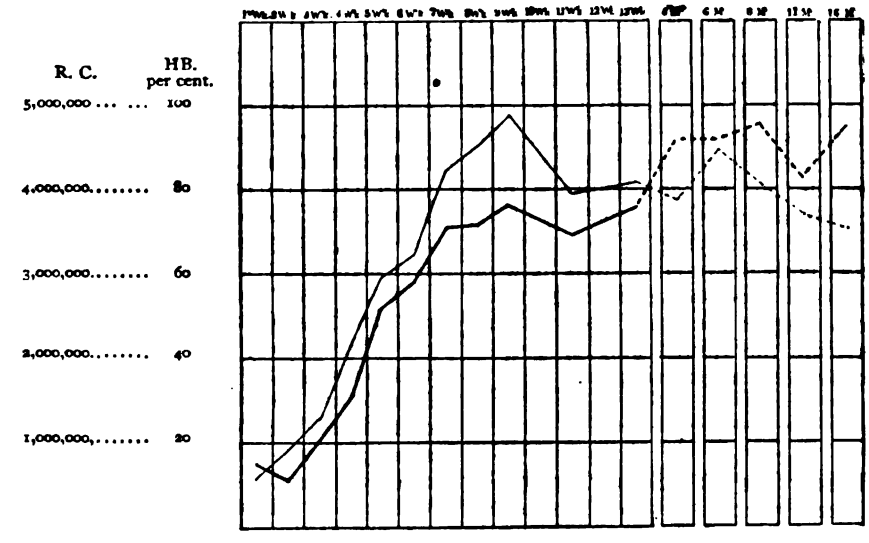

FIG. 11.—Chart to Show the Weekly Changes in the Blood and its Condition at Longer Intervals after the Thirteenth Week. Light line, hæmoglobin; heavy line, red cells.

[1] We are indebted to Dr. William A. Taltavall for the following facts: He examined the urine and fæces in three cases of pernicious anæmia; putrescin and cadaverin were invariably absent; urobilin was not increased; uric acid and nuclein bases appeared to be diminished somewhat. The latter consisted mostly of hypoxanthin.

Blood: HB., 22 per cent.; R. C., 756,000; W. C., 4,800. The red cells varied considerably, but not extremely, both in size and shape. There was some tendency to the formation of macrocytes. A moderate number of small deformed cells were present. The HB. was fairly even in most of the cells, but often very deficient in the small ones. One normoblast was found after prolonged search, but no megaloblast. The HB. index was somewhat over 1. There was nothing abnormal about the white cells. No myelocytes were found (Fig. 12).

The patient was put on fluid diet and given gr. xx. of ferrous sulphate, gr. ¼ of arsenious acid, and ʒ ii. of carnogen every day. Anorexia and vomiting began very soon. Attacks of syncope occurred. She grew steadily weaker and became restless. The temperature rose over 100° F. only on the last two days of her illness. Death occurred at the end of one week from asthenia.

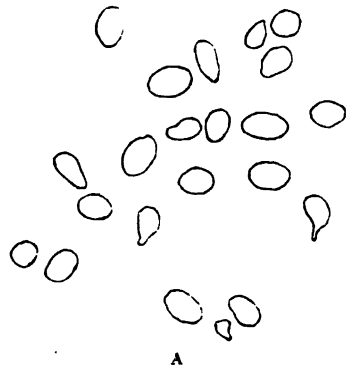

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FIG. 12.

The blood on the day before death was HB., 16 per cent.; R. C., 576,000. The appearance of the blood was in no way changed from that of the week before. Although no autopsy was held, the case was considered clinically typical pernicious anæmia.

The similarity of the blood in the two cases is striking and the clinical features also are very similar, with the following exceptions: the age—nineteen in the first case, sixty-four in the second; the absence of the cachectic color in the first case, its marked occurrence in the second; the rapid and complete response to treatment in the first case, and its complete absence in the second.

The above comparison seems to demonstrate that even the crude division of primary anæmias into simple and pernicious cannot be made, especially in severe blood lesions, by the examination of the blood alone, but that clinical features must weigh equally with it in establishing a diagnosis. We believe that to obtain a satisfactory classification of anæmias it will be necessary, besides counting and studying the peripheral blood, (1) to understand the life history of the blood cells, which can be accomplished only through study of the physiology and pathology of the blood-making and blood-destroying organs; (2) to investigate more thoroughly the interrelations between the normal and diseased processes occurring in the blood and those occurring in the other body tissues; (3) carefully to correlate the results of such studies with those obtained by clinical experience.

Experimental Researches in Sero-Therapy in Tetanus.—Guido Tizzoni submits a long list of experiments from which he concludes that the serum prepared by him has a real value in tetanus, and that, moreover, it is superior to the other better-known preparations, including that of Behring. He gives in full the conditions under which the curative substances of the serum are produced, and the reasons for the difference in value between the various kinds. His serum, being in the market, can be easily obtained, and investigators can convince themselves of its superiority by experiments on animals, and by its clinical use.—*La Riforma Medica*, March 12–18, 1901.

ALBUMINURIC RETINITIS IN PREGNANCY; PREMATURE LABOR; DEATH IN UTERO OF TWIN CHILD; PUERPERAL CONVULSIONS; HEMIPLEGIA; ACUTE MANIA; DEATH.[1]

BY JOSEPH N. STUDY, M.D.,

CAMBRIDGE CITY, IND.

ALBUMINURIC retinitis in pregnant women is, if we can judge its frequency of occurrence from the literature upon the subject, a rather rare affection. The standard texts upon obstetrics and upon the eye say but little upon this condition. In 1888, Dr. Thomas R. Pooley, of New York, read a paper before the New York Academy of Medicine upon the topic, "Induction of Premature Labor in Amaurosis and Amblyopia with Albuminuria of Pregnancy to Prevent Blindness." In this paper cases are cited in which premature labor was induced and the eyesight generally more or less improved. In 1894, Dr. Herman read a paper before the London Obstetrical Society upon the treatment of severe albuminuria in pregnancy and its relation to blindness and other consequences.

The induction of premature labor was advocated as the proper treatment in such a condition, and in the discussion which followed was generally approved of. Dr. W. O. Moore, in the *Post-Graduate*, July, 1900, says: "These changes in the retina are not of an inflammatory nature, but rather a tissue metamorphosis which produces permanent changes brought about by effete material in the circulatory system, and should be eliminated by the kidneys."

This material may be urea, alone or in combination with other excrementitious substance. Dr. Moore says the prognostic significance is bad when this retinal change occurs, death, as a rule, following within two years. It is an established principle that there are two conditions in which the induction of premature labor is justifiable, to save either the life of the mother or that of the child. In this condition the life of the mother may be lost and that of the child also. Should the mother survive, partial or complete blindness is only too sure to follow. It is certainly true that Nature, in her wisdom to do things well, in a small percentage of cases terminates the pregnancy by miscarriage or premature labor. Too frequently, however, this is too late to remedy the condition that proves so disastrous.

It is believed that the following case presents sufficiently well the above subject:

Mrs. F——, aged forty-two years, American, mother of two children, the youngest of which was fourteen years old. Her previous health was good, excepting a severe attack of typhoid fever seven years ago. She never had any miscarriage, and never had syphilis. Her menses were regular till December 15, 1899.

At the third month of her pregnancy, albumin (five per cent.) was found in her urine. At the fourth month the albumin had increased to ten per cent., and she was passing four hundred grains of urea in twenty-four hours. She was now complaining of much difficulty in seeing; vision in either eye was $\frac{1}{10}$, and constant pain was felt behind the eyes. Her condition did not improve at any time, but gradually became worse. At the seventh month the albumin had increased to fifteen per cent., and she was passing less than three hundred grains of urea in twenty-four hours. She could not see houses across the street, and could not distinguish her husband from others in her presence.

On August 8th, at 8 P.M., without warning, her labor came on. Within ten minutes a premature male child was born, weighing four pounds, which now, at six months, is developing into a strong child. Within fifteen minutes from the birth of the first child a second

[1] Read before the Wayne County (Ind.) Medical Society.

male child, which measured thirteen inches in length, was born dead. Its head and body were fl attened, and it had probably been dead for two months. There was one placenta. Eight hours after the birth of the last child she had a hard convulsion, which was followed soon by a second one, more severe than the first one. She was partially unconscious for six hours. Her lying-in period was uneventful. At the end of two weeks she was up, and did the greater part of her household duties for the ensuing five weeks. She gained in flesh and nursed her child, and her vision had greatly improved, being equal to $\frac{4}{10}$ in either eye. Albumin in her urine had decreased to five per cent. There was no swelling of her feet or ankles at any time, and at this period she was thought to be doing fairly well.

She now suddenly became partially hemiplegic in the right arm and leg. She could not walk, and her speech was very much impaired. The tongue, when extended, protruded to the paralyzed side. Her body exhaled an offensive uræmic odor. Albumin appeared in her urine to the amount of twenty per cent., and she was passing two hundred grains of urea in twenty-four hours. Constant pain behind the eyes and in the occipital region and down the neck was now greatly complained of. The vision now became bad; she could not distinguish individuals. She remained in this condition for one week, when she became violently maniacal; it was with much difficulty she could be kept on the bed. She remained in this condition for nearly four weeks, when death from exhaustion ended the scene, November 4th.

Soon after the symptoms of impaired sight appeared, I wrote to Prof. T. A. Reamy, of Cincinnati, in regard to the condition of my patient. He kindly replied that, unless induced labor was immediately done at all hazards, he feared that partial or complete blindness would be the result. This information was imparted to the afflicted woman, but she chose to let nature take its course.

This line of reasoning seems to be based on sound principles, and in such a case labor had better be brought on as soon as vision becomes at all impaired. Otherwise the most disastrous consequences are likely to follow.

Report of Three Cases Bearing on the Subject of Ovarian Hydrocele.—Reed Burns reports three cases which lend proof to Sutton's views that the so-called tubo-ovarian cysts are cases in which the ovary and distal end of the tube have been shut in by adhesion into an unusually deep ovarian fossa, the space so formed and its communicating tube having become distended with fluid, and that they should be called ovarian hydrocele. These cases reported are not cases of tubo-ovarian cyst, nor strictly ovarian hydroceles, but they show that the ovary may be shut up in a hermetically sealed pocket on the posterior side of the broad ligament, without the distal end of the tube being included. In operating in such a case, the condition is recognized by sweeping the fingers over the posterior surface of the broad ligament, where no ovary is found, but instead a more or less elastic spot is felt in the ligament. This should at once make us think of an imprisoned ovary. A ligature should be thrown around the tissues containing the ovarian artery on the pelvic side, and another around the artery and tube close to the uterus, the tissues over the ovary should be split and the ovary and tube removed.—*Pennsylvania Medical Journal*, March, 1901.

Have We a New Treatment for General Septic Infection?—V. Telberg-Hofman gives the histories of a series of septic cases in which sterile oil of turpentine was injected hypodermically, with the most gratifying results. The plan is that advocated by Fochier, of Lyons, who styles it "the production of an artificial suppuration." There are, says Fochier, cases of puerperal fever, for instance, in which we have a general infection improving suddenly, at the same time that a local suppuration has appeared. These local suppurations are, for instance, a phlegmon of the breast, of the iliac fossa, of the subcutaneous tissue; or a monoarthritis, a slow localized peritonitis, or a salpingo-ovaritis. Then, again, there are other cases in which there are undoubted symptoms of visceral inflammations, and these inflammations diminish in severity without there being any improvement in the general condition of the patient. A diffuse subcutaneous phlegmon has a tendency to become circumscribed and suppurate without ever reaching this result, and often death arrives before suppuration has taken place. The injection of turpentine is not more painful than an injection of morphine. The signs of inflammation appear very soon, from one to six hours later, and in some cases it may be necessary to administer an anodyne for the pain, which, however, is very slight or absent when the hypodermic needle is well introduced in a cushion of adipose tissue. Other signs, as redness of the skin, may appear on the third day or later if the injection is made deeper. There are two forms of suppurations caused by the injection of the turpentine, namely, the anthrax form, in which there is a formation of acne pustules under the epidermis, and here the pus is let out through more than one channel; or there is an abscess that has to be opened to give the pus an outlet. As to the frequency of making the injection, one should be guided by the severity of the case. Fochier seldom makes more than two injections of from ℥xv.–xxv. in one case; while Thierry not only injects every other day, but keeps up the suppuration by irritation of the wound.—*Charlotte Medical Journal*, March, 1901.

Acute Appendicitis Complicating Hernia in a very Young Infant.—J. M. Elder has successfully operated on a child of seven months, who had a scrotal hernia which became inflamed and strangulated. When the child was brought to the hospital, examination showed the right side of the scrotum much swollen and œdematous, and containing a sausage-shaped mass extending up to the external abdominal ring. The child had a temperature of 102° F., a weak, rapid pulse, was very much distressed, and vomited constantly. The abdomen was very tense. Under chloroform anæsthesia, an attempt was made to reduce the hernial mass but failed completely, fortunately for the child, as the sequel will show. An incision was at once made through the scrotal tissues down on the incarcerated bowel. When the tunica vaginalis was opened, free pus was found, and it was thought that the bowel had become gangrenous and was perforated. When the incision was prolonged up to, but not through, the external abdominal ring, it was seen that the strangulated bowel consisted of the cæcum and vermiform appendix, and that the latter had become gangrenous and had perforated, presenting exactly the picture so familiar in the abdomen. The appendix was ligated off in the usual way and the strangulated cæcum and the surrounding tunica vaginalis were then disinfected by swabbing with pure carbolic acid neutralized for a few minutes or so with absolute alcohol. Attention was next directed to the point of strangulation —the external abdominal ring—and the diverging fibres of the external oblique muscle were carefully slit up, until the ring was sufficiently enlarged to permit of pulling down the bowel through the opening. Having thus satisfied himself that the bowel above the ring was not gangrenous, and that the circulation in the part previously strangulated was being well restored, the

operator returned the whole of the strangulated mass, including, of course, the stumps of the appendix, into the abdominal cavity, repaired the ring, and closed the funicular process with buried catgut sutures. The skin incision was then closed by a continuous silk suture, except a small opening at the upper part, through which a narrow gauze drain was inserted. The suture line was then covered by iodoform pigment, and a layer of sterilized absorbent cotton held in place by a spica bandage completed the dressings. The patient made a complete recovery.—*Montreal Medical Journal*, March, 1901.

Compulsory Notification of Tuberculosis.—Sir Charles A. Cameron thinks that the objections to notification would not hold. The sanitary authorities would surely not regard a consumptive as they would a person suffering from smallpox or scarlet fever. They would not be prosecuted for appearing in public. If notification were compulsory, useful information could be supplied verbally or by leaflets to patients and their families, receptacles for sputa and materials for disinfecting could be supplied to the poor by the sanitary authorities, and rooms recently vacated by consumptives would be disinfected before they were reoccupied. As to the proper time to notify, that should be when the physical signs of phthisis are unmistakably present, or when the bacilli of tuberculosis have been detected.—*Medical Press and Circular*, March 20, 1901.

Urea and Nutritive Exchanges in the Child.—Albano Bonfà concludes from experimentation that in children the elimination of urea per kilogram gradually decreases with age, but remains considerably higher than in the adult, being from 1.363–0.539 gm., while in the adult it is only 0.453 gm. The total daily elimination of urea remains almost constant from the second to the tenth year of life, being about 8.5 to 10.5 gm., as against 21.5 gm. in the adult. Diuresis is greatest in the early years and more than double that of the adult. The activity of the nutritive exchanges in children varies in inverse proportion to the weight. The weight of a child's body varies in proportion to the consumption of nitrogenous matters. In infants suffering from gastro-enteric catarrh, there is apparently less consumption of nitrogen. Fever has a marked influence on the nutritive exchanges in the child, the percentage of urea as well as its actual amount being markedly increased.—*La Riforma Medica*, March 8, 1901.

Puerperal Insanity.—In the course of a general discussion of this subject, G. H. Savage calls attention to the fact that now and then a woman will break down after the birth of, say, boys only, or after the birth of girls only, and extraordinary or insane longings have been met with, which have been associated with pregnancy with one sex and not with the other. Another important thing to remember is that the general prognosis of nervous cases is bad when the physical health improves without a corresponding restoration of the mental functions; that is to say, when the mental and physical gains do not coincide. A certain proportion of these cases of puerperal insanity are never the same again; that is to say, they are mentally crippled. It is well to remember that a certain number of these patients are crippled so long as they are in the hospital, and when sent out they get all right again. Sometimes it requires this course, the restoration to home, to shake up, so to say, the machinery, to set the works going normally, and therefore it is frequently recommended that patients who are not quite well should be removed from the asylum, because they have been in it long enough.—*Medical Press and Circular*, March 27, 1901.

Primary Splenomegaly.—Guido Banti states that there is a group of primary diseases of the spleen, of various morbid types, but all characterized by enlargement of the organ and impairment of its functions. In splenomedullary leukæmia, an abnormal quantity of leucocytes is manufactured and poured into the circulation; in the other forms of splenomegaly, certain toxic substances are elaborated, which act upon the red blood cells. A general anæmia is produced, with a steatogenous action on the liver. As to the production of cirrhosis there exists a difference of opinion. The author's experiments have proved conclusively that there are cases of atrophic cirrhosis of the liver of splenic portal origin, but that is not to say that every case of splenomegaly is capable of determining hepatic cirrhosis.—*La Riforma Medica*, March 1, 2, 4, and 5, 1901.

Abdominal Tumor in an Infant.—J. Garland Sherrill reports the case of a child of eleven months, in whom there has been an enlargement of the abdomen for three months. Upon examination the abdomen is found to be considerably distended, and, on percussion, dulness is found on the left side, extending from beneath the ribs down to the level of the anterior superior spinous process. On the right side, about the margin of the ribs, where we should expect to find the normal hepatic dulness, no such dulness is discovered; there is some tenderness about the abdomen, and on manipulation we can feel the margin of a tumor which, on the left side, reaches down below the level of the anterior spine; there is a sharply defined margin to the growth, and the author considers the tumor to be a misplaced liver. If the liver were in its proper place, we should probably say that the case was one of sarcoma.—*Pediatrics*, April 1, 1901.

Cerebral Abscess in a Child of Sixteen Months.—F. E. Bunts reports the case of a child aged sixteen months, who, about six weeks before coming under observation, had received a scalp wound from a piece of tin. No particular attention was paid to the matter, and various applications were made, but the wound did not heal. Three days before the first visit the child had had a convulsion, and it was noticed when it was examined that there was a slight paralysis of the right arm and leg. The latter increased and involved the same side of the face. The knee jerk was easily elicited, though it was difficult to get a reflex at the elbow. The question of diagnosis rested chiefly between the possibility of its being an infantile paralysis, or a paralysis due to abscess of the brain following a septic infection of the scalp. The symptoms persisting, it was decided to operate, and, the scalp having been laid back, a fissured fracture of the skull was found with a portion of the bone penetrating the dura and also the cortical substance of the brain. There was also some bulging of the brain substance. A grooved director was inserted into the brain in various directions without at first discovering any pus, the presumptive point of puncture being about the region of the leg centre. In view of the fact, however, that the paralysis of the leg had slightly improved while the paralysis of the arm had become practically complete, and that the facial muscles were now involved, it seemed probable that a deeper puncture might reveal the abscess. This was done, and about an ounce of pus was evacuated. The patient did well for a while, but finally died at the end of two weeks. The autopsy showed the dura to be tightly adherent to the bone, and the brain to be very soft. Pus was found in various parts of the brain, and it had gravitated down as far as the foramen magnum. The pus found at the base of the brain showed a pure culture of streptococci. —*Cleveland Journal of Medicine*, April, 1901.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE DIAGNOSIS OF CARCINOMA OF THE STOMACH.

It seems a dull iteration to emphasize the fact that there are few if any pathognomonic signs of disease. The careful clinician does not base his opinion upon one, or even upon several, but upon all of the phenomena that may be present in a given case, and these he endeavors to group in their proper relations, so as to make as nearly as possible a complete and comprehensive clinical picture. The diagnostic problem is often a most obscure and difficult one, and this is particularly so with regard to abdominal diseases. The desirability of promptness in diagnosis is most marked with reference to malignant disease, especially of the abdominal viscera, because only early extirpation may give relief. In the case of carcinoma of the stomach, for instance, to wait until a tumor is demonstrable is often to permit the time to pass when the best results can be hoped for from surgical intervention. Several symptoms have in late years been thought to possess diagnostic significance in this connection. Thus the absence of hydrochloric acid in the gastric juice was believed to point unequivocally to the presence of gastric carcinoma, but this evidence was soon found to be only of relative and not of absolute value. Then, the presence of lactic acid and of the lactic-acid bacillus was considered diagnostic.

Recently it has been pointed out that the leucocytosis that occurs generally after a meal fails to appear in the presence of carcinoma of the stomach. This, however, is opposed by observations that have still more recently been reported, to the effect that, in addition to the reduction in the percentage of hæmoglobin and in the number of red corpuscles, the colorless corpuscles also, especially the uninuclear, are increased. It has further been said that absence of digestion leucocytosis occurs likewise, though with less constancy, in cases of chronic gastric catarrh and of gastric ulcer. In order to reach an independent conclusion in this matter, Dr. Carstairs Douglas (*British Medical Journal*, March 16, 1901, p. 633) made a study of eleven cases of undoubted malignant disease of the stomach, the diagnosis being confirmed in all, either by the course of the illness and the localization of the tumor, or by the results of surgical intervention or post-mortem examination. Digestion leucocytosis was found absent in six, present in four, and inconstant in one. These results correspond closely with those related by Osler and Macrae in a monograph on "Cancer of the Stomach" published last year.

It thus appears that there is no constancy in the number of leucocytes after the taking of food in cases of gastric carcinoma, and that the absence or presence of digestion leucocytosis cannot be implicitly relied upon in the diagnosis. There is reason to believe that such leucocytosis, when it occurs, is dependent upon the activity of the digestive and absorptive powers of the stomach, and that it will fail to appear when the latter are impaired from any cause. Its absence, therefore, cannot be looked upon as an indication specifically of malignant disease, but of a state of the gastric functions that may or may not be associated with such disease. The danger of relying upon it solely or largely resides in the fact that the opportunity for successful operative intervention may thereby be permitted to escape. The clinician, therefore, must, here as elsewhere, weigh judicially all of the evidence in the case, neither ignoring nor placing too much stress upon any, and, after careful and deliberate study, reach a conclusion and act promptly in accordance therewith.

THE ETIOLOGY OF BLACKWATER FEVER.

THE London *Practitioner* has for its March edition a particularly well-written series of articles on malaria, contributed by some of the foremost authorities on the subject. The first article on the etiology, prophylaxis, and treatment of malaria is from the pen of Dr. Patrick Manson, and is, as may be well believed, an able *résumé* of the matter. Mr. D. C. Rees discusses malaria with regard to its parasitology, and Dr. Louis Sambon, the well-known Italian scientist, who lectures on tropical diseases at the London School of Tropical Medicine, treats of intermittent fevers. So much has been written upon malaria within recent years, that all that is stated concerning it is a matter of common knowledge among the medical profession, and, although the articles in the *Practitioner* present, if not the best, perhaps as good a condensed review of the malady as has thus far appeared, it will be hardly worth while here to do more than to commend the excellence of the contributions. Dr. Sambon, however, writes instructively of "blackwater fever," and as for some considerable time there has been a wide difference of opinion as to its cause among those best qualified by experience to speak with authority upon the question, it may be apposite to quote his views. These are as follows:

"The quinine theory of blackwater fever arose in Greece. It was first suggested by Veretas in 1858, and soon became popular among Greek physicians. In 1874 it was introduced into Italy by Tomaselli, and quite recently it received the support of Koch, who, even more emphatically than his predecessors, stated that 'blackwater fever was nothing more nor less than quinine poisoning.' The British physicians who have had much experience with this disease in intertropical Africa are unanimous in protesting against this theory. The idea that quinine, the great specific remedy for

malaria, could produce blackwater fever originated from a misinterpretation of the fact that its administration, even in small doses, may excite a paroxysm of blackwater fever in a patient who, having previously contracted the disease, still bears it in latent form. As quinine, even when given in highly toxic doses, never produces blackwater fever in healthy people or in malarial patients, its peculiar action had to be explained by a peculiar hypothetical idiosyncrasy. Studying very carefully the literature of the so-called 'quinine hæmoglobinuria,' I have been able to deduce the following facts:

"In regions in which blackwater fever is endemic a patient may have suffered repeated attacks of tertian or semi-tertian, which were satisfactorily treated with quinine. One day, instead of an ordinary malarial paroxysm, blackwater fever manifests itself; and the continued administration of quinine seems in some cases to aggravate the disease, in others it appears to have a decidedly beneficial influence. The first attack of blackwater fever being well over, the administration of quinine may or may not be followed by a relapse, or the relapse may occur without the administration of quinine. Later, the hæmoglobinuric infection being seemingly spent, the administration of quinine, even in large doses, never causes it again, as it previously appeared to do. Thus we see that the connection of quinine to blackwater fever is not one of cause and effect, but merely one of coincidence.

"Blackwater fever was known long before the introduction of cinchona bark into Europe. Before the days of Hippocrates a number of cases have been reported in Europeans who had not taken quinine. Cardamatis mentions thirty-two such cases. In the numerous cases in which blackwater fever has been attributed to quinine, the interval between the last dose of quinine and the onset of the disease varied from four days to two hours, and there never was any relation between the amount of the dose and the interval or intensity or duration of the attack. A number of physicians have vaunted the use of quinine in large doses in the treatment of blackwater fever. Finally, why should quinine always cure hæmoglobinuria in the endemic regions of blackwater fever and never in the multitudinous patients suffering from intermittent fevers in regions free from blackwater fever?

"In 1890 Manson stated that he believed blackwater fever to be a disease *sui generis*. In 1898 I again endeavored to prove that blackwater fever is a specific disease, basing my theory on the characteristic phenomena of the disease, on its peculiar geographical distribution, and on the striking analogy which it has to the hæmoglobinuric fever of cattle, in which Smith and Kilborne discovered a protozoal parasite, the Piroplasma bigeminum. A hæmoglobinuric fever is also found in sheep, with an exceedingly minute parasite, and goats, horses, and mules likewise suffer from a similar disease. The symptoms, the post-mortem findings, and the epidemiological features of these fevers are exactly like those of the hæmoglobinuric fever of man. It is, therefore, reasonable to infer that blackwater fever may be due to a protozoal organism akin to that of cattle, in 'red-water fever.'"

The foregoing is a strong defence of the theory that the disease in question is specific, and a severe indictment of the quinine theory as a cause. The great element of strength in the views of those who take the latter position is the fact that physicians who have practised in districts where blackwater fever is frequent, almost without exception hold the opinion that the malady is specific.

THE INSANE IN NEW JERSEY.

THE past ten years have wrought notable improvements in the care of the insane in New Jersey. The State has now under public and private care approximately five thousand insane, about two thousand of whom are under State care at Morris Plains and Trenton, the remainder being in county and private institutions.

While a comparatively recent law places the county institutions under a certain degree of State supervision, we fear that such supervision has been and is now entirely inadequate effectively to safeguard the best interests of the insane. Many county almshouses still exist, in which numbers of the insane are cared for, and it is not likely that a comprehensive and effective system of State care can be brought about until there has been created in the State enough popular and well-directed sentiment to make political patronage of no importance when compared to the true interests of the State lunacy wards themselves. Cannot an associated system of charities, official or unofficial—and we think the latter better in this instance—be organized in New Jersey, to draw public attention to this need and to stimulate efforts for its accomplishment?

We are pleased to note that the State hospital at Morris Plains is taking each year a more advanced place among the best hospitals of the country. It now has a population of fourteen hundred, and has a detached building, just completed, that will provide for eight hundred additional chronic cases.

The new building is very well planned and constructed; but in view of the rapid advance in the science of mental medicine, therapy, and pathology in recent years, we cannot bring ourselves to believe that the State followed the best course in constructing so good a building, equipping it so largely with modern appliances and conveniences, including a well-planned and admirable laboratory for scientific work, when it might have followed the far better alternate course of building a strictly modern hospital nearer the centre of population, and exclusively for the acutely insane, the curable cases. We thoroughly believe that in due time the better and attractive policy of caring for the chronic insane in small homes in the agricultural districts, and of caring for the acutely insane in metropolitan districts, will be generally recognized and followed, and it seems now to us that New Jersey failed in foresight in not following this plan when it constructed the second formidable granite structure for the chronic insane at Morris Plains.

During the past eight years, Dr. B. D. Evans, medical director at Morris Plains, and Dr. Eliot Gorton,

his first assistant, have given effective attention to organizing and conducting an excellent training-school for nurses, a better system of case records, and have devoted much attention to increasing outdoor exercises and labor for patients, to building up a valuable reference library, and to an improved condition in the general medical service of the hospital.

The report of the medical director for 1900 is made to include two dozen or more statistical tables, inserted as an appendix. To remove such statistical matter from the body of the report is unquestionably a step in the right direction, but to omit it altogether would be better still, and we fail to conceive why so many progressive hospitals throughout the country continue to print these long and dry-as-dust tables, unless it is merely to follow an established and antiquated custom.

The pathological work of the hospital is done by Dr. Thomas P. Prout, who, to judge by his reports, seems to proceed with caution in all his studies and to draw his conclusions and deductions most carefully, facts which in themselves greatly enhance the value of his work.

Under the management of Mr. M. K. Everett, warden, extensive additions and improvements have been made in the water-supply and sewage-disposal systems; in the large farming interests of the hospital; and in the constructional supervision of buildings.

On the whole, the State of New Jersey is to be congratulated on the excellence of the hospital plant at Morris Plains, and its management.

ANTITYPHOID INOCULATION.

ALTHOUGH the subject is being industriously investigated, it cannot be said that a final opinion has been reached as to the utility of protective inoculation in the prevention of typhoid fever. Statistics of a favorable character have in the past been published, and the most recent announcement in this connection points in the same direction. Prof. A. E. Wright (*Lancet*, February 9, 1901, p. 399), of the Army Medical School at Netley, makes, through the kindness of Lieutenant-General Sir George Luck, the statement based upon official compilation that of 539 officers, men, and women connected with the Fifteenth Hussars at Meerut, India, 360 received protective inoculation in England against typhoid fever and 179 did not. Of the former 2 (0.55 per cent.) were admitted to the hospital, suffering from typhoid fever, with 1 death (0.27 per cent.); while of the latter 11 (6.14 per cent.) were attacked by the fever, with 6 deaths (3.35 per cent.). As is well known, figures cannot under all conditions be implicitly relied upon, but in the present instance there seems to be no good reason to deny their validity or dispute the inferences that they irresistibly compel; so that the conclusion seems amply warranted that the reduction in incidence of, and mortality from, the disease in the inoculated, was, in some degree at least, due to the measures employed.

Sodium Cinnamate or "hetol" is reputed to cause cicatrization around tuberculous foci.

News of the Week.

University of Havana. — Dr. Aristides Agramonte (formerly chief of the bacteriological laboratory) has been appointed to the chair of bacteriology and experimental pathology in the medical faculty of the University of Havana, Cuba.

Dr. Simon Marx writes: "Will you kindly note in your next issue a mistake on my part in the wording of the line '. . . a case in which constitutional symptoms did *not* arise, etc.' The word *not* should have been omitted. Leaving out this little word will put an entirely different construction to the sentence and would then convey exactly what I mean."

Retirement of Colonel Woodhull.—Colonel Woodhull, of the United States army medical department, has just been retired on account of age. Colonel Woodhull was graduated from Princeton in 1856 and from the medical school of the University of Pennsylvania in 1859. He entered the army in 1861 and became colonel in 1900. He acted as surgeon-in-chief in the Philippines, whence he recently returned. He served through the Civil War, and is a well-known writer on medical subjects.

The Revised Charter of the City of New York. —The charter revision bill, which has passed the legislature, and which will undoubtedly become law without vital alterations, contains the following provisions affecting the public health of the city:

Water Supply. The commissioner of water supply is to be known as the commissioner of water supply, gas, and electricity, and in addition to the duties performed by the present commissioner he must look after all the city's lighting and steam contracts, and will have control over the opening of streets for gas mains or electrical subways. The city is authorized to acquire water rights in any other State for its own supply.

Street Cleaning. The commissioner of street cleaning is directed to confine his operations exclusively to Manhattan, the Bronx, and Brooklyn, his duties in the other two boroughs devolving upon the borough presidents.

Care of the Parks. Under the present charter the park department consists virtually of three single-headed commissioners, each commissioner having practically absolute control over the parks in the borough or boroughs which he represents.

Public Charities and the Hospitals. The board of public charities is abolished and a single commissioner is substituted. He is empowered to appoint a first and second deputy. On February 1, 1902, his jurisdiction over Bellevue, Harlem, Fordham, and Gouverneur Hospitals ceases, and the management and control of them pass into the hands of a board of trustees consisting of seven members with the commissioner ex officio.

The mayor is limited in his appointment of members to lists submitted to him by the United Hebrew Charities, the Particular Council of New York of the

Society of St. Vincent de Paul, and the New York Association for the Improvement of the Condition of the Poor. The list must contain the names of not less than twice the number of persons to be appointed. The members of the board cannot be removed unless for cause and after a hearing. The term of office is seven years.

The Health Board. The revision bill provides that after January 1st next, the health board shall consist of the commissioner of health, the police commissioner, and the health officer of the port. The commissioner of health is to be the executive officer, and the department will be practically under his sole control. His salary is fixed at $7,500 a year.

The Tenement-House Commission. The salary of the new tenement-house commissioner is also $7,500, and he has the power to appoint and remove at his discretion a first and second deputy at $4,000 a year each. The duties of this department generally are to enforce all laws concerning the building, inspection, and regulation of tenements. In it will be a new building bureau for the scrutiny of plans and specifications, an inspection bureau, and a bureau of records. Hereafter, the sanitary inspection squad will be under the jurisdiction of the new department.

The Nurses' Associated Alumni of the United States filed articles of incorporation with the secretary of State at Albany on April 18th. It proposes to advance the professional and educational interests of its members. The principal office is in New York City. The directors are: Mrs. Isabel Hampton Robb, of Cleveland; Emma C. Hackett, of Chicago; Emma J. Keating, of Buffalo; T. E. Healy, of Brooklyn; Mary E. Thornton, of New York City.

The Prevalence of Smallpox in New York City.—The New York *Evening Post*, April 20th, gives statistics with regard to the incidence of and mortality from smallpox in New York City from the time that the health department commenced to keep records. The following shows the number of deaths since the year 1868, in years when they numbered more than one hundred: Year 1869, deaths 203; 1870, 293; 1871, 805; 1872, 929; 1873, 117; 1874, 484; 1875, 1,280; 1876, 315; 1881, 451; 1882, 259; 1893, 102; 1894, 154; 1901, 114. From the above it will be seen that during the past thirty-three years deaths have been more than one hundred in each of thirteen years. The percentage of mortality has been in a constantly decreasing ratio. The number of cases reported since November 1, 1900, and up to April 13th, is 599, while the number of 1874 and 1875 together was 4,648. The decrease in the percentage mortality is obviously due to more general and more efficient vaccination. Insufficient vaccination, in 1875 as in 1901, is held responsible for the spread of the disease. Hospital accommodation is still very inadequate in New York City. The statement is made, on the authority of the president of the board of health, that the department has had to crowd 225 patients into quarters intended to hold only 75. So impressed was the municipal assembly with the need of putting an end to such a state of things at once, that it has just voted an appropriation of $10,000 to be expended for new hospital sheds without the usual delay in advertising for bids. In a city of the wealth and size of New York no money or effort should be spared to guard its inhabitants against contagious diseases.

The American Association for the Advancement of Physical Education.—The twelfth annual meeting of this association was held in this city on Thursday, Friday, and Saturday of last week. The sessions were held in the hall of the Board of Education, under the presidency of Dr. Dudley Allen Sargent, of Harvard. The title of his presidential address was "Ideals of Physical Training." He said that physical training is established in the United States in some form in 270 colleges and universities, in 300 cities in their public schools, and in about 500 Y. M. C. A. gymnasiums. The North American Turnerbund has 300 gymnasiums, 200 instructors, and 15,000 members. There are perhaps 100 athletic club gymnasiums of one description or another, and a few out-of-door and public city gymnasiums. Then there are gymnasiums in private houses, churches, hospitals, sanitariums, army and navy depots, police quarters, engine-house stations, mission houses, industrial schools, and many other institutions to the number of several hundred. In addition to this form of physical training there is a great variety of special athletic clubs for boxing, fencing, bowling, boating, canoeing, swimming, and bicycling. Then there are golf, tennis, baseball, football, each with their ardent devotees. Bicycling, lawn tennis, and golf, he said, have been especially valuable to women, inducing many to exercise who never exercised before, and they have probably done more to overcome the evils of tight clothing than a whole century of preaching and lecturing on this subject. Mr. J. M. Rice, editor of *The Forum*, read a paper in which he said that much time was wasted in teaching the "three Rs," and asserted that the elimination of waste in these studies would give the schools an opportunity of doing in other lines more than twice as much as they are doing to-day. The following papers were also read and discussed: "The Place and Value of the Physical Examination on Entering College," Dr. S. Tait Mackenzie; "The Need of Physical Training in Our Public Schools," Dr. Frederick J. Simpson, Hartford, Conn.; "Glossary," Dr. J. H. McCurdy, Y. M. C. A. Training-School, Springfield, Mass.: "Effect of Athletics on Growing Boys," Dr. Watson L. Savage, Columbia University; "Value of Athletics to College Girls," Miss Harriet I. Ballentine, Vassar College; "The Function of Physical Training in High Schools," Dr. C. Ward Crampton, Boys' High School, New York City; "Some Results upon the Study of Hygienic School Desks and Chairs," Dr. Edward R. Shaw, dean of the School of Pedagogy, New York University; "The Importance of Hygienic Seats and Desks for School Children," Dr. Eliza M. Mosher, dean of the woman's department, University of Michigan; "Children's Games in the Andover Public Schools," George E. Johnson, superintendent of schools, Andover, Mass.; "The Hygiene of Instruc-

tion," Dr. Stuart H. Rowe, supervising principal, Lovell district, New Haven, Conn. On Saturday, after the close of the meeting, a complimentary reception was given to Dr. Edward Hitchcock, director of physical education at Amherst College for forty years, during which time he has served as the acting president of the institution. A dozen colleges were represented at the banquet which followed the reception. Dr. Luther Gulick, of Pratt Institute, Brooklyn, was toastmaster. Dr. R. Tait Mackenzie, of McGill University, Montreal, offered a resolution extending to Dr. Hitchcock the congratulations of the association upon the completion of forty years of continued service to physical training, and expressing the conviction that he had been an important factor in advancing this branch of education. The resolution was seconded by Dr. H. Arnold, of New Haven, and unanimously carried amid applause.

Professor Kohlstock, a German scientist, who was engaged in sanitary researches in Tien-Tsin, died in that city on April 15th, as a result of infection contracted while prosecuting his investigations.

A Municipal Inebriates' Home.—A bill has been passed by the legislature of this State, providing for the establishment of an inebriates' home in this city, and appropriating five per cent. of the excise revenue for its maintenance. The trustees named in the bill are: Drs. William T. Jenkins, A. Campbell White, John S. Richardson, Delancey Carter, Isaac N. Love, and Frank J. Cuthbertson. The City Club has asked Governor Odell to give its committee time to consider the bill before taking final action. The committee thinks it a scheme to take care of certain politicians, and wants to know the real necessity for such a home. The bill gives the trustees power to take persons from prisons—a provision which seems to place the home's controlling board higher in authority than the magistrate. Another objectionable feature is that the board of trustees is self-perpetuating, filling vacancies itself.

Trouble in the Pathological Institute.—The State Lunacy Commission has notified Dr. Ira Van Gieson, director of the Pathological Institute of the New York State Hospitals for the Insane, that his services will not be desired after May 1st. This is the outcome of a dispute that has long been going on in regard to the Pathological Institute, its opponents on the commission asserting that, although it may have done work or research of great value to the scientific world, it has done little work of value to the State hospitals. This is denied by the members of the working staff of the Institute, who hold that the work they have done has been of great utility to the State hospitals. It is possible that the entire staff will resign if the commissioners persist in their intention of forcing out the director.

Christian Scientists in Germany.—The press of Berlin is devoting attention to the efforts of the Christian Scientists in the American colony, who are now holding two services every Sunday, one in English and one in German, at the residence of an American. The *Kreuz-Zeitung*, a Catholic paper, asserts that the leaders of the movement are projecting several churches, including one in Berlin, and it characterizes the movement, with some bitterness, as "an inroad of Anglo-Saxon Protestantism." The leading Evangelical weekly is also opposing the movement as one of evil promise for Germany.

Dr. Edward N. Liell, of Jacksonville, Fla., has been selected to deliver the anniversary address at the next meeting of the Florida Medical Association, to be held in Tampa in April, 1902.

Yellow Fever on a British Warship.—The *Condor*, a British war-vessel, has arrived at Victoria, B. C., from Acapulco, Mexico, with yellow fever among its crew, and has been quarantined.

Quarantine Commissioners.—Governor Odell has reappointed Hugh McRobert and Frederick H. Schroeder as New York quarantine commissioners, and appointed Charles H. Murray to succeed Edmund J. Palmer in a similar capacity.

A Dinner to Dr. L. L. Seaman was given by his friends at the Lotos Club last Saturday. Dr. Seaman has just returned from an absence of six months in China and the Philippines, and the dinner was given in order to welcome him back to this city.

The Sick in Manila.—Colonel Woodhull, chief surgeon in Manila, reports to the War Department that on April 16th there were 3,933 men sick in hospital, making a sick percentage of 7.39 per cent., which is slightly above that reported April 1st, which was 6.89 per cent.

Tuberculosis and School Attendance.—Colorado State Health Commissioner Clough has promulgated a rule excluding from the public schools all teachers and children who are suffering from tuberculosis. When the disease is known to be in a family the child must present a certificate from the family physician, declaring there is no danger of contagion.

The State Hospital for Consumptives.—The committee on rules of the assembly has amended Senator Davis' bill for the construction of a State Hospital for Consumptives in the Adirondacks, so as to provide that the commission to review the selection of the site shall consist of the governor, the speaker *pro tem.* of the senate, and Speaker Nixon of the assembly. Governor Odell has appointed Norman S. Dyke, of Brooklyn, a member of the board of trustees of the hospital, in place of Walter Jennings.

The Rinderpest in the Philippines.—A Manila despatch to *The Sun* states that the rinderpest is spreading in the provinces of Tayabas and Pangasinan and in several more remote districts in Luzon. The board of health is making a strong fight against the spread of the disease among the animals, and has sent military doctors to investigate the conditions in the localities where the disease prevails.

Tennessee State Medical Society.—At the sixty-eighth annual meeting of the Tennessee State Medical Society the following officers were elected: Deering J. Roberts, M.D., Nashville, *President;* J. B. Murfree,

Jr., M.D., Murfreesboro, L. A. Yarbrough, M.D., Covington, W. B. St. John, M.D., Bristol, *Vice-Presidents;* A. B. Cooke, M.D., Nashville, *Secretary;* W. C. Bilbro, M.D., Murfreesboro, *Treasurer.* The next place of meeting will be Memphis, Tenn., on the second Tuesday in April, 1902.

The St. Paul Meeting and Yellowstone Park.—Arrangements have been completed for an excursion of the members of the American Medical Association to Yellowstone Park. A special train will be run from St. Paul to the Yellowstone Park, and the rates will be very low, but how low cannot at this time be definitely stated.

Dental Department of the University of Michigan.—It is announced that in the fall of 1901 the dental department of the University of Michigan will institute a four-years' course of study, with increased requirements for admission.

To Investigate Florida Cattle Disease.—The United States Bureau of Animal Industry has authorized Victor A. Norgard to proceed to Florida to study the cattle disease known as the salt sickness. This course has been taken at the request of the State Convention of Stockmen, which at its meeting discussed the matter, and declared that the disease was one of the greatest drawbacks to the Florida stock business.

Lunatics in the French Army and Navy.—A French writer is responsibility for the statement that of every 100,000 men of the army or naval professions 199 become helpless lunatics. Among mechanics the number is only 66 per 100,000.

Pathological Society of Philadelphia.—At a stated meeting held April 11th, Dr. H. F. Harris presented a communication entitled "Experimental Dysentery in Dogs." By means of rectal injections of discharges from dysenteric patients it was possible to excite in puppies a condition attended with the symptoms and the lesions of dysentery, and with the presence of amœbæ coli in the stools and in the tissues. In several instances abscess of the liver also was found as a complication. Dr. Harris read further a communication entitled "A New Method of Staining Elastic Tissues with Hæmatein." Drs. W. E. Robertson and D. J. McCarthy presented "A Brain Weighing Fifty-two Ounces from a Child Six Years of Age." Death had resulted from typhoid fever. The mental state during life presented no noteworthy peculiarity. In addition to its enlarged size, the brain exhibited also several anomalies in fissuration. Dr. Randle C. Rosenberger read a paper entitled "Bacteriological Examination of Clinical Thermometers." As a result of an investigation upon this point, he had found that bacteria could often be demonstrated on these instruments when employed in the ordinary way, and even when kept in receptacles containing a small amount of formalin or carbolic acid. Dr. George B. Wood exhibited a specimen of "Endothelioma of the Cheek," concerning whose exact histological nature there was some doubt. According to other opinions, it was thought to be a rodent ulcer, or an angiosarcoma, or a perithelioma. Dr. W. M. L. Coplin, for Dr. W. D. Eaton, exhibited a specimen of "Strongylus micrurus Found in the Lung," and described "A New Permanent Stain for Lardacein." Dr. W. E. Robertson exhibited a specimen of "Cyclopean Monster." An interesting fact was that the mother had been operated on for carcinoma of the cervix uteri in the twelfth week of pregnancy. Dr. Joseph Walsh exhibited a specimen of "Tumor of the Brain Involving the Frontal Lobe."

School Closed on Account of Diphtheria.—The closing of the public school on Ogden Avenue, in the Bronx, on Thursday, April 18th, has aroused attention to the prevalence of and mortality from diphtheria and scarlet fever in the Bronx. The records in the Bronx, from January 1st to April 13th, show deaths from diseases as follows: Diphtheria, 357; scarlet fever, 357; measles, 83; tuberculosis, 209; croup, 39; chickenpox, 10; smallpox, 115. The prevalence of these diseases has been attributed to scarcity of water.

A Fat Bill.—It is reported in the daily papers that the estate of the late Senator "Chris" Magee has received a bill from Dr. Walter C. Browning, of Philadelphia, for $190,000 for professional services. Dr. Browning was in attendance on Senator Magee for twenty-one months previous and accompanied him to several places in the effort to recover his health. The charge is at the rate of $80 per hour for visits and actual attendance. One item is $17,000 for last summer's treatment at Atlantic City, and another for $12,000 for accompanying the senator to Hot Springs, Virginia.

Smallpox on Transport "Lawson."—The transport *Lawson* left Manila on March 16th, and two days later First Lieutenant Harry E. Courtney, of the Thirty-ninth Infantry, was taken down with smallpox. He was sent to the United States hospital at Nagasaki on the transport's arrival there. After being fumigated, the *Lawson* started for San Francisco, but on March 31st two more cases of the disease appeared; Lieutenant Courtney's roommate, Lieutenant Charles H. Cobb, Jr., of the Thirty-ninth Infantry, and Assistant Surgeon H. H. Stromberger being attacked with the disease. As the transport was running short of coal, she was headed for Honolulu and the patients were landed there.—*New York Tribune.*

The Negro Problem Discussed at Washington.—The negro problem was discussed at Friday's (April 19th) session of the American Social Science Association. Professor Kelly Miller spoke in favor of the higher education of the negro. He contended that it was fallacious to assert that viciousness increases with education, and said that negro graduates of universities and colleges are law-abiding, and exercise a wholesome influence on the masses. He was of the opinion that the only effective method to make them better citizens is to equip them with more advanced ideas through education. George K. Stetson drew attention to the fact that racial antagonism is a natural instinct and a universal law. The antagonism between the mulatto and negro, he affirmed, was much greater than that between the white and the negro. The negro, he thought, should be the means of elevat-

ing the race. Dr. W. T. Harris, commissioner of education, pointed out the wonderful strides in negro education, and paid a eulogistic tribute to Booker F. Washington. F. B. Sanborn, of Massachusetts, also spoke. Dr. Anderson made a fierce attack on the negro race, from the standpoint of inferiority to the white race, to which several colored professors replied.

Philadelphia Pediatric Society.—At a stated meeting held April 9th, Dr. L. Emmett Holt, of New York, delivered an address, entitled "Some Forms of Indigestion in Infants and Young Children, with Especial Reference to their Dietetic Treatment." He pointed out that while a healthy child will often be able to eat with impunity milk mixtures and even milk substitutes of most diverse composition, the greatest and at times even insuperable difficulty may be encountered in the feeding of a sick child. The difficulty can often be traced to dietetic errors committed in the first weeks or days of life. That a given diet is appropriate for the individual child will be indicated by its steady increase in weight and by its freedom from pain, and long hours of sleep. Much good can often be effected by doing less rather than more. Thus constipation need not always be attacked, unless other symptoms are present; nor irrigation of the bowel practised frequently and for long periods, because of slight increase in the frequency of the stools and the presence of mucus. Sometimes, further, milk will be better borne for being given in greater rather than in progressively decreasing concentration. Breast-milk may at times be distinctly harmful. More often, of course, when the mother is unable to nurse her infant, and feeding disagrees, a wetnurse is the best solution of a difficult problem. Each case must be studied for itself and receive the individual treatment its condition demands.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending April 20, 1901. Passed Assistant Surgeon N. J. Blackwood detached from the naval hospital, Philadelphia, April 17th, and ordered to the *Alliance*. Passed Assistant Surgeon L. Morris detached from the naval academy and ordered to the naval hospital, Philadelphia, April 17th. Assistant Surgeon R. E. Peck ordered to the *Pensacola*, April 25th. Surgeon J. F. Urie detached from the *Dolphin*, April 20th, and ordered to the marine recruiting rendezvous, Boston. Surgeon E. P. Stone detached from the naval dispensary, Washington, D. C., April 19th, and ordered to the *Dolphin*. Surgeon F. Anderson ordered to the naval dispensary, Washington, D. C., April 19th. Surgeon J. E. Gardner detached from the marine recruiting rendezvous, Boston, and ordered to the naval hospital, Cavité, P. I., April 22d. Assistant Surgeon C. G. Smith appointed assistant surgeon April 12, 1901. Surgeon W. F. Arnold detached from the *New Orleans* and to duty at Olengapo, P. I. Passed Assistant Surgeon A. Alfred ordered to duty with the marine brigade, Cavité, P. I. Assistant Surgeon E. J. Grow detached from the *Glacier* and ordered to the *Isla de Luzon*. Assistant Surgeon J. Stepp detached from duty with the First Regular Marines, Cavité P. I., and ordered to the *Castine*. Assistant Surgeon H. C. Curl detached from the *Castine* and ordered to Cavité, P. I.

Obituary Notes.—Dr. George W. Cox died at Philadelphia, on April 19th, at the age of sixty-one years. He was graduated from the Medico-Chirurgical College in 1878.

Dr. Lewis R. Kirk died at Rising Sun, Md., on April 19th, at the age of sixty-nine years. He was a graduate of Jefferson Medical College.

Dr. H. Scruggs, of Memphis, Tenn., was shot and killed on April 17th, it is thought, by a political opponent, whom he defeated in an election contest last autumn. Dr. Scruggs was a graduate of the Memphis Hospital Medical College in the class of 1885.

Dr. Frederick J. Brockway, of this city, died of meningitis at Brattleborough, Vt., on April 21st. Dr. Brockway was born in South Sutton, N. H., February 24, 1860. He received the degree of Bachelor of Arts from Yale and his medical degree from the College of Physicians and Surgeons in 1887. He was an assistant demonstrator of anatomy in that institution, and was also a member of the County Medical Society, the New York Academy of Medicine, the New York Academy of Sciences, the Alumni Association of Roosevelt Hospital, and the West End Medical Society.

Dr. Almon V. Belding, ninety-four years of age, died on Friday night, April 19th, at the house of his daughter, Mrs. Angle, in Averill Avenue, Rochester. He was born in Phelps, N. Y., and came to Rochester in 1867.

Progress of Medical Science.

Philadelphia Medical Journal, April 20, 1901.

The Localization of Brain Tumors, Especially with Reference to the Parietal and Prefrontal Regions.—Charles K. Mills concludes that the diagnosis of the existence of a brain tumor can sometimes be made even in the absence of most of the general symptoms, such as optic neuritis, headache, vertigo, and vomiting, chiefly by the close study of localizing and invasion symptoms. Emotional states, even hysterical stigmata, are sometimes present in cases of brain tumor, and must not be given too much weight in differential diagnosis. Tumors of the posteroparietal region, and especially of the superior parietal lobule (parietal of Wilder), give as their most important localizing symptoms disorders of cutaneous and muscular sensibility, and especially astereognosis; other symptoms often present in such cases are the result of compression or invasion of adjoining regions. Tumors and other lesions implicating the angular gyre and the regions adjoining (the subparietal, first temporal, and medio-occipital convolutions) give as their main localizing symptoms word deafness and word blindness, with the usually accompanying speech disturbances, lateral homonymous hemianopsias, and disorders of cutaneous and muscular sensibility, including astereognosis. Just as the centres for hearing, vision, and speech are more highly differentiated in the left hemisphere, so it is probable that the stereognostic sense is more highly evolved in this hemisphere. A tumor strictly confined to the motor regions does not give objective sensory phenomena of a persisting character; the localizing symptoms of a growth so situated are motor, chiefly paralysis and monospasm, with also exaggerated deep and superficial reflexes. In tumors of the motor subcortex tonic spasticity is usually a marked symptom. Paresis or paralysis, and exaggerated reflexes, with monospasm or unilateral convulsions, may also be present. Tumors of the prefrontal region, by which is meant the region entirely cephalad of the motor zone, chiefly give psychical symptoms of an especial char-

acter; when the tumor is situated on the left side, motor agraphia (or orthographia) and motor aphasia are usually present because of the compression or invasion of the posterior portions of the second frontal and of the third frontal convolutions; paralysis and other motor symptoms are often present late because of encroachments upon the motor region.

Susceptibility to Disease and Physical Development in College Women.—Arthur MacDonald gives certain tentative conclusions from the study of fourteen hundred and eighty-six students. Those who report no diseases are less in weight but greater in height and lung capacity, and about equal in strength to those having had one or more diseases. The difference between those having had one or more diseases and those with constitutional disease is that the latter are shorter in stature than the former, but in strength, weight, and lung capacity there is no marked difference. The typhoid cases compared with all cases of specific infectious diseases are inferior in weight, height, and strength. This would seem to bear out partly at least Hildebrand's idea, that delicate, slender people are far more subject to typhoid fever than to consumption. The cases of infectious diseases are superior in weight, lung capacity, height, and strength to those having diseases in general. Those having hereditary diseases are inferior in weight and slightly so in height to those having had diseases in general. Diseases of the digestive system show cases of less weight and lung capacity but of greater height than diseases in general. Those with insufficient respiration have less weight but greater lung capacity and height than those with disease in general. Cases of heart murmurs show greater weight, lung capacity, height, and strength than cases of disease in general. Those with habitual headache are inferior in weight, height, lung capacity, and strength to those with diseases in general.

Non-Surgical Treatment of Fibroid Tumors of the Uterus.—By Augustin H. Goelet.

Operative Treatment for Prostatic Hypertrophy.—By Ramon Guitéras.

A Clinical Note on Infantile Scorbutus.—By William M. Mastin.

Acromegaly, with Report of Two Cases.—By W. G. Shallcross.

Boston Medical and Surgical Journal, April 18, 1901.

Leucocytosis and Typhoidal Perforation.—Colin K. Russell concludes from the study of several cases: (1) That in perforation it is the general rule to have a leucocytosis, but that the degree may vary within wide limits. (2) That the leucocytes, while appearing as a rule early, may not be at all marked until the general peritonitis and collapse have supervened. (3) That there may be an utter absence of leucocytosis with marked perforation and peritonitis; in fact, that the count may be lower than normal. (4) That with typical signs of perforation and a definite leucocytosis there may be no such complication present, and an operation may be performed unnecessarily. (5) That a marked degree of leucocytosis may occur in complications other than perforation, for example, bronchitis, cholecystitis, etc. (6) That with pain and tenderness in the abdomen, coming on suddenly during an attack of typhoid fever (and in the absence of evidences of cholecystitis or other definite complication) and a distinct leucocytosis, even without other signs of perforation, an exploratory operation is justified, even advisable, thereby obviating the dangers of a fatal issue from too great a delay.

Contusion of the Abdomen; No External Wound; Rupture of the Descending Colon; Fecal Abscess; Drainage; Suture of Ruptured Gut; Recovery.—Charles L. Scudder reports a case, the particular interest of which lies in the fact that the rupture of the bowel was not attended by such symptoms as would ordinarily lead one to suppose that a serious injury had been received. The symptom of severe and continuous vomiting was misinterpreted, and should have suggested a lesion of the bowel, or at least serious involvement of the peritoneum.

Upon what Sort of Information Shall a Medical Examiner Hold a View?—By H. M. Culls.

The Opinion Evidence of Medical Experts.—By John D. McLaughlin.

The Umillian Murder.—By Herbert B. Perry.

New York Medical Journal, April 20, 1901.

A Case of Cystinuria Ending in Recovery.—John Reid reports the case of a German cook aged thirty-two years who complained of great pain in micturition, especially toward the end of the penis; and on examination a small ulcer was found in the urethra on the left side and about an eighth of an inch from the meatus urinarius. It was covered with thick pus and appeared to be progressing toward resolution, while it was so tender to the touch as to make one suspect imaginative fear. The urine had a sweetbrier odor, was of about normal color, and was without albumin and sugar, but on being boiled with liquor potassæ yielded ammonia. A portion evaporated on a slide showed hexagonal laminæ under the microscope, soluble in ammonia water and in liquor potassæ, and reprecipitated by acetic acid in crystals which dissolved in hydrochloric acid. The ammoniacal solution, evaporated, gave the six-sided crystals. On incineration, the characteristic odor of garlic was produced. A diagnosis was made of cystinuria, and on the theory that the disease is due to arrested metabolism a mixture was ordered containing quinine, salicylic acid, and rhubarb—only temporary relief was obtained. For the urethral ulcer calomel was used locally with success. Internally iron and strychnine were employed, and the patient was finally cured. The author says that there are on record only about eighty cases of this disease since it was first recognized by Wollaston some ninety years ago. The disease is said to be due to some fermenting organism. Cystin can be artificially formed by acting on fibrin with calf's pancreas and salicylic acid for a long time. Text-books report that cases go on for years without symptoms, but to the author's knowledge no cure has hitherto been reported.

Acute Spinal Ataxia (Non-Tabetic) and its Relation to Other Forms of Acute Ataxia.—C. L. Dana says that acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. Acute bulbar or bulbocerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. Acute neuritic ataxia occurs as the result of multiple neuritis of the sensory type. It is seen usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria.

Grippe, Pneumonia, and Insanity.—E. Aronson gives a report of the case of a woman, age not stated, who presented the sequence of conditions enumerated in the title. At the time of the report the patient was doing well and bade fair to recover entirely her health. The insanity was of the maniacal type with great hyperæsthesia of the abdomen.

Notes on the Treatment of Diphtheria Based on the Methods of the New York City Hospitals.—By W. L. Somerset.

The Pathology of Intra-Uterine Death.—By Neil McPhatter (concluding article).

The Use of Hot-Water Vaginal Injections.—By J. H. Burtenshaw.

The Early Diagnosis of Ectopic Gestation.—By A. F. Currier.

Journal of the Amer. Medical Ass'n, April 20, 1901.

A Contribution to the Study of Mountain Fever.—R. Harvey Reed finds in the arid plateaus of the Rocky Mountains three types of febrile disturbances that predominate during the summer and fall. These are locally called malaria, typhoid, and mountain fevers. The latter is characterized chiefly by a sudden attack of malaise, followed by a chill, a sharp rise and fall of temperature, often to unusual extremes: occipital headache with pain shooting down the back, but seldom accompanied with loss of consciousness or associated with epistaxis. There is some gastro-intestinal irritation which seems to be confined more particularly to the stomach and transverse colon. There is rarely enteric hemorrhage or vomiting, and it is only occasionally associated with tympanites. Usually between the tenth and fifteenth days a peculiar eruption appears which extends over the upper extremities, the anterior and posterior portion of the chest, the abdomen, the back, the hips, the thighs, and, not infrequently, the legs. The eruption first consists in a small, bright-red spot between the size of a pin-head and a split pea, which under the finger feels like a small grain of shot in the skin, which is slightly raised at the point of discoloration and is neither vesicular nor pustular. In from three to five days it begins to fade and turn from a red to a dirty brown color. The shotty feeling gradually disappears, the discoloration slowly subsides, and in from seven to ten days more it disappears entirely, this generally marking the initiation of the convalescence, which requires from ten to twenty days longer, making the usual course of the disease range from thirty to fifty days. As to the differences between this fever and typhoid the following are the most important features: (1) In the reaction with Widal's test a large majority of cases show a positive reaction in typhoid fever, while in mountain fever the majority of tests show a negative reaction.

(2) The mortality is much greater in typhoid than in mountain fever. (3) The average duration of the disease is greater in typhoid than in mountain fever. (4) The cause of mountain fever does not seem to be due to the presence of the Eberth and Gaffky bacillus. (5) The rise and fall of temperature in mountain fever is more abrupt than that of typhoid. (6) Tympanites is nearly always present in typhoid and seldom present in mountain fever. (7) Epistaxis is common in typhoid, but rare in mountain fever. (8) Enteric hemorrhage is seldom met with in mountain fever, but common in typhoid. (9) The eruption in typhoid fever is usually confined to the abdomen, is not raised, and disappears readily on pressure, returning promptly when the pressure is relieved, while the eruption in mountain fever covers almost the entire body, is raised, and has a shotty feeling under the finger, and does not disappear on pressure.

A Study in the Hæmatology of Neurasthenia.—C. H. Lodor finds in all cases coming under his observation some hæmic disturbance, no matter whether the case has as a basis an autotoxæmia, a toxæmia as a sequel of preceding disease, or is apparently purely acquired or is of distinctly hereditary type. Each type may have some particular prominent symptom, a sexual one or gastric one, but be the type or special symptom what it may, if the disease persists any length of time there presently appears a condition of blood fairly constant and typical of the disease. The reds may or may not be reduced in count, at times may be even above count, but the individual erythrocyte has undergone a change so that it resembles the cells in normal blood, which Loder has called, for want of a better name, old cells. In many cells the cytoplasm in stained specimens seems pushed out to the periphery to such an extent that the cell becomes dumbbell-shaped instead of the normal lenticular or biscuit shape. As a result the cells pack together closely and show a marked diminution in volume by the hæmatokrit. The oxygen-carrying capacity is lowered, and in consequence the hæmoglobin is deficient in color test. The blood in neurasthenia then would seem to be poor in oxygen-carrying capacity, and not only this, but, owing to the poor vasomotor control, the peripheral blood at least varies much in its character.

The Physiological Care of Colds.—C. H. Shepard says that the invariable cause of colds comes from within, not from without. Frequent faults are highly seasoned foods and eating too often, a deficient supply of pure air, the use of narcotics, and the omission of the bath. For treatment he gives the following advice: To make a radical cure of a cold let the patient abstain entirely from food for at least twenty-four hours. Should the bowels be at all inactive, it is desirable that they be thoroughly flushed with warm water. He should drink freely of pure water, taking a brisk walk in the open air, and then a Turkish bath. This may well be followed by an oil rub, sometimes called a Roman bath, which mollifies the skin, making it more flexible and active. The patient will find a permanent benefit therefrom. The internal pressure will be relieved, and the cure perfected. Necessarily chronic cases need more persevering treatment, but each day will show progress, and only perseverance is needed to triumph ultimately over the morbid action.

Atrophy of the Mucous Membrane of the Stomach.—F. F. Ward calls attention to the fallacy of the statement so frequently made that absence of hydrochloric acid is to be regarded as proof positive of the existence of malignant disease. As to diet in the class of cases forming the basis of his discussion, he says that we must depend on farinaceous food and that the patient must be urged to eat freely thereof. In addition we must give some mild astringent which will be at the same time a disinfectant and tonic to the intestines. The author's two favorite drugs for this purpose are tannigen and tannalbin.

Some Points in the Diagnosis of Gall Stones.—J. B. Herrick says that the symptoms to be carefully analyzed in a suspected case are the pain, icterus, fever, possible association with carcinoma, the existence of Riedel's tongue-shaped process, *i.e.*, a projection of the lower anterior border of the liver, and the possible existence of an antecedent typhoid fever. Symptoms of gall stones may be stimulated by those of angina pectoris, senile pneumonia, and localized peritonitis; more rarely by those of hernia of the linea alba, Dietl's crises in floating kidney, hysteria, malaria, with jaundice and neuralgic pains.

Some Notes on Two Cases of Voluntary Laryngeal Whistling.—G. H. Makuen reports the cases. In one case it was found that the aryepiglottic folds were used as are the lips of the mouth in whistling. The other patient could imitate birds and could produce three and at times four distinct notes at once. He whistled somewhere down in the region of the larynx, but the action of the structures named in the first case could not be determined, as he could not whistle with the mouth opened, and therefore larygnoscopic examination during the whistling could not be made.

Jules Lemaire; the First to Recognize the True Nature of Wound Infection and Inflammation and the First to Use Carbolic Acid in Medicine and Surgery.—By H. A. Kelly.

Intubation of the Larynx, with Personal Reminiscences.—By F. E. Waxham.

Some Anomalies of the Ear due to Errors in Development.—By G. C. Stout.

Surgical Diagnosis of Abdominal Tumors.—By W. H. Earles.

The Present Status of Spinal Surgery.—By Samuel Lloyd.

Care and Use of Instruments.—By A. de Vilbiss.

Tracheloplasty.—By H. P. Newman.

Medical News, April 20, 1901.

Acute Traumatic Malignancy.—William B Coley concludes his article in this number. He believes that injury constitutes a far more important factor in the causation of malignant tumors, both sarcoma and carcinoma, than has been generally recognized. He has had a series of two hundred and seventy cases of sarcoma, of which eighty-six, or 31.8 per cent., have a distinct history of antecedent trauma; while in thirty-one, or 11.5 per cent., the tumor developed almost immediately after the injury. If an etiological relationship can be established between the trauma and the development of the sarcoma in the group of acute cases, the same relationship will probably be found to exist in the cases of slower development. Instead of overestimating the percentage of cases with antecedent trauma, we probably underestimate it, since in the slow cases the patient has probably quite forgotten the injury. A very slight injury is sufficient to produce the growth. The writer believes that the relationship between antecedent trauma and the development of sarcoma or carcinoma can be most rationally explained on the theory that such tumors are infections, or of micro-parasitic origin. The most probable explanation would appear to be, that the microorganisms exist latent in certain individuals, and under normal conditions they remain harmless indefinitely. The local trauma, however, diminishes the vitality of the tissues, and hence their resisting-power, and the germs, previously innocuous, gain a foothold and develop. From a study of his cases the writer concludes that trauma is a very important factor in the causation of malignant tumors. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors. There follow the histories of thirty-one cases in support of these theories.

Epistaxis.—Charles N. Cox, in discussing the etiology and pathology of this affection, states that it may arise from some systemic condition or, what is most frequent, be due to some local morbid condition within the nasal cavities. Among the general conditions are plethora, anæmia, the hemorrhagic diathesis, and organic disease of the heart, liver, or kidneys. It occurs in certain acute diseases, as typhoid fever. But the majority of cases of nasal hemorrhage are due to some intranasal lesion. The most frequent injury which gives rise to epistaxis is a blow or fall upon the nose. The most frequent seat of hemorrhage due to local causes is the triangular cartilage of the septum, just within the vestibule. A deviation or spur of the septum, so placed that the air in breathing causes dryness and discomfort, is an indirect cause of bleeding, since the patient is forced to blow the nose hard or even to pick it to remove the crusts on the mucous membrane. An abrasion is formed, and later ulceration, and even perforation, may develop. Varicose veins of the septum may cause hemorrhage, as may also tumors. Vicarious epistaxis sometimes takes place. In treating this affection the nostrils should be well exposed by a nasal speculum. A head mirror is generally necessary. The electro-cautery is an effectual means of arresting hemorrhage. Dried extract of suprarenal capsule is one of the most powerful vasomotor stimulants. A twenty-per-cent. solution of ferropyrin in water is a very clean and excellent astringent and styptic application. If attacks of bleeding from the nose are at all frequent, it is of great importance that the cause be ascertained and the proper remedy applied.

An Historical Sketch of the Department of Medicine and Surgery of the University of Michigan.

Some Errors in the Examination of Urine.—By Louis Heitzmann.

British Medical Journal, April 13, 1901.

Case of Cavernous Angioma of the Orbit.—A. L. Whitehead reports the case of a man aged fifty-one years. His right eye was pushed forward by a rounded elastic tumor lying behind the eyeball. Ulceration of the lower part of the

cornea from exposure had already set in. The pupil was dilated, and the movements of the eyeball were almost lost. Vision was $\frac{6}{9}$, and the fundus appeared healthy, the physiological cup being very deep. The history was that of gradually increasing prominence of the right eye, first noticed about ten years previously, no pain or particular discomfort being felt until fourteen days before the patient was seen, which then probably occurred from corneal ulceration. In three days the growth was removed. It measured 5.4 cm. antero-posteriorly and 3.7 cm. in its greatest diameter. The tumor consisted of three lobes, each covered by a thin fibrous capsule, and was composed of a fine network of connective tissue enclosing small alveolar spaces lined by flat endothelial cells and containing masses of red blood corpuscles. The growth was elastic, but moderately firm. The patient made an uneventful recovery, the vision being now $\frac{6}{5}$, and there is almost complete range of movement of the eye in all directions.

A Note on Acute Dilatation of the Heart.—H. Oliphant Nicholson believes that in certain grave states of cardiac dilatation and in advanced valvular disease, the actual blood pressure may be enormously high, for the ventricle is called upon to work at its highest pressure. Although in certain cases in which there was observed the coexistence of advanced cardiac dilatation, feeble low-tension pulse, and immensely high systemic blood pressure, he did not pay special attention to the accentuation of the second aortic sound, still these signs just mentioned suggest that this sign would have been present. He does not believe an abnormally low pressure in the arteries, as is often found in acute pneumonias of children, incompatible with an accentuated aortic second sound, but thinks it is full of meaning; for what seems a high tension in the vessels at one time may really be a relatively low one, and *vice versa*, when all the existing factors are fully examined. For when a ventricle is acting at its highest limit an apparently poor tension may mean very little, since the blood pressure is relatively high for the state of the heart and the blood-vessels.

The Resistance of the Larval Mosquito to Cold.—M. J. Wright has carried on numerous experiments with mosquito larvæ which prove their resistance to cold. He placed a cup containing larvæ on the garden wall while there was about six inches of snow on the ground. After forty-eight hours' exposure the larvæ were still alive. Salt was mixed with ice and packed in a bowl about the cup, and the water slowly frozen. As long as there was any water left the larvæ lived, but as soon as the water became solid they died. Prolonged low temperature by intermittent freezing did not kill them till the water became solidified. It seems reasonable to suppose from these results that the larvæ provide for the continuation of the species through the winter in the northern countries, and probably throughout Europe. Pupæ do not seem to bear great cold well. It is during the winter that most can probably be accomplished toward exterminating mosquitos.

A Case of Recurrent Alcoholic Peripheral Neuritis.—Leslie H. Jones believes that he has seen many cases remarkable for the fact that the intense neuritis, which affected almost the whole muscular system, was caused by a very moderate amount of alcohol. He relates the case of a woman who was sent to him suffering from absolute paralysis of the extensors of the hands and feet. The patient, after total abstinence for four years, during which time she was treated by electricity, recovered the use of her muscles. Later she had recourse to stimulants again, when the old trouble returned, though not to so marked a degree. Again, after two years' abstinence and the use of electricity, she has again recovered. The writer believes that in the recent outbreak arsenic has acted on systems saturated with alcohol much as a candle-end or a resin lighter would on a smouldering fire.

The Saline Treatment of Dysentery; Based on Eight Hundred and Fifty-five Cases with Nine Deaths.—W. J. Buchanan gives his method of using salines: ℞ Sodii sulphatis ʒ i.; aquæ fœniculi ad ʒ i. This was given four, six, or eight times a day (each dose representing one drachm of the saline) as the case required. No dose was repeated on the following day till the stool had been inspected. The saline was continued till every trace of blood and mucus had disappeared. In most cases the inflammatory products had disappeared completely in two or three days. This method is advocated for acute cases only.

A "Sign" of Mumps.—Fred. Tresilian states that generally the opening of Stenson's duct on the inner surface of the cheek outside the second upper molar is hard to discover in children; in many cases of mumps which he has observed it was a bright red papilla, and lasted as such for a week or more. Salivation also occurred in many cases.

The Treatment of Dysentery.—H. B. T Symons advocates in this disease douches every four hours of a solution of tannic acid ʒ ss. to a pint of warm water. Hot hip baths beforehand relieve hypogastric discomfort and local smarting. A little opium, rest in bed, and a strict milk diet should comprise a routine.

A Case of Sarcoma of the Brain Removed by Operation: Subsequent Operation for Removal of a Second Tumor; Recovery.—By J. M. Clarke.

A Case of Neuritis Affecting the Optic and Cervical Nerves, Complicated by Carcinoma of the Breast.—By J. R. Benson.

A Clinical Lecture on Some Cases Illustrating the Surgery of the Large Intestine.—By Charles A. Morton.

Cholecystectomy; Partial Hepatectomy and Pylorectomy; Recovery.—By Bertram C. Stevens.

Case of Foreign Body in the Bronchus; Tracheotomy; Recovery.—By F. B. Judge Baldwin.

Pulmonary Abscess from an Impacted Tack; Drainage; Recovery.—By G. P. Mathew.

Wound Produced by Explosion of a Sparklet.—By E. Archer-Brown.

A Note on the Treatment of Genu Valgum.—By E. Muirhead Little.

A Polypoid Excrescence of the Tonsil.—By E. S. Yonge.

Bilharzia Hæmatobia in Cape Colony.—By C. J. Egan.

Intestinal Sand.—By A. C. Barron and J. K. Barton.

The Lancet, April 13, 1901.

Post-Partum Hemorrhage.—By E. S. Bishop. The author gives a vivid picture of this terrible accident and lays down some very definite rules for treatment. This consists of two main procedures. First, the foot of the bed should be elevated to an angle of from 45° to 50° with the floor, or we should immediately place the patient in the Trendelenburg position. Mere simple elevation of the foot of the bed is useless. By means of the manœuvre described the venous bleeding is greatly checked. Second, external compression of the aorta should be made by applying the closed fist with its ulnar surface resting upon the aorta as it lies over the left side of the vertebral column, and just sufficient pressure should be exerted obliquely backward and toward the right as to compress the vessel against the unyielding surface beneath, *i.e.*, the spine. In this way five-sixths of the blood supply to the uterus is shut off; the remaining sixth, that which comes through the ovarian arteries, is sufficient to maintain the integrity of the uterine fibres. Enough blood will be sent to the organ to preserve its vitality, assist in the formation of small plugs in the open arterial mouths, vivify and strengthen the muscular tone, which temporarily is at too low an ebb, so that when once more the full force of the blood-current is allowed to bear upon them the vessels shall be found closed by clot and constricted by the now firmly contracting fibres around. Pressure, as advised, should be kept up till the pulsation under the fist (at first very weak) is felt to be full and strong, and then the pressure should be very gradually lessened. During the existence of compression we can clean out the uterus, transfuse, sew up a split perineum, etc. The hæmostatic measures just named are useless so long as bleeding is going on. When once it is checked, they immediately demonstrate their value. Bishop claims that the rules he lays down are nothing but the application of common-sense surgical procedures to what is perhaps one of the most trying clinical emergencies falling to the lot of the practitioner.

On the Importance of Early Diagnosis and Treatment in Surgical Diseases of the Abdomen.—By W. Rose. Attention is called to the fact that many conditions formerly considered medical now come under the surgeon's care, and that prompt intervention will often save the life of a patient who under the old order of things was surely doomed. Of these conditions the author makes two classes: first, those due to inflammatory processes; these comprise perforation of a gastric ulcer, rupture of the intestine, and perforation of the vermiform appendix. Second, those due to neoplasms; the latter group comprises cancer of the stomach, cancer of the pylorus, and intestinal cancer. The various symptoms of the maladies named are passed in review and their differential features dwelt upon. Attention is also called to the fact that the symptoms of functional troubles sometimes simulate those of organic changes, and that the two overlap. In such instances it is not always possible to make a certain diagnosis. In such circumstances the patient should be told the facts; the advantages and risks of an exploratory incision should be pointed out and the decision be left to him or to some one qualified to act.

Remarks on Enlargement of the Inguinal Glands Chiefly in Connection with the Diagnosis of Primary Syphilis.—By A. Cooper. In typical cases and when the condition has reached its height, a group of glands—from three to six or more—can be felt in each groin. The patient must be in

the recumbent position to have the examination properly made. Besides being multiple, the glands are also indolent and separate; that is, they are not painful when handled and can by palpation be clearly defined and isolated from the others. They are freely movable beneath the skin, are of moderate size, and more or less hard. Both sides are generally affected, but occasionally one groin alone may be involved, and that not always on the same side as the specific lesion. Although multiple indolent glands form one of the most important features of primary syphilis, it must be remembered that they are not in themselves proof of it, and that an apparently typical condition of the groins is sometimes due to other causes, more especially in persons whose glands are unusually susceptible. Among such cases may be mentioned severe gonorrhœa, urethral irritation from too strong injections or other injury, irregular herpes, severe balano-posthitis, and tuberculosis. The diagnosis will depend on the history, on the absence of an indurated primary lesion, and on careful watching throughout the incubation period of syphilis.

Neutral Red as a Means of Detecting the Presence of the Bacillus Coli Communis in Water Supplies.—By W. Hunter.

Topographical Anatomy of the Abdominal Viscera in Man.—Third Hunterian lecture, by C. Addison.

The Chemistry of Nerve-Degeneration.—By F. W. Mott and W. D. Halliburton.

Concurrence of Measles and Diphtheria.—Report of a case by J. D. Rawlings.

A Case of Erythema Scarlatiniforme Desquamativum.—By G. K. Millard.

Remarks on the Holmgren Test.—By F. W. Edridge-Green.

French Journals.

Influence of Certain Alimentary Principles on the Secretion of Gastric Juice and its Richness in Pepsin.—Mme. Potapon-Pracaïtis concludes that a preparatory repast sufficiently abundant and resistant to the action of the gastric secretion is indispensable to allow one to determine if a substance given possesses or does not possess, to any degree whatever, the property of favoring the transformation of propepsin into active pepsin; in other words, if this substance is or is not pepsinogenic. Thanks to the preparatory repast, the stomach secretes all the pepsin that it is capable of furnishing in a single digestive period, and then remains for some time incapable of spontaneously secreting a peptic juice; in this condition it secretes, after the ingestion of an experimental repast deprived of the pepsinogenic properties, only a little gastric juice; this is acid, but apeptic, or nearly so; but if there are added to this experimental repast substances rich in pepsinogen, it soon gives out an abundant secretion rich in pepsin. Whatever may be the quantity of juice secreted in any given time, its amount of pepsin from first to last is uniformly small, if the animal has not received pepsinogens by mouth or anus. When, on the contrary, it has received them, the juice, at first scarcely peptic, becomes at the end of some time very rich in pepsin, the rate of which increases in proportion as the pepsinogen is absorbed into the blood. This increase is the more marked in proportion as the ingested substance is rich in pepsinogen and in proportion to its absorption. There is no relation between the digestibility of the nutriment and the amount of pepsin in the juice which is provoked by its ingestion. These principles must be of value in the treatment of functional troubles of the gastric mucosa.—*Revue Médicale de la Suisse Romande*, March 20, 1901.

A Case of Barlow's Disease Caused by the Use of Modified Milk.—G. Variot, after the study of this case which he reports, thinks that it is doubtful if the illness described by Barlow as infantile scurvy should be likened to the scurvy of adults. It is probable that it concerns a hemorrhagic rachitis. Hemorrhagic rachitis is a rare malady in France. A very few observations have been published since Netter's communication, and nevertheless the number of children who are fed on sterilized milk is very large. It is to be feared that modified milk predisposes to this affection: it is more often the cause than pure milk. The sickness, in spite of its alarming symptoms, does not appear to be very severe. Change of milk and alimentary régime works a rapid cure.—*La Tribune Médicale*, March 13, 1901.

Idiomuscular Excitability in Tabetics.—F. Duplant states that idiomuscular excitability in tabetics is most often normal, although it sometimes appears exaggerated. Muscular œdema is caused more easily in ataxics than in sound subjects. This reaction is only a variety of idiomuscular contraction; it is local in place of being generalized. The author believes that the apparent exaggeration of the idiomuscular reaction in tabes demonstrates the integrity of the muscles in the great majority of cases. The reaction obtained is not due to the excitation of the nervous filaments, cutaneous or muscular. The idiomuscular reaction in tabes is not stronger than normal, but it is rendered more apparent by the hypotony of the muscles, which is constant in locomotor ataxia.—*Lyon Médical*, March 24, 1901.

Deutsche med. Wochenschrift, March 28, 1901.

A Case of Nephrotomy for Renal Hemorrhage due to Unilateral Hemorrhagic Nephritis.—H. Laurent gives the history of a man aged fifty years, who for two years had suffered from intermittent attacks of hæmaturia. After urethral and vesical sources of bleeding had been excluded the cystoscope was used, and it was seen that the bloody urine came from the right ureter only. No local evidence of gross renal disease could be found, there was no tenderness or tumor, and no calculi or tubercle bacilli were present in the urine. Owing to the continuance of the hemorrhages and the patient's very advanced anæmia, operation seemed to offer the only hope, and the kidney was cut down upon by a lumbar incision. Nothing abnormal could be detected either in the external appearance of the organ or after incision, and examination of the ureter also gave a negative result. During his convalescence the patient's urine remained almost wholly free from blood, but erysipelas developed in the wound and caused his death one month after operation. At the autopsy a chronic nephritis of both kidneys was found, most marked in the right. Out of eighteen cases in the literature in which operation was done under similar conditions of renal bleeding without discoverable cause, in sixteen a permanent cure was effected. In ten of these the organ was removed, in five it was incised, twice it was loosened from its capsule, and once it was simply exposed. One case, a nephrectomy, ended fatally, and in another the hemorrhages recurred after a period of two months.

A Remarkable Case of Dissecting Aneurism of the Abdominal Aorta.—Ernst Fast reports this case in which the diagnosis was established before death. The patient was a man aged fifty years, alcoholic and used to heavy work, but non-venereal. For some years he had suffered from pain in the back and left thigh, which gradually increased up to the time of death, when it was agonizing. Important diagnostic points in the physical examination were pulsation below the right free costal border, not synchronous with the apical systole, hypertrophy and dilatation of the heart, accentuated aortic second sound, a loud diastolic murmur over the ensiform, and the fact that pressure on the two femoral arteries increased the loudness of this murmur. Aortic regurgitation could be excluded as a cause for this diastolic murmur, owing to the absence of peripheral corroborative evidence, and at the autopsy it was found to be due to the narrowing produced at the aortic opening in the diaphragm, owing to which the diastolic regurgitation from the aneurismal sack through the stenosis caused a murmur which was intensified when the tension was raised by pressure on the femorals.

Experimental Lumbar Puncture for Determining the Presence of Tubercle Bacilli.—H. Hellendall obtained lumbar puncture fluid from children having tuberculous meningitis, and injected it into the spinal canal of guinea-pigs with the idea of so producing an experimental meningitis in these animals. It was found, however, that although the animals speedily died, it was from tuberculous invasion in the spleen, liver, lungs, glands, etc., but that the meninges remained unaffected in every case. The infection was evidently carried directly by the lymphatics corresponding to the site of puncture, so that dissemination could take place much more rapidly and surely than from abdominal injections. The author therefore recommends this method of experimental infection for diagnostic purposes as affording prompter results and as being more likely to give a positive reaction when, as is often the case, the number of tubercle bacilli in the suspected fluid is very small.

Saponin and its Antidotes.—By F. Ransom.

The Göttingen Typhoid Epidemic of the Summer of 1900.—By P. Fraenckel.

Münch. med. Wochen., March 26 and April 2, 1901.

A Foreign Body in the Lung.—Although Spiess was unsuccessful in his attempt to remove a foreign body from the left bronchus by Killian's method of bronchoscopy, his experience was so encouraging as to lead him to believe that in suitable cases it gives the best chance of relief. In the case in question the difficulties encountered were due to the fact that the foreign body, a collar button, had been *in situ* for over four years. The patient's health had greatly suffered in consequence, and there was evidence of considerable inflammatory change in the lobe harboring the object. Through a tracheotomy wound it proved a simple matter to introduce an electrical bronchoscope by means of which the button could be seen and manipulated with instruments. The obstacle to extraction lay in the

fact that after perforating the bronchial wall the foreign body had set up an inflammatory reaction in the neighboring tissues, with the result that the opening through which it had once passed had become stenosed to such a degree that its exit was impossible. Various ingenious devices were employed to dilate the orifice and secure the button, but after several months of ineffectual effort the patient succumbed to the constitutional effects of the lung lesion. Instrumentation through the tracheotomy wound was sufficiently easy, however, to convince the author that in all recent cases it offers strong hopes of success, and that it should always be tried under such circumstances.

The Treatment of Contracted Pelvis in Labor by Version with Immediate Extraction.—W. Albert advocates in cases of moderate contraction of the pelvis, *i.e.*, with a true conjugate of 7 to 9.5 cm., that in primiparæ a spontaneous labor should be tried for, while in multiparæ version is indicated, though even here the possibility of unaided delivery is not to be lost sight of. In all these cases complete dilatation and unruptured membranes give the best prognosis, therefore dilatation with the elastic bag is in order. Later on, with primiparæ the membranes are to be ruptured and Walcher's position used; in multiparæ the same procedures are to be instituted even if only a segment of the head is well engaged; when the head is high or badly engaged immediate version and extraction should be done as soon as the os is fully dilated.

A Case of Aortic Aneurism Treated with Subcutaneous Gelatin Injections.—K. Barth describes a case in which a sacculated aneurism of the ascending aorta complicated by mitral insufficiency, emphysema, and bronchitis was very appreciably benefited by gelatin injections. The solution used was of one-per-cent. strength, and each course of treatment comprised twelve injections of 100 c.c. each, given on as many successive days. The site of injection was the lumbar region, and no pain or other disagreeable features were produced. All possible accessory measures were also employed: rest in bed, local cold, potassium iodide, and sparing diet, with the result that after the second series of injections marked subjective and objective improvement was noted.

Contributions to the Biological Identification of Human Blood.—A. Dieudonné publishes some results which corroborate the statements recently made by Uhlenhuth, Wasserman, Schutze, Stern, and Mertens. A number of rabbits were injected with human blood serum, albuminous urine, and pleural exudate respectively, and then their serum was added to human blood, nephritic urine, and pleural exudation, with the result that in each case a precipitate was obtained which was most marked when the type of serum was used which had been prepared by the injection of the particular body fluid that was to be tested. Corresponding tests on fluids of other animals gave negative results.

The Bloodless Treatment of Congenital Dislocation of the Femur.—C. Ghillini, with a material of one hundred successfully operated cases to base his observations on, concludes that the operation is really a curative measure and is deserving of universal application. When the head of the bone is above the acetabulum, the limb should be brought into a position of exaggerated abduction; when it is displaced downward it should be adducted; if the dislocation is backward the thigh is rotated externally, while if it is anterior internal rotation is necessary to effect reduction. Usually the deformities are not simple, but are combinations of the above positions; in such cases the appropriate manœuvres for reduction must also be combined.

An Unusual Case of Foreign Body in the Trachea.—G. Diehl's patient had already had two tracheotomies, one self-inflicted with suicidal intent, the other to relieve diphtheritic obstruction, with the result that cicatricial contractions made the permanent wearing of the tracheal tube a necessity. The tube habitually used by the patient was accidentally damaged, the protecting flange being broken, but was still worn till a new one could be procured, when in a fit of laughter it slipped out of reach down into the left bronchus. Efforts at removal by instrumental means proved unsuccessful, and a third tracheotomy was decided on, when the patient suddenly coughed up the missing object.

Urticaria with Albuminuria.—M. Günzburger reports a case in which a simple urticaria, apparently digestive in origin, was accompanied by œdema of the face and albumin in the urine. The patient was a boy aged thirteen, who on coming under observation presented the typical picture of an urticaria of moderate severity. The rash speedily disappeared under suitable therapy, when the persistence of the puffiness about the eyes prompted an examination of the urine, which was found heavily loaded with albumin. This finally disappeared after about two weeks, and as no other explanation for its presence could be found the author ascribes it to the urticaria.

The Auditory Organ and Equilibrium Control of the Japanese Dancing Mice.—Rudolf Canse says that the hypotheses which have been put forward to account for the erratic gyrations of these animals, and which ascribe their deficient sense of equilibrium to organic defects in the epithelium or bony structure of the semicircular canals, are erroneous. By careful comparisons of serial sections of the inner ear of these animals with similar preparations from the European house-mice he concludes that no important structural differences exist, and that the lack of space sense must be central, probably cerebellar, in origin.

The Etiology and Experimental Production of Cirrhosis of the Liver.—Markwald experimented on frogs and rabbits by giving them daily small amounts of antipyrin hypodermically. As a result well-marked cirrhosis was produced, this representing a reactive effort on the part of the organism against the primary destruction of the liver cells. The injection of larger amounts caused acute destruction of the liver. A further conclusion is that every substance having the property of destroying liver cells after long-continued action produces cirrhosis unless other extra-hepatic conditions are present to prevent.

Natural Immunization in Tuberculous Families.—A. Reibmayer believes that we are making a mistake in laying too great stress on the importance of artificially preventing tuberculous infection and not devoting enough attention to the preservation of the natural and inherited immunity that is to enable us to throw off the disease if it once gains entry into the system. It is impossible to carry out a perfect system of prophylaxis, and it is only by directing our efforts to the maintenance of perfect vigor by rigid adherence to hygienic rules that the disease can successfully be combated.

Clubbed Fingers.—F. Lacher contributes the history of a man aged thirty-two years, who for ten years had suffered from a suppurating pleural sinus the result of an empyema operation. The amount of discharge exciting suspicion, a foreign body was suspected, and subsequently located by *x*-ray examination. On operation it was found to be an old drainage tube, whose removal was followed by prompt subsidence of all constitutional symptoms and also a marked recession of the previously pronounced clubbing of the fingers.

The Effect of Coal on the Tubercle Bacillus.—J. Papasotirin tested the effect of various forms of coal and carbon dust on the tubercle bacillus by mixing varying quantities of these substances with the nutrient media. As the result of his observations he concludes that these bodies do not possess the inhibiting action on the growth of the bacillus commonly accredited to them.

Localized Congestions and Effusions in Heart Disease, with Observations on the Functional Diagnosis of Transition Forms between Exudates and Transudates.—By O. Rosenbach.

Report on the Ambulatory Department of the Clinical Institute for 1900.—By Kerchensteiner.

A Case of Mixed Cirrhosis of the Liver with Acute Course.—By H. Ullmann.

Report of the Medical Polyclinic of Munich for 1900.—By Moritz.

A Contribution to Multiple Fat Necrosis.—By Paul Ostermaier.

The Diseases of Chromate Workers.—By F. Hermanni.

Dr. August Brauser.—By W. Mayer.

Archives Générales de Médecine, April, 1901.

Cryptogenic Pyosepticæmia.—Amédée Pugnat holds that these mysterious instances of spontaneous pyosepticæmia are in many cases due to the presence of old cicatrices, which may be the starting-point of the disease, just as calcified tuberculous ganglia give rise to tuberculous granules, and slight attacks of osteomyelitis are sometimes followed at a later period by necrosis, fistula, and abscess. Infection may long be latent in these old cicatrices and then suddenly wake to renewed activity, manifesting itself either locally or generally. The author reports two demonstrative cases.

The Urinary Secretion in Syphilitics.—J. Patoir concludes that in certainly half the number of cases syphilis causes general nutritive disturbances at the time of the eruption. The liver and kidneys are thus affected, but not in benign cases. In young patients there is hyperactivity in elimination of urine. In the aged the opposite condition is caused. Specific treatment has a beneficial effect on impaired liver and kidney functions.

Clinical Study of Acute Broncho-Pulmonary Symptoms in Malaria.—By J. Crespin and R. Mailfert (conclusion).

Gastric Toxins.—By E. Cassaët (conclusion).

Reviews and Notices.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY, being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, etc., collected and arranged with editorial comments by J. M. BALDY, M.D., C. H. BURNETT, M.D., J. C. DA COSTA, M.D., W. A. N. DORLAND, M.D., V. P. GIBNEY, M.D., C. A. HAMANN, M.D., H. F. HANSELL, M.D., B. C. HIRST, M.D., E. F. INGALS, M.D., W. W. KEEN, M.D., H. G. OHLS, M.D., WENDELL REBER, M.D., J. H. WATERMAN, M.D., under the general editorial charge of GEORGE M. GOULD, M.D. Two volumes, "Medicine" and "Surgery." Philadelphia and London: W. B. Saunders & Co. 1901.

THIS important work of reference upon contemporary medical subjects again appears in two volumes. The editors have evidently been at great pains to collect their material for reference, and the result is gratifying. The literature of all departments of medicine and surgery has been searched and analyzed and the results have been systematically collated, so that we are able in a very short time to tell just what has been done of any consequence in any branch, and where to look for more detailed information. The editors have made free comments, which are printed in brackets, and these add an element of interest to the work. The amount of labor involved in producing these volumes was enormous, and those responsible are to be congratulated.

AN INTRODUCTION TO PHYSIOLOGY. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. 12mo, pp. 314. Cambridge, Mass.: The University Press. 1901.

THIS title is slightly misleading as the book deals only with the physiology of muscle and nerve, and of the circulation. But, with this understanding, the book is worthy of attention. Its purpose is to train the student in the difficult art of simultaneous observation and reflection. To this end its pages are devoted to the description of the fundamental experiments of these sections of physiology, setting forth in clear, concise language the apparatus that is to be made use of, the manner of performing the experiment, and the object in view or *raison d'être* of the experiment. Some sixty diagrams accompany and elucidate the text where necessary. Although the book is intended for use in the laboratory where the student may be aided by the explanations of a professor, the apparatus required is comparatively inexpensive and the description of the experiments, from the simple nerve-muscle preparation to the more complex experiments in electro-physiology, is so good that any medical student can do them at home and derive great benefit from the work. The student who has performed them, who has added some reading to his work, will be in a position to study the other parts of physiology with more ease and a much clearer understanding of the subject; which object was the one that the author set out to accomplish.

AN INTRODUCTION TO MODERN SCIENTIFIC CHEMISTRY. In the Form of Popular Lectures Suited for University Extension Students and General Readers. By Dr. LASSAR-COHN. Translated from the German by M. M. PATTISON MUIR, M.A. 12mo, pp. 348, with 58 illustrations. New York: D. Van Nostrand Co. 1901.

THE presentation of a difficult subject in a form that is suitable at once for student and general reader is apt to be very difficult. In this case, if the general reader is willing to pardon a poor translation, the book is a good one. For the student, however, the text is unnecessarily wordy and the discussions of the theories of a hundred years ago concerning phlogiston, etc., are undesirable. Besides, it is of importance that, at the beginning of his studies, he call chemical compounds by their usual name and not say mercury oxide when every one else says mercuric oxide. The translation might have been more carefully done; there are many slips and also many passages of faulty construction. It is difficult to see the use of this book, for there are many better ones to be had on this subject.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By HORATIO C. WOOD, M.D., LL.D. Eleventh edition, remodelled and in greater part rewritten by HORATIO C. WOOD and HORATIO C. WOOD, Jr., M.D. Philadelphia and London: J. B. Lippincott Company. 1900.

THE very fact that a book lives long enough to see eleven editions is proof that it has a *raison d'être*. There are comprised in this book an enormous mass of literature and many valuable suggestions. A point worth noting is that too little space and consideration are given to the employment of bromoform, and the authors would do well to look into the valuable service this drug renders in whooping-cough. We believe that distinct chapters on the therapeutic uses of dry cupping, and also the application of leeches, belong to a work of this kind, although the chapter on counter-irritants does not mention them. Still, the book contains about eight hundred and fifty pages of valuable information and deserves to be carefully studied.

BRAITHWAITE'S RETROSPECT OF MEDICINE. Vol. CXXII. July-December, 1900. London: Simpkin & Co., Limited.

THIS volume is the same interesting compilation that we expect semi-annually. It contains many instructive abstracts and deserves to be studied. It is designed for ready reference and saves a great deal of time.

THE TRAINED NURSES' DIRECTORY. Seventh edition. Compiled and edited by M. LOUISE LONGEWAY, Graduate of Bellevue Training-School.

THIS very useful work is designed for physicians and families who may need the services of graduate nurses who have been specially selected and recommended by leading physicians and surgeons as having had "requisite hospital training and subsequent practice in private duty." The names are alphabetically arranged, giving addresses, telephone number, school, year of graduation, and the special cases taken by the graduates doing private duty in New York, Brooklyn, Albany, Orange, N. J., Pittsfield, Mass., Hartford, and New Haven, Conn., and the towns adjoining those cities.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; Member of the American Medical Association, etc. Second edition, enlarged and thoroughly revised. Illustrated with 77 engravings. Philadelphia and New York: Lea Brothers & Co. 1900.

THE appearance of the second volume of this work is a practical proof of the favor with which it has met. The original edition has been carefully and thoroughly revised, while a chapter on military hygiene—most appropriate at this time—has been added. The text is made clear and attractive by numerous illustrations. The book is useful not only as a text-book, but as a general work of reference on the subject treated. Among the chapters are those on personal hygiene, disinfection, and quarantine, the removal and disposal of sewage, vital statistics, and the examination of air, water, and food.

SEXUAL DEBILITY IN MAN. By F. R. STURGIS, M.D. Author of "Student's Manual of Venereal Diseases"; one of the authors of "A System of Legal Medicine." New York: E. B. Treat & Co. 1900.

THE author of this well-written study of debility depending upon or associated with sexual diseases and excesses is surely facetious in his dedication and preface. The spirit of frankness and lack of cant strikes the fancy at once, and the sentiment which inspired the inscription of the book to "the sexual cripples who have contributed to the writer's support" appeals to fair-minded men as tempered with justice no less commendable because unusual. The work is in many respects original, giving the writer's peculiarly personal views upon various questions, which are somewhat at variance with those held by the majority of authors. The pages show a wide experience in these matters. Spermatorrhœa and pollutions are treated of as separate conditions of distinct nature. The former is looked upon as a disease *sui generis*. The views upon masturbation and its consequences do not differ essentially from those now entertained by suitably enlightened physicians, but do differ materially from those found in quack literature so freely distributed to the innocent and ignorant youth of the country. The work is honestly written in the good faith of conviction.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By H. OPPENHEIM, M.D., Professor at the University of Berlin. Authorized Translation by EDWARD E. MAYER, A.M., M.D., Pittsburg, Pa. First American from the second revised and enlarged German edition. 8vo, pp. 899. Philadelphia and London: J. B. Lippincott Co.

IN the German edition from which this is translated there were made a number of changes and additions which brought the work well forward in the ranks of text-books upon this specialty. Treatment especially has been improved upon by reason of various recent scientific advances, so that the work as it is now presented to English readers is decidedly better than was the original text. The illustrations have been increased in number. Some

are not all that one might expect, from an artistic, photographic, or accurately scientific aspect. For the most part, however, they serve the intended purpose of showing at a glance what whole pages could not so well convey to the mind. Many inserted cuts are necessarily but schematic aids to the student or reader. For a nerve book it may be said to be profusely illustrated. The popularity of the work abroad has been the incentive to its American translation, and, with the exception of a few minor changes, the text stands as written, and the translator is to be congratulated on his work.

LEA'S SERIES OF POCKET TEXT-BOOKS. OBSTETRICS. A Manual for Students and Practitioners. By DAVID JAMES EVANS, M.D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, Canada; Fellow of the Obstetrical Society, London, England. Series edited by BERN. B. GALLAUDET, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York; Visiting Surgeon, Bellevue Hospital, New York. Illustrated with 149 engravings. Philadelphia and New York: Lea Brothers & Co. 1900.

THIS new member of the "pocket text-book" series bears out the reputation of those which have preceded. The author has taken up the physiology of pregnancy, of labor, and of the puerperium quite fully, before he considers their pathology. The ordinary problems which confront the obstetrician are dealt with quite in detail, while the more abnormal conditions and complicated operations are touched on more lightly. The book is particularly fitted for the use of undergraduates and young practitioners, being very clear and concise.

MANUEL D'HISTOLOGIE PATHOLOGIQUE. By PROFESSORS CORNIL and RANVIER, with the collaboration of DRS. BRAULT and LETULLE. Third edition. Vol. I. Octavo, pp. 910. Paris: Felix Alcan. 1901.

THE first volume of this work introduces us, as we expect very naturally from such authors as Cornil and Ranvier, to a clear, careful, thorough treatise on pathological histology. Each part is brought up to date and is the last word of microscopical research on the subject. Each chapter of pathology is preceded by a description of the normal histology and each is closed by an abundant bibliography. In order to make the work a complete one, the authors have availed themselves of the services of a number of collaborators; the work, however, is homogeneous, as all of this aid is from men who have worked for years in the laboratories of Cornil and Ranvier, and are imbued with their ideas and traditions. This volume presents a general introduction to normal histology by Ranvier; and the same for pathological histology by Cornil, who gives us also a study of the inflammations. Then we have a chapter on tumors, by Brault, and one on parasites, including bacteria; another on the lesions of bone and of cartilage, by Cazin, and the book closes with one on changes in connective tissue and lesions of the serous membranes, by Cornil. Each subject is plentifully and beautifully illustrated with original plates in black and in colors, many of which will doubtless find their way into numerous books as examples of perfect illustrations in normal and pathological histology. In the chapter on inflammations are to be found Ranvier's recent researches on the clastmatocytes. In studying the origin of the leucocytes that are present about an inflamed area, Ranvier has found that, besides the leucocytes that arise from the multiplication of those that are already present, and of others that have come from the blood-vessels by diapedesis, very many are formed at the expense of the clasmatocytes. He has given the name of clasmatocyte (*κλασμα*, fragment) to an irregularly narrow and long histological element, sometimes 100 μ in length, composed of fragments of finely granular substance held together by filaments and having an ovoid nucleus. The connecting filaments may be coarse, may be so fine as to require a high power, or may disappear, leaving the fragments spread about in the connective tissue. Clasmatocytes are most numerous and may be best observed in the connective tissue and serous membrane of urodela, batrachia anura, and small mammifera; as many as a hundred per square millimetre may be counted in the peri-œsophageal membrane of the rana temporaria. They show no amœboid motions and yet they are derived from white blood cells which have travelled from the blood-vessel into the connective tissue. Ranvier has seen all stages of transformation of the leucocyte into the clasmatocyte. The latter, whose granular, fragmentary protoplasm represents the substance of a leucocyte which has been fixed in the connective tissue, can return to the embryonic stage and be again a leucocyte under the influence of inflammation. It may then multiply by direct division as any other leucocyte. We find Ranvier's fine work and excellent plates again in a study on the healing of wounds of the cornea. In the chapter on tumors, the author (Brault), discussing the parasitic theories of tumors, expresses the opinion that before we can leave the present sterile period of research, new methods are indispensable, and that the technique of to-day has said its last word. The chapter is closed by an excellent bibliography. The histology, normal and pathological, of serous membranes assumes a peculiar interest in view of the publications of Widal upon the cytodiagnosis of the nature of pleuritic effusions. This work of Cornil and Ranvier would be a valuable addition to the English literature of the subject and is worthy of an able translator.

OBSTETRIC CLINIC. By DENSLOW LEWIS, Ph.C., M.D., Professor of Gynæcology in the Chicago Polyclinic Hospital, Chicago; President of the Chicago Medical Examiners' Association; Vice-President of the Illinois State Medical Society; ex-President of the Physicians' Club, of Chicago; Consulting Obstetrician to the Florence Nightingale Home; Senior Gynæcologist and Obstetrician to the Lakeside Hospital, Chicago; late Special Commissioner from the State Board of Health of Illinois and the Health Department of Chicago for the Investigation of Municipal Sanitation in European Cities. A Series of Clinical Lectures on Practical Obstetrics Delivered to Students and Practitioners in Cook County Hospital, Chicago. Together with Remarks on Criminal Abortion, Infanticide, Illegitimacy, the Restriction of Venereal Diseases, the Regulation of Prostitution, and other Medico-Sociologic Subjects. Chicago: E. H. Colegrove. 1900.

THIS volume is a stenographic compilation of thirty-nine lectures of the author, as they were given in the class-room from day to day. Consequently, the style is conversational and particularly interesting. The reader absorbs much valuable information with the slightest expenditure of effort. The writer treats the subject of obstetrics in its entirety in a useful and practical manner, including the consideration of gonorrhœa and syphilis and certain sociologic problems related to these subjects. The work is provided with an excellent index and cannot fail to be a valuable addition to any medical library.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners, by Leading Members of the Medical Profession throughout the World. Edited by HENRY W. CATTELL, A.M., M.D., of Philadelphia, with the collaboration of JOHN B. MURPHY, M.D., of Chicago; ALEXANDER D. BLACKADER, M.D., of Montreal; H. C. WOOD, M.D., of Philadelphia; T. M. ROTCH, M.D., of Boston; E. LANDOLT, M.D., of Paris; THOMAS G. MORTON, M.D., and CHARLES H. REED, M.D., of Philadelphia; with regular correspondents in Montreal, London, Paris, Leipsic, and Vienna. Vol. IV., tenth series. Philadelphia: J. B. Lippincott Co. 1901.

THIS volume contains, besides the usual chapters on therapeutics, medicine, neurology, pathology, etc., a symposium on genito-urinary diseases, by Renault, Pedersen, Guyon, Ohmann-Dumesnil, and Fournier. There is also a monograph by H. W. Cattell, the editor, on the etiology and morbid anatomy of various diseases. There is a frontispiece colored plate illustrating Professor Roncali's article on the rôle of blastomyces in cancer. The photographic illustrations which have made previous volumes attractive are noticeably absent. For a clinical journal intended largely for those who are deprived of seeing clinical cases in large cities the aim should be to supply as many clinical pictures and as few histological illustrations as possible.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. Comprising all Organic and Inorganic Drugs which are and have been Official in the United States Pharmacopœia. Together with Important Allied Species and Useful Synthetics, especially designed for Students of Pharmacy and Medicine, as well as for Druggists, Pharmacists, and Physicians. By DAVID M. R. CULBRETH, Ph.G., M.D. Second edition, enlarged and thoroughly revised, with 400 illustrations. Philadelphia and New York: Lea Brothers & Co. 1901.

THIS edition has undergone the usual amount of making over and insertion of such called-for additions as will bring the work abreast of the times. In this manual the aim has been to keep associated such substances as have a common or allied origin. The author has taken the initiative in this country in applying this order to organic and inorganic remedies, keeping the basal or parental source paramount. The modern nomenclature has become necessary

on this account, and that fad proves at times awkward, as the author states, because it conflicts with the last pharmacopœia. Animal drugs are considered in the order of zoological sequence. The metric system is employed, but the English equivalents are given. Prescription writing is treated in a new chapter, and there are a number of new illustrations. These changes are in keeping with the aim at utility and help to maintain the high character which the first edition manifests.

Primary Echinococcus Cysts of the Pleura. Report of a case of primary exogenous echinococcus cysts of the pleura, showing hyaline degeneration of the cuticle without lamellation, with notes of the literature. By Charles Cary, M.D. and Irving P. Lyon, M.D., of Buffalo, N. Y. 1900.

Our Teeth, and How to Take Care of Them. By Victor C. Bell, D.D.S. New York: Young America Publishing Company.

This little volume contains a series of questions and answers, and is admirably adapted to instruct those unfamiliar with the elementary knowledge of the teeth.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

COURT APPOINTMENTS—PARLIAMENT—VACCINATION—LONDON WATER QUESTION—ADJOURNED DISCUSSION ON RHEUMATISM—PERNICIOUS ANÆMIA—ANTIVIVISECTIONISTS—PUBLIC HEALTH.

London, April 5, 1901.

The court medical appointments have been gazetted. They are largely re-appointments, for most of the gentlemen served in the same capacity either the late Queen Victoria or Edward VII. when Prince of Wales. A new office seems to be honorary anæsthetist to the King—it is given to Dr. Hewitt.

In the House of Commons the isolation hospitals bill and the cremation bill have passed the second reading. The latter has previously gone through the Lords.

Sir John Rolleston, as member for Leicester, questioned the secretary of the local government board about the vaccination prosecutions taking place in that town. He was told that the local officer had been reminded of his duty to institute them.

Another attack on vaccination has been made, but is likely to prove disastrous to the leader. Lieutenant-General Phelps has written a letter to *The Times* in which he quotes the ex-medical officer of Glasgow as saying, in reference to a former epidemic, "Vaccination and revaccination have conspicuously failed to keep the enemy at bay." He has not verified his reference. Military methods may permit deliberate deception of the enemy, but controversy is another thing, and the lieutenant-general should learn that the first object of science is truth. If he states what is obviously false, he may be convicted of taking a position which is not one for an "officer and a gentleman" to occupy.

Mr. Long has curtly refused to state the government proposals as to London water before the close of the session, so that the public may have time to consider them during the recess. This will not tend to restore the confidence of the London ratepayer, who feels he has not obtained the end for which he returned the new county council. It is quite possible this water question may seriously shake the government.

The adjourned discussion on the relationship of the various rheumatic affections developed some further differences of opinion. It was resumed in a paper by Dr. Bannatyne, of Bath, who said that the rare cases in which rheumatoid arthritis seemed set up by acute infective rheumatism were, he thought, instances of one disease engrafted, so to say, on the other. Statistics showed that rheumatoid arthritis often followed other diseases—perhaps as often as rheumatic fever. The chronic form of rheumatoid arthritis followed a different course, and might be considered degenerative and secondary to any joint trouble. He and Dr. Wohlman had found in one form of rheumatoid arthritis a micro-organism which differed in character and life-history from that described by Drs. Poynton and Paine.

Dr. Hewlett had isolated a bacillus resembling the Achalme bacillus. He thought the organism isolated by Dr. Bloxall differed from that described by Drs. Poynton and Paine. Identity of clinical symptoms and almost indistinguishable pathological appearances did not prove identical etiology. Toxæmias were apt to affect joints, and arthritis was met with in scarlet fever, influenza, dysentery, and other diseases. He agreed with Dr. Bannatyne that the rheumatoid condition was grafted on the rheumatic one.

Mr. A. Lane held that rheumatoid and osteo-arthritis were terms often used to cover various conditions produced by traumatism and having no relation to any rheumatic affection. Their causation was simply mechanical. The terms "rheumatic affections" and "chronic rheumatic" were unmeaning apart from true rheumatoid arthritis.

Mr. Armstrong held that so far as present knowledge went there was no common origin of rheumatic and chronic joint affections. He thought it improbable that all cases of rheumatoid arthritis were due to bacteria; it was more probable that the disease was a dystrophy due to central nerve disturbance or to reflex irritation from other organs.

Dr. Paine did not think it possible at present to speak definitely about the toxins of the organism found by Dr. Poynton and himself, for they really knew but little about the organism. Many of the early symptoms might be due to chill and others to absorption of toxins. Dr. Newsholme had found rheumatism on dry soils more frequently than on clay.

Dr. Blanc, of Aix-les-Bains, said rheumatoid arthritis might arise from causes unknown, and it might be set up by rheumatic fever, though perhaps oftener not. He asked if the members present thought they ever cured true rheumatoid arthritis.

Dr. A. Garrod made some remarks on the views elicited, and said in his opinion the diplococcus of Drs. Poynton and Paine brought them to the pathological cause of acute rheumatism, and would serve to differentiate that from the other affections. He felt they were only just beginning to learn something about the conditions grouped under the term "rheumatoid arthritis."

Sir D. Duckworth confessed to a belief in diatheses. Many gouty deformities were indistinguishable from those of rheumatoid arthritis. Exostoses and ankyloses found in gout were significant. Nodules he was disposed to regard as indicative of an arthritic diathesis. Many chronic joint cases following acute rheumatism were due to the patient's strumous diathesis. They were not easy to differentiate, as no doubt some cases of rheumatoid arthritis were brought on by acute rheumatism and others came on after acute articular gout with no rheumatic antecedents. It was not easy to deny that a blended condition of true rheumatism and true gout might exist, but the conditions leading to it were not identical. Neuro-arthritic conditions must be considered. No one definite cause could be made to include all cases of rheumatoid arthritis.

Dr. William Hunter's investigations on pernicious anæmia will in some points be familiar to you, as he has been carrying them on for about fifteen years. He has now been able to apply the treatment which his researches led him to propound—and that with success. He therefore brought the case before the Medico-Chirurgical Society at its last meeting in an elaborate paper giving an account of his views, and illustrated with lantern slides. The case showed the typical mode of development and the four clinical groups of symptoms, viz., extreme weakness and anæmia; the red corpuscles decreased to twenty-seven per cent. of the normal and the hæmoglobin to thirty-five; hæmolytic manifestations, as urobilinuria and lemon-colored skin; oral and gastro-intestinal symptoms; toxic symptoms. The result of six weeks' treatment was an increase of forty per cent. of red corpuscles and thirty-seven per cent. of hæmoglobin, and the progress was afterward steady.

Dr. Hunter concludes from his investigations that pernicious anæmia is a definite infective disease, localized in the mucosa of the alimentary canal, causing a most definite and characteristic group of effects, both clinically and pathologically, which admit of its being distinguished during life and after death. In this infection oro-gastro-intestinal sepsis plays the most important part. These views, you will notice, are very different from those of previous observers, inasmuch as their basis is pathological rather than clinical. They are deduced from Dr. Hunter's researches on hæmolysis and the portal circulation. From them he formulates the following definition: Pernicious anæmia is a chronic infective disease localized in the alimentary tract, caused by a definite infection of certain parts of the mucosa of the alimentary tract, chiefly of the stomach, occasionally also of the mouth and of the intestine. In the infection, sepsis, both oral and gastric, plays an essentially important antecedent and concurrent part. It is characterized by (1) intermittent destruction of blood and increasing anæmia (and all consecutive changes, pathological and clinical, *e.g.*, anæmia, lemon color, urobilinuria, hemorrhages, dyspnœa, palpitation, œdema) as the result of the absorption of poisons into the blood and their hæmolytic action; (2) periodic disturbance of the alimentary tract, chiefly of the stomach and the intestine, as local effects of the infection; (3) occasional toxæmic attacks, characterized by fever, sweats, and general nervous symptoms; not infrequently numbness, tingling, ataxia, absence of reflexes denoting deeper

nervous changes, such as peripheral neuritis or sclerosis of the cord.

The frequency and importance of the gastro-intestinal disturbance have led to misapprehension in some quarters where the terms gastro-intestinal "nature" or "origin" or "cause" are spoken of. But this is not Dr. Hunter's view at all. The significance of the symptoms is that they show the gastro-intestinal site of the infection which is the cause of the disease.

The indications for prevention and treatment flow naturally from the theory advanced by Dr. Hunter. They are: (1) Oral antisepsis, with reference to diseased teeth and lesions of the tongue; (2) gastric and intestinal antisepsis, of which the oral treatment is an important part; (3) arsenic. This last alone cannot permanently arrest the disease, though it may increase the duration. If these measures, carefully carried out, fail, Dr. Hunter recommends antitoxic treatment in order to antagonize in the blood the poisons producing the hæmolysis. In the case related he resorted to this measure and injected streptococcic serum four times in the course of five weeks. This is not substituted for, but in addition to, the antiseptic and arsenical treatment.

The paper was followed by a few remarks, scarcely amounting to discussion. Dr. Coupland congratulated Dr. Hunter on lifting the veil of a mysterious disease by his patient researches, and leaving only the demonstration of the special poison to complete the work—for a special poison there must be, as pernicious anæmia is so rare and oral sepsis so common. Dr. Reissman asked if any special blood change existed which would settle the diagnosis during life. He had seen two cases, believed to be pernicious anæmia, prove at the post-mortem to be colloid cancer of the stomach. Mr. Bokenham asked if the author had shown the specific cause by cultivations. Dr. Saville thought neurasthenia was often due to the state of the teeth. Mr. Barker had seen Dr. Hunter's case, and the intestinal symptoms obscured those of the mouth. He suggested that the blood in some cases of alveolar abscess might be investigated with advantage.

Dr. Hunter replied that he had not yet isolated the specific organism. He had seen ten other cases since the one he had described. The diagnosis could not be based on blood changes alone, but on the four groups of symptoms he had pointed out—anæmia, hæmolytic changes in the urine, oro-gastro-intestinal symptoms, fever with toxæmic symptoms. The streptococcus was only an associated organism, as it was not hæmolytic.

A letter in the daily papers proclaims that a lady has revoked a bequest to hospitals on account of her belief that they have vivisectors connected with them. The writer does not seem conscious of the injustice thus done to suffering patients, but rather gloats over the success of the faddists who started a campaign against hospitals for suffering human beings, and carry on their little war with humanity by the circulation of misstatements.

The mortality returns continue to be favorable in spite of the severe and variable weather we have experienced. The death rate of London for the past four weeks has averaged 18.3, which is 3.3 below the decennial average. Measles and whooping-cough have been rife, and some sanitarians are again calling for notification, but others are doubtful about this measure and the public is not prepared for it. The country mortality has also kept low. The Glasgow epidemic of smallpox is declining under the influence of revaccination, and it is hoped will be over before the exhibition opens. At Cardiff four cases of smallpox were brought in a vessel and three persons became infected. They have been isolated and a watch has been kept over contacts.

NOTES ON A NEW METHOD OF STAINING THE CANCRIAMŒBÆ IN CARCINOMA.

To the Editor of the Medical Record.

Sir: Since the publication of my paper on the parasitic amœbæ in carcinoma (Medical Record, July 7, 1900), I have succeeded in greatly improving the method of staining the sections in such a manner as to eliminate as much as possible the personal skill required in manipulation. For the benefit of those who have no time to refer to my first article I will recapitulate the method of fixing, etc.

The tissue is cut from the growing part of the carcinoma somewhere near the edge of the tumor. The piece should in no instance be larger than one-quarter inch in diameter. While yet warm from the natural body heat, if possible, and immediately after cutting away the piece, it is dropped in a solution of chemically pure bichromate of potassium three per cent., glacial acetic acid six per cent., and water ninety-one per cent. The liquid should, if possible, have the body temperature, which can easily be accomplished by keeping the small vial in the inner pocket of the coat or in an incubator. After a few hours (two to twenty-four) the piece is taken out of the fixative and placed in running water until the yellow color of the tissue is extracted, which generally takes twelve to twenty-four hours. The tissue is now passed through the alcohols into Squibb's absolute alcohol, thence into chloroform-alcohol, thence to pure chloroform. Instead of chloroform, xylol or bergamot oil will answer. The tissue goes next into chloroform-paraffin, then in pure paraffin. The sections should be cut not over 6 μ thick, as otherwise the amœbæ cannot be differentiated by staining. The sections are placed on the slide, which latter is flooded with alcohol of eighty per cent. The slide is then lightly warmed until the sections suddenly stretch out, which takes only a few seconds. If the heat is so great as to melt the paraffin, the sections contract and become useless. Next the sections are pressed down on the slide by a piece of blotting-paper wet in alcohol. Considerable pressure is required, and there is no danger of injuring the sections through the pressure. The slides should be dried for fifteen minutes to several hours, or until the sections become rather transparent, when they will stick to the slide permanently. The paraffin is now removed by xylol, which latter is at once washed off with strong alcohol. The slide is to be placed at once in a jar containing a solution of thionin, one per cent., in water. The best thionin for this purpose is the one of the Berliner Actien-Gesellschaft. Ten per cent. of alcohol may be added to the thionin in order to prevent fermentation. The slide is to be kept in thionin for twelve hours or more, taken out and rinsed quickly in running water, but the water kept from striking directly on the sections. A few seconds will suffice to wash off the superfluous thionin. A solution of eosin soluble in alcohol of ninety-five per cent. should be ready. The slide is held with the left hand, slanting, and with a dropper the slide is flooded with the alcoholic eosin. In a few seconds it is seen that the eosin is washing off the thionin and the sections are changing from blue to reddish-violet. When they assume the latter color, they are immediately flooded with absolute alcohol by means of a dropper. The eosin is thus washed away quickly. This takes only a second or two. Then the slide is flooded with bergamot oil, which latter may be washed off with xylol. The slide is now mounted in xylol-balsam, or, better yet, in "xylol-thus." To stain the slide after it is once taken from the thionin bath requires only a few seconds to a minute. If prolonged, the thionin will be washed out too much and the differentiation will be less good. In holding the slide up to light it should have a reddish-violet tint. The tissue is now stained red. The cancriamœbæ are deeper red, with their nuclei dark blue, while the nuclei of the tissue cells are much lighter blue. The amœbæ being much darker stained show up with facility, and even their pseudopodic projections penetrating into the tissue cells are readily seen with a good oil immersion.

I may add that since publishing my first paper I have found the amœbæ in some thirty odd cancer tissues, or in every cancer tissue examined, and have studied and observed the development of the amœbæ from the spore, the latter occurring in large quantities in many tissues, especially in the lymph ducts.

Gustav Eisen, M.D.

432 Montgomery Street, San Francisco, Cal.,
April 10, 1901.

THE PROPER SOLUTION OF THE SPITTING NUISANCE.

To the Editor of the Medical Record.

Sir: Permit me to call the attention of many interested readers through the columns of your valuable journal to the decision rendered by Magistrate Healy, of Flushing, L. I., April 13, 1901. He held "that two men who had been arrested for expectorating on the floor of the Long Island railroad depot at Flushing were guilty of no violation of the sanitary code, because it was the duty of the railroad authorities to provide cuspidors." That is, in my opinion, as it should be. And in connection with this decision I beg to cite a passage from my remarks on the same subject printed in your columns December 25, 1897, where I said: "There was a crying need to spare the community from the spitting nuisance, but half measures are no measures. To enact ordinances without offering adequate means to carry them out is to educate citizens to violate the laws unwillingly. And the remedy is so simple"; by which I meant, providing depots, surface and elevated cars with properly adjusted receptacles for expectorated matter, and filling them with antiseptic fluids; these cuspidors should be replaced with fresh ones at the end of each trip.

I hope this decision will serve the purpose of a test case,

and as a reminder to other courts and to the New York board of health as well, that before they impose heavy or light fines upon citizens for violating the sanitary code in this particular, they should stop a moment and ask themselves whether or not any receptacles were on hand at those places to enable the so-called offenders to abide by the laws enacted. Do not fine them otherwise! It is illogical and unjust!

I heartily congratulate Magistrate Healy upon the wisdom manifested in his decision. HENRY LEVIEN, M.D.

LIBERTY, N. Y.

SPINAL COCAINIZATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To replace the longer term spinal cocainization, I would suggest naming the process "Corningization." To "Corningize the cord" would be a term both euphonic and appropriate. CHARLES W. ALLEN.

30 EAST THIRTY-THIRD STREET, NEW YORK.

PILL-SCRATCHING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Under this homely caption the writer would suggest to his fellow practitioners the importance of a simple precaution in the use of coated pills which he has for some time taught to his patients: "Scratch all coated pills, and make a pin-hole in the ends of all capsules." It is a process which takes little time and trouble; yet may make all the difference between success and failure in precarious conditions of illness. All pills and hard capsules are intended to be, and supposed to be, soluble; but we know that some are not quickly dissolved. They are either dissolved at an unknown rate of tardiness, or may even pass out by rectum (both pills and capsules) untouched by the digestive juices. The danger is, not that this occurs, but that we do not know when it will occur. If we knew, we could at that time confine our medication to bare drug-masses or liquids. As we do not know, it is wise to guard against possible non-solution of the pill at all times by breaking through its coating before it is given.

Coated pills may or may not be soluble in normal stomach juices. They may have been freshly bought by the druggist, yet have lain for years in the manufactory. There is certainly great difference in the hardness of even gelatin-coated pills of the same formula from the same first-class maker, as tested by the writer. Into some the knife-point sinks easily; others are difficult to cut. It is hardly necessary to state that sugar-coated pills vary as much or more in solubility. The writer has known of samples which had to be boiled before they would dissolve.

It may be urged that in the stomach and bowels the pills are subjected to various chemical solvents other than water. But here is one of the greatest causes of uncertainty! We do not have to deal in sickness with normal digestive juices. These juices may be so changed or so diluted that they have hardly any solvent power at all. Even the most easily digestible particles of food will in many conditions remain unchanged in the canal; even ready-made pills may in some cases lie for hours undissolved. In cases not so extreme as these, the intact coated pill may well go on its journey as artistically complete as when it began.

Since coated pills are convenient and will be used, it is wise, by scratching through their coating with a penknife or scissor-point, to make them as open to attack by the digestive juices as are fresh-made pills.

There is another possibility to which the writer refers with diffidence, through want of personal experience. There have been ulcerated appendices found with intact or partly dissolved coated pills in them. This is considered by some a coincidence or consequence, not a cause of the ulceration. Surely, however, if there is a lame or sore appendix, as in many cases of bowel debility, it is not desirable that undissolved pills which will exactly fit into the enfeebled pouch should be travelling in the vicinity of its mouth. A coincidence, in such a case, may bring a consequence, and a consequence might be a furthering cause of a condition in these days too sadly frequent.

Scratch your pills, doctor! Tell your patients that they must do it if they wish to get the best drug effects, and would even be wise to perforate their capsules. Your thoughtful patients will need to be told of it but once, and will feel that such carefulness for results betokens the sort of doctor that they want as their health guardian and champion in disease.

But don't tell them about the appendix!

A. K. BOND, M.D.

BALTIMORE, April 19, 1901.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 18, 1901.

ROBERT F. WEIR, M.D., PRESIDENT.

Dull and Deficient Children.—This was the topic for discussion, and it was in the charge of the section on pediatrics.

Introduction to the Psychological Study of Deficient Children.—DR. WILLIAM B. NOYES presented this opening paper. He spoke of the desirability of dividing children, for the purposes of education, according to their susceptibility to suggestion into the following classes, viz.: (1) Children of an automatic type—the average good school children; (2) sensitive children who responded most readily to appeals to their emotional nature; (3) children who were mentally bright and had a well-marked individuality, but who were best controlled by arousing in them a spirit of opposition; (4) a class characterized by obstinacy and rebelliousness to suggestion, *e.g.*, the undisciplined and insubordinate, and morally perverse and degenerate. To this classification some would add a fifth class, comprising children whose suggestibility was abnormal, as seen, for example, in those of a hysterical temperament. Another method of classifying mentally defective children was this: (1) Those in whom the faculty of perception was defective, *e.g.*, in the deaf, dumb, and blind; (2) those who lacked the power of attention, though possessing normal special senses; (3) those exhibiting a defect or a diseased state of the will; (4) those having deficient reasoning-power, and (5) morally defective children.

Etiology of Mental Deficiency.—DR. PEARCE BAILEY read a paper on this subject. He said that mental deficiency was conveniently divided into three forms, viz.: (1) That form occurring before birth; (2) that occurring at birth, and (3) that variety which developed in infancy. As feeble-minded women fell an easy prey to venereal disease and to the lust of men, and particularly as their progeny were almost always idiotic, the policy of the State to protect these women by keeping them in State custodial institutions seemed to be eminently wise and humane. As to the influence of alcoholism, his experience was that the offspring of alcoholics were apt to have disordered nervous systems, but among them idiocy was not especially common. Active syphilis in one or both parents was reflected in the offspring. He deplored the present almost total lack of any restrictions on the marriage of persons who were mentally and physically totally unfit for this social condition. During the first two or three weeks of life it was not possible to decide as to whether or not the mentality of an infant was normal, yet the necessity for discovering mental defects as early as possible was obvious if one would but recall the fact that the brain grew very rapidly in early life, weighing at the end of the second year three times what it did at birth. Convulsions undoubtedly arose in infancy as a result of a great variety of reflex irritations, and he was of the opinion that if they occurred sufficiently often the epileptic habit might be formed. This seemed to him to afford a reasonable explanation of the origin of many cases of so-called idiopathic epilepsy, particularly when there was a perfectly good family history.

Dulness due to Eye Defects.—DR. CHARLES STEDMAN BULL took up this topic. He said that defective vision was a very common cause of apparent mental dulness in young children. The hypermetropic child found difficulty in sustaining the accommodative effort necessary for near vision, and hence soon appeared to

be slow and stupid, but this apparent stupidity would quickly disappear on proper correction of the refractive error. Astigmatism was another common visual defect, but by far the most important refractive error, and one which was rapidly on the increase, was myopia. It had been found that the number of short-sighted pupils increased from the lowest to the highest grades in school, and in direct proportion to the number of hours of study. He would commend this curse of modern civilization to the earnest consideration and study of sanitarians. The mental evolution of these myopic children was instructive. They were apt to become introspective and perverted in their tastes; but if the error were corrected and also the bad habits of life resulting from this defect, a new world would be opened to the unfortunate, and he would quickly dispel any doubts as to his mental capability. Most of the insufficiencies of the ocular muscles were associated with refractive errors, and were often responsible for headache and eye-ache, vertigo and diplopia. Defects of vision also arose from the following congenital anomalies of the eyes: (1) Congenital cataract; (2) dislocation of the lens, (3) more or less marked absence of pigment in the uveal tract, notably in the iris; (4) coloboma or fissure of the iris or choroid, or of both; (5) entire absence of the iris. There were also cases of congenital word blindness and of congenital lack of visual memory. Such children could be decidedly improved by an early and persistent use of methodical instruction in reading.

Function of the Teacher in Discovering and Treating Mental Deficiency.—PROF. LIGHTNER WITMER, of the University of Pennsylvania, discussed this topic. He thought that the teacher was more favorably situated than the physician for detecting mental deficiency in children. He had never met with a case of chronic bad spelling in which he had not also found some visual defect. He believed that full one-tenth of the time and effort of teachers was taken up in the endeavor to teach those who were mentally backward. The remedy suggested was to divide the mentally deficient into two classes, the intellectually and the morally defective, each class having its specially trained teachers.

The City's Obligation to Provide Special Education for Defective Children.—SUPERINTENDENT C. E. MELENEY, of the board of education, discussed this question. He said that, according to the census of 1890, there were 97,000 feeble-minded or idiotic persons in the United States. There were nineteen State institutions for the feeble-minded, two in our own State. Marvellous results had been obtained in these institutions, and these alone constituted a cogent argument for providing adequate special instruction for defective children. There were at present enough such pupils to warrant the establishment of special classes for them in this city, but the greatest obstacle to such a change was the unwillingness of parents to admit that their children were backward or mentally deficient. He was in favor of establishing such special schools or classes, as a part of the public-school system, and placing in charge born teachers who had received special training for this work. There were five such public schools in the city of Providence. It was a great mistake, but one too often committed by parents, to neglect to educate these defective children when small, for the loss in these early years could hardly be made up afterward. The children should be kept as far as possible in a natural environment, and thus accustomed to the surroundings amid which they must spend their lives. For this reason he was opposed to placing such children in large institutions.

DR. LEROY M. YALE said that he made it a rule not to blame a school for a child's failure to progress satisfactorily until a careful examination had excluded defects of the special senses or had revealed decided mental impairment. He had been particularly impressed with the existence of distinct types of development in certain families. It was no uncommon thing for parents who had been slow and dull in childhood, but who had subsequently developed and had become bright and successful citizens, to expect that their children should be bright and quick at school, having apparently forgotten their own mode of development. He deprecated the tendency displayed by our department of education to spend money on high schools to the detriment of lower education, and if there was not enough money for both he certainly hoped it would be cut off from the top and put on at the bottom. The best education possible was none too good for mentally deficient children.

MR. MAXIMILIAN GROSZMAN thought that the family physician was not ordinarily in a position to detect at an early stage defects in mentality. Possibly something might be done in this direction by having competent school physicians. In his opinion, it was often most important to change the environment of the child at home, and this remark applied not only to tenement-house children, but to many reared in luxury and amid the hot-house culture and overstimulating surroundings so often found in the homes of the wealthy. In his experience many children were denounced as backward who did not at all deserve this appellation. Many were normal, but so slow that they could not keep pace with the forcing methods in vogue in our schools. About twenty per cent. of the school children had been found to be backward solely as a result of some defect of the special senses. He had been especially pleased with, and desired to emphasize, what Dr. Yale had said about children reproducing the childhood stage of their parents. Many of the so-called bright pupils were bright merely because they had a quick reaction time, and in the long race of life many of these would, like hot-house plants, never reach true maturity, while their slower classmates exhibited greater mental strength and endurance, and eventually became important members of society. The most unfortunate were not those whose mental defects any one could recognize, but those having minor mental abnormalities.

Heredity and Mental Deficiency.—DR. T. ALEXANDER MACNICHOLL said that he had been conducting an investigation into the relation of heredity and mental deficiency. Of 10,000 children, 8.8 per cent. had exhibited mental deficiency in varying degree. In 40 it was reported to be due to environment. He had been able to trace 463 children in 150 different families through three generations. Of this number, 17 were precocious in some one thing and 403 were generally deficient. There were 17 children with neurotic fathers, 78 with neurotic mothers, 265 whose grandparents had been intemperate, and 246 whose parents and grandparents had both been intemperate. Two per cent. of these children were of less than the average of intelligence. In a study of 51 strictly temperate families, having 231 children, it had been found that 3 per cent. were mentally dull.

DR. HERMANN KNAPP said that nearsighted children were not usually stupid, nor were children who had been born blind, though they had no visual memory. The optic and acoustic memorizing centres were separate and distinct.

SUPERINTENDENT GODWIN, of the board of education, objected to the proposition to establish special or ungraded classes for those mentally deficient, for it was human nature, he said, for teachers to force out of the regular classes and into these special ones all pupils whom they did not desire to keep, whether they were mentally defective or not.

SECTION ON SURGERY.

Stated Meeting, April 8, 1901.

JOHN B. WALKER, M.D., CHAIRMAN.

Cancer of the Rectum Operated upon Eight Years Ago.—DR. JOHN F. ERDMANN presented a woman from whom he had removed an epithelioma of the rectum eight years ago. At the time of the operation in August, 1893, the patient was forty-three years of age, and there was a rather short history of rectal trouble, which had been diagnosticated as hemorrhoids. The glands had not been involved. He had cut out all but one-third of the sphincter and two inches of the rectum. There had been a marked return of the growth within three months. He had then done a vaginal amputation of the rectum. Since that operation the patient had been absolutely free from any return of the disease. At no time had there been any eversion or prolapse of the mucous membrane, and except when the movements were loose there was perfect control of the bowel.

Cancer of the Penis: Removal of Glands by Lennander's Method.—DR. VICTOR C. PEDERSEN presented a man, fifty-eight years of age, who had been operated upon by Dr. Weir at the New York Hospital fifteen months ago. In June, 1899, a small, flat sore had been noticed for the first time on the right side of the glans penis. It was very tender and would not remain healed. In September, 1899, a similar sore was found adjoining the first. He had lost fully ten pounds during this time. The growth proved to be a classical epithelioma without involvement of the glands. This clinical diagnosis had been confirmed by microscopical examination. The penis was amputated close to the body on December 9th. The iliac vessels on one side were exposed by an extension of the incision and the glands removed in this region and within the pelvis. The same operation had been done on the other side a short time afterward, and affected glands and suspicious fat and other tissue removed. In each instance the radical operation for the cure of hernia had been done. The man had been discharged from the hospital on January 28, 1901. He had gained fully twenty-five pounds in weight, could urinate without dribbling, and could copulate with fair satisfaction.

Cancer of the Rectum.—DR. JAMES P. TUTTLE read a paper on this subject, but before doing so presented several patients and demonstrated a new method of examination. The object of this method was to secure the benefit of pneumatic inflation without placing the patient in the uncomfortable knee-chest posture. The first patient presented was one who had had malignant disease of the sigmoid and upper portion of the rectum. The second case was one in which a carcinoma extending over five inches up the rectum had been removed nearly seven years ago. After the introduction of the rectal tube or speculum and a minute electric light for direct illumination, inflation was secured by a double bulb attachment to the speculum. The patient was placed in the Sims position for the examination. Another patient had had a true epithelioma of the rectum removed one year ago. The paper comprised a report of fourteen cases of carcinoma of the rectum and sigmoid that had come under his observation in the last fourteen months. There were nine sacral operations, one resection of the sigmoid flexure, and four colotomies. Of the nine sacral operations, preliminary colotomies had been made in three cases. One patient had died from shock, and one from gangrene of the sigmoid flexure. One of these cases was not a carcinoma but a melano-sarcoma. In one of the seven remaining cases there had been recurrence in seven months, and death in eleven months. So far as known, the other patients were living and well. The majority of them had lived over one year without recurrence. Two of the patients were under twenty-five years of age, the ages varying from twenty-two to sixty-six years. In one of the fatal cases death had resulted from gangrene of twelve inches of the sigmoid. This portion of the bowel had been brought down and sutured, and the post-mortem examination showed that the gangrene had resulted from an accidental division of the superior hemorrhoidal artery and the consequent loss of vitality. The speaker said that he had collected about fifteen hundred cases of carcinoma of the rectum, and the mortality had been nearly twenty per cent. almost immediately after operation. Regarding the colotomies, he said that all of the patients had died within a few months. When a patient improved very much after an artificial anus had been established, it was indicative to some degree that the carcinoma had not become general and that an operation for its removal was likely to prove successful if the patient were in a condition to stand the immediate shock of the operation.

DR. JOHN F. ERDMANN said that the majority of cases coming under his observation had been such as to require colostomy, and the results had been about as described in the paper. He had had a case of carcinoma in a person of nineteen years, and one occurring in a youth of seventeen in which the diagnosis had lain between carcinoma and sarcoma.

DR. FRED KAMMERER said that he thought it was well known that carcinoma was observed in very young people. He had personally seen four cases under twenty years of age, two in men and two in women. He had operated upon quite a number of patients in the twenties. His experience with preliminary colotomy had impressed him very favorably even in persons who might be operated upon without it. This procedure so greatly simplified the operation that, unpleasant as it was, it seemed to him good practice to do it. In two cases he had simply amputated without closing the stump. One of these he had followed, and the stump had closed perfectly and had given no trouble. He had called attention to the desirability of amputating high up, and before drawing the gut down to make sure that there was a sufficient blood supply to prevent gangrene. It seemed to him that one of the essential conditions for the successful use of the Murphy button was the coaptation of two peritoneal surfaces, yet he had understood Dr. Tuttle to say that he had brought together by means of this button a portion of bowel covered with peritoneum and another portion deprived of its peritoneal coat. He preferred suture of the intestine to the use of the Murphy button when the two peritoneal surfaces could not be brought together; indeed, he was not quite sure that Murphy had not insisted upon the necessity for having two peritoneal surfaces.

DR. GEORGE M. EDEBOHLS said that at one time he had done a few Kraske operations in women for cancer of the rectum, but had not been pleased with the ultimate results. Recently he had operated upon a carcinoma of the rectum occurring in a woman who was pregnant. The carcinoma was situated quite high up, and he had operated by removing the pregnant uterus and resecting seven inches of the bowel from above. After having cleared out the fatty tissue and glands in the hollow of the sacrum he had made an end-to-end anastomosis. The patient had made a good recovery. He was inclined to think that this method was greatly superior to the Kraske method in women, particularly because of the ease with which the fat and glands could be removed from the hollow of the sacrum.

DR. TUTTLE said he agreed with Dr. Kammerer regarding the essentials for good union with the Murphy button, but there were circumstances under which the

Murphy button was urgently needed if only to secure weak union. He never relied upon the button only, employing sutures in addition. In spite of this, every one of these cases had presented a fistula. When the carcinoma was low down, the dissection was made down to the mucous membrane of the anus, the gut invaginated, and held in this position so that the discharges would find their way externally instead of infecting the wound. One great advantage of the preliminary colotomy was that one could be sure that the bowel above had been thoroughly emptied. He did not employ the Kraske operation in any cases in which the carcinoma extended above the promontory of the sacrum. He had been afraid to undertake the abdominal operations for carcinoma of the rectum and sigmoid because statistics showed that they were attended by a mortality of about fifty per cent.

Pocket Sterilizer and Instrument Case.—Dr. W. P. Herrick presented this device. The outer case was the tray in which the instruments were placed. It was made of a size which would take standard instruments. If preferred, the instruments could be sterilized at home, wrapped up in gauze, and then transported in the metal case. The sterilizer could be placed on the market and sold at a cost not exceeding five dollars.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 13, 1901.

James Ewing, M.D., Vice-President, in the Chair.

Aneurisms of the Aorta.—Dr. O. H. Schultze presented these specimens. The first was a fusiform aneurism of the first portion of the arch of the aorta, with rupture on the right side adjacent to the right auricle and the superior vena cava. The specimen had been taken from a woman fifty years of age. There was an enormous hæmopericardium with resulting compression of the heart and death. The second specimen was a sacculated aneurism proceeding from the posterior aspect of the first portion of the arch of the aorta, and showing a marked transverse opening. It was possible that trauma might have been the cause. In both cases there had been no positive evidence of syphilis. The first case showed marked arteriosclerosis of the abdominal aorta and a beginning aneurism at the cœliac axis. There was also a chronic interstitial nephritis. In the second case there had been only a general passive hyperæmia of all the organs. The patient was a man aged thirty-five years. This aneurism had ruptured adjacent to the right auricle and superior vena cava. In that case also the immediate cause of death had been the pressure exerted by the blood which had accumulated in the pericardium. In both cases death had occurred suddenly and no clinical history had been obtainable. The speaker thought that the old notion about arteriosclerosis being the all-sufficient cause of aneurism had been exploded.

Dr. L. T. Le Wald referred to a case of aneurism that had ruptured while the patient was engaged in the act of defecation. The rupture had occurred in the last portion of the thoracic aorta and in close relation to the diaphragm. In that case there had been a distinct arteriosclerosis and a history of syphilis.

Dr. Harlow Brooks said that he had presented three years ago three cases of small sacculated aneurisms of the ascending arch very similar to the second case presented by Dr. Schultze. In these he had studied carefully the histology of the aneurismal sac and of the walls of the aorta. The arteriosclerosis of the general arteries in these cases had not been great, but had been of a patchy character, and the bases of the aneurisms had been chiefly involved. In those cases the arteriosclerosis had apparently been the cause of the aneurism. All of the subjects in this series were young.

Dr. Schultze said that the statement that one of the aneurisms was probably of traumatic origin had been based on the fact that the longer diameter of the opening, which was oval, was almost strictly in the transverse axis of the aorta. By the term "trauma" it was not meant that any direct force had been exerted from without, but rather that work involving considerate physical exertion might have subjected the arch of the aorta to pretty severe pressure. If a tear occurred under these circumstances it was more apt to be in the transverse diameter. Although much arteriosclerosis was frequently seen with aneurisms, it was also true that a very excessive degree of arteriosclerosis was often observed without the occurrence of aneurism. Dr. I. Adler had recently raised the question as to the rôle played by the yellow elastic fibre in the aorta in connection with the formation of aneurisms. It was known that vesicular emphysema was hereditary, apparently as a result of the quality or congenital weakness of the yellow elastic fibre, and it seemed not improbable that a similar relation might exist between this fibre and the development of aneurisms.

A Case of Primary Carcinoma of the Liver.—Dr. A. E. Thayer presented a specimen of carcinoma of the liver taken from a woman about forty-five years of age. She had entered a hospital about two weeks before death, complaining of some abdominal distress, and examination had shown marked ascites. She had been tapped and about fourteen quarts of blood-stained serum removed. Through the puncture there had been discharged considerable fluid—a quantity estimated to be as much as that removed by the tapping—but this latter fluid had not been blood-stained. The woman was obese and not particularly anæmic. There was slight jaundice of the conjunctiva and in patches over the abdomen. On autopsy, about 1,500 c.c. of clear serum had been found in the peritoneal cavity. There was a broad band of small varicose veins along the reflection of visceral to the parietal peritoneum. The liver was not especially enlarged. In the right lobe was a well-marked cirrhosis and comparatively little involvement by the tumor. The left lobe was for the most part replaced by nodules of neoplasm. The round ligament was enormously increased by fat and connective tissue, and on each side were prominent varicosities. With the exception of its shrunken condition the stomach was normal. There was no neoplasm in the duodenum. Microscopical sections of the pancreas had shown no distinct evidence of carcinoma. A careful search showed that the stomach, liver, pancreas, intestine, and the adrenals were not affected by the neoplasm, and he felt that this tumor was primary. The larger masses were of a mottled red color, and on being scraped yielded very little cancer juice. On section through the liver, a large mass was found near the hilus. It was generally yellow in color, but contained a thrombosed portal vein. Another such mass was also found in the hepatic vein. The speaker thought there had been first a cirrhosis of the hæmatogenous variety, and that from the newly proliferated bile ducts the neoplasm had formed, and had through the portal vein given rise to the very rapid metastasis. Sections were exhibited under the microscope.

Dr. Schultze said that the invasion of the portal vein was a very interesting feature, and probably explained the rapid extension of the growth, particularly into the left lobe. The question might arise as to whether the growth had started directly in the hilus or had originated in the pancreas or somewhere else in the vicinity. There might certainly be a transition between the ordinary proliferation of the bile ducts in cirrhosis of the liver and primary adenocarcinoma.

Dr. James Ewing said that well-authenticated cases of primary carcinoma of the liver were so few that it seemed wise to take extraordinary precautions to make sure of this diagnosis before it was placed on record. This specimen showed a totally different arrangement from the usual form of hepatic carcinoma. It might belong to the cells of the gall duct or the pancreas, probably the latter, and after a close study of the tumor he did not feel that the question had been fully decided. A very exhaustive examination of the pancreas would be required.

Blood Slides from a Case of Lymphatic Leukæmia.—Dr. T. C. Janeway said that this case was interesting as showing that a sharp line could not be drawn between acute and chronic lymphatic leukæmia. The subject of this report was a boy of six years. The trouble had begun three months previously with a swelling over the masseter muscle, and one month later the glands of the neck had become enlarged. The boy had then developed a marked pallor. Other glands became palpable, but no mediastinal glands were thought to be enlarged. There had been no hemorrhages, and there was no leukæmic retinitis. The blood examination showed 40 per cent. of hæmoglobin with a full number of cells. There were 219,000 white cells, of which 98 per cent. were lymphocytes, and of the latter nearly 87 were large. The red cells were moderately pale. The result of this examination pointed to a typical acute leukæmia, yet the boy presented clinically a moderately progressive leukæmia. Cases of this kind compared with cases of chronic leukæmia of long duration seemed to show that it was impossible to classify acute lymphatic leukæmia as a separate disease. Specimens were presented under the microscope.

Dr. Ewing said that even Fraenkel's own countrymen had not accepted his claims regarding the significance of large lymphocytes in leukæmia. Fraenkel had stated that acute leukæmia was always lymphatic, and when acute was always characterized by the presence of large lymphocytes. Rosenfeld had recently claimed that when lymphatic leukæmia affected the lymph nodes and the spleen, and other lymphatic structures excepting the marrow, it was chronic in course and was marked by the presence of an excess of small lymphocytes; and that when it attacked the marrow exclusively or chiefly its course was acute, and was marked by severe anæmia and an excess of large lymphocytes.

Dr. T. C. Janeway said that he had seen a few years ago a case of lymphatic leukæmia which had run eighteen months with enormous enlargement of the superficial glands, and yet the blood examination had shown a goodly proportion of large lymphocytes. He had seen eight cases of lymphatic leukæmia in the last few years, and they had presented every possible variety of blood picture.

Dr. H. J. Boldt presented several specimens.

Tuberculosis of the Kidney, Ureter, and Bladder.—The first specimen showed tuberculosis of the kidney, ureter, and bladder. The tuberculosis had been diagnosed prior to death during the examination for the pelvic ailment of which the patient complained. Suspicion had been aroused by the vesical symptoms and the thickening of the right ureter detected by bimanual palpation. It had been thought best first to operate for the pelvic disease, a suppurating ovary, and later to attack the renal and ureteral disease. Unfortunately the slipping of the ligature a few hours after the operation caused a fatal intraperitoneal hemorrhage. The interesting feature was the possibility in some instances of attention being directed to serious ureteral disease by a bimanual examination.

Carcinoma of the Cervix Uteri; Removal by the Cautery.—This case was reported to show the advantages of removal of the carcinomatous uterus with the aid of the galvano-cautery. The disease had begun in the cervix and unfortunately had advanced to such an extent that the result of radical operation seemed hopeless. From the observation of other patients operated upon by him with the galvano-cautery, and the results achieved by Byrne, of Brooklyn, Mackenrodt, of Berlin, and others, he had been induced to attempt it in the present case. The operation had been done only yesterday. The advantage of extirpation with the heated knife was that the destruction of epithelial elements extended some distance beyond the line of cutting, but there was a disadvantage from the same source, *i.e.*, secondary breaking down from a burn or slough of other structures. This had happened to him in one instance. In that instance the ureters had given way several days after operation, yet in spite of this accident the patient had remained free from recurrence for four years and was still well and enjoying good health. The ureteral lesions had been subsequently attended to by a colleague. The time consumed and the tediousness of this method of operation should not cause any hesitation in its adoption if it should be shown that the ultimate result was greater freedom from recurrence.

Chronic Metritis and Suppurative Salpingitis and Ovaritis; Vaginal Ablation of Pelvic Organs.—The uterus, tubes, and ovaries from this case were exhibited. The patient, a woman aged thirty-six years, had been infected with gonorrhœa about two months after the puerperium, and had had numerous attacks of pelvic peritonitis. She suffered almost constant pain in the abdomen, and menstruated at intervals of two or three weeks. He had operated in October, 1900, and since the beginning of the present year she had been perfectly well.

Gonorrhœal Salpingitis; Removal of Uterus, Tubes, and Ovaries by Vaginal Hystero-Salpingo-Oöphorectomy.—The patient, a multipara of thirty years, had been infected with gonorrhœa soon after marriage. He had attended her in five attacks of intense pelvic peritonitis, and she had had several others. She had been practically well since the performance of the radical operation last November. At the operation it had been necessary, because of the extensive adhesions involving the adnexa, to bisect the uterus before its removal. The specimens presented showed the lesions in a characteristic manner.

The Bacteriology of Lobular Pneumonia.—Dr. George Blumer, of Albany, read this paper. He said that in looking over a series of 350 autopsy records, most of them in connection with institutions having an acute service, he had been impressed with the large proportion of cases of lobular pneumonia. In the 350 autopsies bronchopneumonia was present in 114 cases, or 32.5 per cent. In this group were but 15 cases of acute lobar pneumonia, or 4.2 per cent. A table covering 168 cases of lobular pneumonia in the adult was quoted from. There were 131 simple infections, or 78 per cent., and 37 of mixed infection, or 22 per cent. The pneumococcus of Fraenkel had been found in 39 per cent., streptococci in 16 per cent., staphylococci in 10 per cent., the bacillus of Friedländer in 9.5 per cent., and the colon bacillus in 7.7 per cent. In his own cases the cultures had been taken from the lung at autopsy by burning the area with a red-hot knife. The cultures had been made on agar or blood-serum slants, and the organisms studied in various culture media. The diagnosis of lobular pneumonia had been confirmed in every case by microscopical examination. Of the cases of lobular pneumonia, 53 had been in adults, and 20 had been mixed infections. Of a series of 77 cases in children, there had been 57 single and 43 mixed infections. Pneumococci had been found in 61 per cent., streptococci in 33 per cent., staphylococci

in 32 per cent., the Friedländer bacillus in 14 per cent., and the colon bacillus in 26 per cent. In his own cases the pneumococcus had been a rather rare organism, as had also been the Friedländer bacillus, whereas the pyocyaneus and the proteus vulgaris had been relatively common. The colon bacillus had been present in a rather large percentage of cases. The author ventured the suggestion that there might be a geographical distribution of bacteria. The great infrequency of true lobar pneumonia would suggest that perhaps pneumococcus infections were uncommon in Albany. The death rate from pneumonia in certain months was found to be three times higher in New York City than in Albany. Practitioners of the latter city stated that it was relatively uncommon to see a frank case of typical lobar pneumonia. The frequency of the colon bacillus was probably explicable on the ground of post-mortem invasion. It was probable that, in some cases in which the colon bacillus only was found, it had displaced the pneumococcus. The majority of the writers on the bacteriology of normal lungs inclined to the belief that during life they were sterile, but some believed that bacteria were commonly present in the normal lung. Of 20 lungs examined by him which were acutely congested, 6 were sterile. Of the others, aureus was present in 3, albus in 1, Friedländer's bacillus in 1, and there were one or two mixed infections. In all but 6 of the 18 cases there was a general infection as well as a pulmonary infection. Of 6 cases of chronic passive congestion examined, all were sterile—a rather interesting circumstance, taken in connection with the well-known fact that such lungs resisted tuberculous infection well. In the 4 cases of pulmonary œdema examined, all contained bacteria. Of 17 lungs which were both congested and œdematous, only 2 were sterile. Of the 15 cases in which bacteria were present, only 6 were cases of pulmonary without general infection. Four normal lungs were examined, and all contained bacteria. In all of the cases in which the colon bacillus was found there had been a general invasion. In some of the cases described, definite foci of infection were present in other parts of the body than the lungs. Many of the cases of lobular pneumonia were associated with general infection. Pearce had stated that when both general and local infection existed, the same organism was found in both, and this had been in general the experience of Dr. Blumer. In the mixed infections in which there was both general and local infection, both organisms were sometimes generally distributed, but in some instances only one of the organisms was generally distributed. From a histological standpoint the exudate of lobular pneumonia could not be differentiated from true lobar pneumonia in a great many cases. Eight cases of bronchopneumonia in adults complicating typhoid fever had been studied. The streptococcus had been present in 2, the colon bacillus in 4, the pyocyaneus in 1. The relation of bronchopneumonia to chronic nephritis was studied in 10 cases, the colon bacillus being found in 6 and the streptococcus in 2. A general infection was found in 7. In 6 cases of lobular pneumonia with arteriosclerosis the colon bacillus was found 4 times, the streptococcus and proteus each once. The cases studied seemed to show that in merely congested and œdematous lungs, as with bronchopneumonia, a general infection was frequently present. The lungs were probably much more frequently the portal of infection in general infections than was commonly supposed, and often without marked pulmonary lesions.

Dr. A. J. Lartigau said that he had been particularly interested in the geographical distribution of micro-organisms to which allusion had been made in the paper. Having worked in both Albany and New York City, he had had an opportunity to judge of this matter. The pyocyaneus infections were certainly very common in Albany, while very uncommon in New York City. He had found bronchopneumonia very common in autopsy work in Albany, whereas in New York City lobar pneumonia was the rule. The majority of investigators had found the pneumococcus with far greater frequency than had Dr. Blumer. If more complete bacteriological methods had been practicable, it was quite probable that more pneumococcus infections would have been discovered. A great variety of culture media had been found requisite in such investigations. He personally believed that the pneumococcus would be found with increasing frequency as the technique was perfected. He had been recently investigating the question of the presence of micro-organisms in the normal lungs of rabbits. These lungs had been found sterile, as a rule, though he had occasionally found pneumococci and the colon bacillus.

Dr. Martha Wollstein said that she had been especially interested in the bacteriology of pneumonia in infants. At one time she had examined bacteriologically one hundred bronchopneumonias of infants. They had been divided into primary and secondary cases. The primary had shown the pneumococcus present in more than seventy-five per cent.; the secondary cases in a very much smaller percentage. The pyocyaneus had been found three times in the secondary cases. It had been found better to avoid the use of hot knives (or to burn the surface of the organs), but to sterilize the knives in metal boxes, and to use them at the autopsy perfectly cool. It was extremely rare to find a perfectly healthy lung in an infant at autopsy, but in a few instances such lungs had been met with, and had been found sterile.

Dr. C. H. Norris said that he had found it very difficult in many instances to differentiate between streptococci and pneumococci, and this had led to much confusion. Much stress had been laid upon the different characteristics afforded by the growth in broth.

Dr. Ewing commented upon the use of the terms lobular and bronchopneumonia as synonymous, and called attention to the fact that some pathologists believed that a distinction should be made between them. His impression was that Dr. Blumer had included both simple exudative lobular pneumonias and the other type of circumscribed pneumonias. He had been struck with the conclusion of the author that the lungs often served as a port of entry for germs in terminal septicæmias.

Dr. Blumer said that many writers on this subject had made use of only one culture medium. He had been interested in the point made by Dr. Wollstein regarding the possible destruction of some of the pneumococci by the use of hot knives. His paper included both lobular and bronchopneumonia, though he believed with Dr. Ewing that there was a distinction between these two forms. He had used these terms interchangeably because most of the cases hitherto reported had included both varieties.

A vote of thanks was then tendered Dr. Blumer for his instructive communication.

Blennorrhagic Arthritis with fluid about the joint is best treated by rest in bed, compression by means of flannel bands, derivatives such as tincture of iodine, and vesicants. When the fluid is abundant and does not diminish under compression, a puncture should be made with the trocar and 8 c.c. of a solution of phenic acid (five per cent.) injected. When the hip joint is affected continual extension with a weight gives good results.—Hurtado.

MANHATTAN DERMATOLOGICAL SOCIETY.

Stated Meeting, April 5, 1901.

WILLIAM S. GOTTHEIL, M.D., CHAIRMAN.

Pityriasis Rosea.—DR. J. SOBEL presented two cases of pityriasis maculata et circinata in children aged eight and twelve years respectively. The latter bore some resemblance to seborrhœal eczema. The face was involved in both, a not uncommon occurrence. Areas of this disease when painted with Lugol's solution appeared of a deep mahogany or dark-brown color (Allen's test). This condition was often diagnosticated as syphilis.

DR. LUDWIG WEISS stated that if one scratched an erythematous patch it became scaly. This sign he considered almost pathognomonic. Differentiation must be made from seborrhœal eczema and psoriasis. He preferred the name pityriasis maculosus tonsurans.

DR. GOTTHEIL considered both classical cases. Rosea was a name which meant very little.

DR. BLEIMAN remarked that some early cases of psoriasis guttata were difficult to differentiate.

Phototherapeutic Apparatus.—DR. GOTTHEIL presented an elaborate apparatus for the Finsen treatment of various dermatological affections.

Lupus Vulgaris.—DR. GEYSER exhibited a patient with an extensive lupus vulgaris of the face, which had been successfully treated with the *x*-ray. The right side at present showed a large, smooth, shining cicatrix and a few linear masses: the left side showed a superficial burn and a mild degree of alopecia due to the rays. Each séance lasted from seven to ten minutes and was followed by a static spray for the relief of pain. This method was superior to Finsen's because exposure was shorter and the penetrating power was greater.

Chancre of the Labium in a Girl of Fourteen.—DR. MARTUS presented this patient, who had a generalized papulo-squamous-pustular syphiloderm. Sexual contact was admitted. Adenopathy, iritis, and mucous patches were present. The case had been diagnosticated as seborrhœal eczema by a general practitioner.

Multiple Molluscum Fibrosum.—DR. LUDWIG WEISS presented a woman with multiple mollusca showing the development of the disease. Many lesions were more apparent to the touch than to the sight; some were sessile, some pedunculated, and others were soft.

DR. GOTTHEIL said that such cases were rare. The softness in some led him to think of an angiomatous element.

DR. OCHS stated that such cases responded at times to Asiatic pills.

Nævus Unius Lateris.—DR. GOTTHEIL presented this case for opinions as to diagnosis. In a boy aged ten years there was a congenital growth under the right arm pit, which consisted of tuberous excrescences, very dark in color in most places, pinkish in others. There were a few isolated patches to the outside and on the inner side of the forearm a row of similar though lighter lesions.

DR. L. WEISS considered the condition a very rare one—acanthosis nigricans. The region of the axilla was characteristic.

DR. J. SOBEL said that this case was similar to those described by Dr. Prince Morrow of this city under the title of linear nævus. He would call this particular case nævus linearis verrucosus. The lesions on the inner side of the forearm scattered along the course of the cutaneous nerves corroborated the diagnosis.

DR. GOTTHEIL said the growth did not correspond to acanthosis nigricans. He would call it nævus unius lateris or nævus papillomatosus. The growth would shortly be removed by Dr. A. E. Isaacs, of Beth Israel Hospital.

Sarcoma Cutis.—DR. GOTTHEIL presented one positive and one probable case. The former was corroborated by microscopical examination. The second was either disseminated sarcoma or syphilis.

DR. LUDWIG WEISS stated that the diagnosis in the second case rested between sarcoma and lymphangioma tuberosa multiplex.

Chrysarobin Dermatitis.—DR. SOBEL presented this patient. The condition followed the use of a five-per-cent. ointment for psoriasis. He preferred traumaticin or collodion as a vehicle for this drug.

Gumma of the Sterno-Cleido-Mastoid and Clavicle.—DR. GOTTHEIL presented this patient.

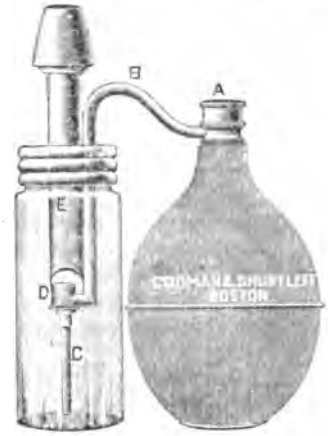
DR. SOBEL said there were two distinct masses. The region of the sterno-clavicular articulation was more or less characteristic for gummatous deposits.

New Instruments.

AN EASY-WORKING, NON-SPILLING ATOMIZER.

BY EMMET L. SMITH, M.D.,
CHICAGO, ILL.

THE instrument herewith illustrated has been devised in order that the patient may have an atomizer that can be depended upon for instant use at any time—strong in construction, simple in mechanism so as not to get out of order. These points are necessary when an instrument of this kind is used by all classes of people. If it is out of order when they are expected to use it, they omit its use. If it is knocked over in its usual place, they pick it up and expect it to work without delay; and if it does not work, their exclamations generally include the doctor who ordered it as well as the atomizer.



The bottle is of heavy glass, and the metal parts are made strong enough to hold their shape.

The air is forced through the heavy tube *B* into an air chamber *D*, which surrounds the small point of the supply tube *C*. If this opening around the point of the supply tube is large enough (as in the case when hydrocarbon oil is used), the instrument will atomize very easily; the compression of one finger on the bulb will produce a spray. The fluid is drawn up and atomized at the point *D* and carried through the tube *E* into the nasal cavities. As the point of atomization is at *D*, it is easily seen that it cannot do any injury to the mucous membrane. This is quite in contrast to the instruments that have the atomizing-point placed within the nasal cavities.

Another important feature is that, when the atomizer is ready for use, the only way the solution can get out is through the tube *E*, and therefore the bottle can be one-third full and can be held in any position without spilling.

This atomizer is compact, and can be carried in the pocket or satchel, laid under the pillow at night without danger of spilling, and is always ready for instant use.

Thanks are due Messrs. Codman & Shurtleff, of Boston, for their painstaking care in the construction.

Surgical Suggestions.

Retroplacental Hæmatoma is much smaller when the hand is kept on the uterus. Little anxiety should be entertained about leaving portions of the membranes behind.—HEARD.

Appendicitis.—The same judgment which we exercise in ordinary business affairs, if applied to a diseased appendix, would suggest its removal at the earliest moment compatible with proper preparation.—J. L. WIGGINS, *St. Louis Medical Review*, January 19th.

Prostatic Hypertrophy.—Total resection of the spermatic cords produces less traumatism and danger to the kidneys than castration and vasectomy. We avoid the psychic disturbance incident to removal of the testes and the latter shrink so gradually that there is little complaint.—G. FRANK LYDSTON.

Cancer of Uterus.—I regret that some surgeons still cling to amputation of the cervix for cancer of that portion of the uterus. It is not so encouraging or reasonable as attempts at making an ocean from separate rain drops. It has done much toward generating opposition to surgical treatment of this disease.—W. BOVÉE.

A Truly Great Surgeon should perform all his work in a really artistic manner; a little experience will soon convince you that the cleanness with which an incision is made, and the accuracy with which the margins are subsequently coapted, has an influence on the rapidity of union and on the final result.—PARSONS.

If the Gall Bladder is so seriously diseased as to warrant a surgical operation for its relief, it is better practice to remove it *in toto* than to leave it as a place for the further accumulation of gall stones, or as a point for the setting up of new inflammations.—C. CUSHING.

Gonorrhœal Peritonitis.—There is reason to believe that gonorrhœal infection of the peritoneum does not always go on to suppuration. Sealed tubes and damaged ovaries may produce sterility. There is marked tendency to recurrence. The second attack is likely to be more severe. The gonococcus lies dormant and then breaks out with renewed activity.—F. W. EDEN, *Clinical Journal*, February 13th.

Brain Tumor.—While a comparatively small growth may produce the classical group of symptoms which enable us to locate accurately and remove successfully, yet a surprisingly large growth may develop also in the motor cortex with a group of manifestations so foreign to what we would expect as to mislead even the wary and painstaking examiner.—A. W. DUNNING, *Northwestern Lancet*, January 15th.

In Plague Buboes, blister the skin with liquor epispasticus, and as soon as the blister has risen, poultice with linseed meal every four hours to promote suppuration. Buboes make their appearance, as a rule, on the second or third day of the attack, but may appear even before the temperature rises. They vary greatly in size and position. Sinuses sometimes form, in spite of all precautions. These should also be opened freely. No case of ulceration or sloughing of any large vessel has come to my notice in connection with plague buboes, although large arteries have been frequently exposed; but great œdema of the surrounding tissues has necessitated incisions in the neck and the scrotum, to prevent gangrene and injurious pressure effects.—R. W. H. JACKSON.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 20, 1901:

	Cases.	Deaths.
Tuberculosis	248	185
Typhoid fever	22	13
Scarlet fever	729	37
Measles	280	10
Diphtheria and croup	272	45
Smallpox	38	10
Varicella	43	0
Cerebro-spinal meningitis	0	4

Peroxide of Hydrogen merits an important place in therapeutics, as it is non-toxic, inodorous, a powerful deodorizer, a valuable antiseptic, and a hæmostatic of the first order.—MARCEL RIFAUX.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended April 20, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
California, San Francisco	March 30th to April 13th	5	
District of Columbia, Washington	April 6th to 13th	1	
Florida, Jacksonville	April 6th to 13th	14	
Illinois, Chicago	April 6th to 13th	10	
Iowa, Clinton	April 6th to 13th	1	
Kentucky, Lexington	April 6th to 13th	7	
Louisville	April 5th	1	
Louisiana, New Orleans	April 6th to 13th	12	2
Maryland, Baltimore	April 6th to 13th	1	
Massachusetts, Fitchburg	April 6th to 13th	1	1
Michigan,* Detroit	April 6th to 13th	3	
Minnesota, Minneapolis	April 6th to 13th	8	
Winona	April 6th to 13th	1	
Nebraska, Omaha	March 30th to April 13th	18	
N. Hampshire, Manchester	April 6th to 13th	3	
New Jersey, Jersey City	March 31st to April 7th	7	
Newark	April 6th to 13th	..	1
New York, New York	April 6th to 13th	44	11
Ohio, Cincinnati	April 5th to 12th	1	
Youngstown	April 6th to 13th	1	
Pennsylvania, Lebanon	April 6th to 13th	1	
Pittsburg	April 6th to 13th	4	1
Steelton	April 6th to 13th	4	
South Carolina, Charleston	April 8th	1	
Tennessee, Memphis	April 6th to 13th	5	
Nashville	April 6th to 13th	16	
Utah, Salt Lake City	April 6th to 13th	25	
West Virginia, Huntington	March 23d to April 13th	62	
Wheeling	April 6th to 13th	1	
Wisconsin, Milwaukee	April 6th to 13th	1	
* Smallpox present at 104 places.			
SMALLPOX—FOREIGN AND INSULAR.			
Belgium, Antwerp	March 23d to 30th	6	3
Brazil, Rio de Janeiro	March 1st to 15th	..	13
China, Hong-Kong	March 2d to 9th	2	1
France, Paris	March 25d to 30th	..	12
Gibraltar	March 23d to 30th	1	
Great Britain, Scotland, Dundee	March 23d to 30th	1	
Glasgow	March 29th to April 5th	..	10
India, Bombay	March 12th to 19th	..	10
Calcutta	March 8th to 16th	..	151
Karachi	March 10th to 17th	14	5
Madras	March 9th to 15th	..	11
Italy, Mesaina	March 23d to 30th	1	
Naples	March 23d to 30th	Present.	
Mexico, Mexico	March 23d to 31st	..	1
Vera Cruz	April 6th to 13th	..	1
Russia, Moscow	March 16th to 23d	8	
Odessa	March 23d to 30th	5	1
St. Petersburg	March 16th to 30th	30	4
Warsaw	March 16th to 23d	..	7
Porto Rico, Ponce	March 30th to April 1st	4	
YELLOW FEVER.			
Brazil, Rio de Janeiro	March 1st to 15th	36	28
Colombia, Panama	April 1st to 8th	7	1
Costa Rica, Port Limon	April 5th	1	
CHOLERA.			
India, Bombay	March 12th to 19th	..	3
Calcutta	March 2d to 16th	..	43
Madras	March 8th to 16th	..	3
PLAGUE—UNITED STATES.			
California, San Francisco	April 6th to 13th	2	2
PLAGUE—FOREIGN.			
Africa, Cape Town	To March 9th	100	87
Brazil, Rio de Janeiro	March 1st to 15th	..	1
China, Hong-Kong	March 2d to 9th	..	15
India, Bombay	March 12th to 19th	..	1,203
Calcutta	March 8th to 16th	..	819
Karachi	March 10th to 17th	163	126
Madras	March 9th to 15th	1	

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Original Articles.

THE OPERATION FOR RADICAL CURE OF INGUINAL HERNIA, AT THE END OF THE CENTURY, AS I SAW IT PERFORMED BY BASSINI, LUCAS-CHAMPIONNIÈRE, DE GARMO, COLEY, AND BROCA.

BY CAMPBELL FORD, M.D.,

SAN FRANCISCO, CAL.

DR. BASSINI is professor of surgery at the University of Padua, or correctly Padova, which is situated on the historical Venetian plain, a short ride on the cars from Venice. The city is now reduced to almost a village in size, though its gates and walls, buildings and canals speak of the time when it presumed to rival Venice, and Venice was the envy of the world. The University was the most famous one of the Middle Ages. There Dante, Petrarch, and Tasso were students and Galileo spent a portion of the time of his exile in teaching, for, though the laws were severe and were executed with a rigor unknown before or since, there was perfect freedom of speech. It was said at one time to have had more than fourteen thousand students. Although the other departments have taken part in the general decadence, the medical faculty is still one of the best in Italy, a large part of its prestige being due to Professor Bassini.

I called upon him for the first time Thursday, July 12, 1900, and was requested to return the following Saturday at 5 A.M., when I might witness him perform three of his operations for hernia. I returned on Saturday and found two more cases had arrived, making five in all, three single and one double.

Professor Bassini is a dignified, courteous gentleman, apparently about fifty-five years of age, of medium height, with a very erect, bony, and muscular frame. He has a steady eye, full head of hair, and a wavy Van Dyke beard, and is modish in dress. He speaks German, I am told, very well; but English he speaks slowly and with difficulty, and inaccurately. The most of our conversation was in French. He very kindly commented upon every step of his operation. If anything displeased him he became very much excited. and tapped the assistants' hands and commended the nurse in particular terms, neither of whom replied or paid the slightest attention.

The building was one of the kind common there, with the operating-room made apparently from a bedroom. There was a complete absence of operating-room paraphernalia; a sterilizer and two small tables covered with bichloride cloth and a plain table much like our old dissecting-tables comprised all the furniture. The light was good. Very little preliminary treatment was given the patient, a physic being about all. An enema was given about four o'clock the next morning if necessary. The night before the operation the site, the legs, and the body to the armpits were thoroughly scrubbed with soap, salt solution, and 1 : 1,000 bichloride. This was repeated by Bassini himself just before the operation, the operator and the assistants sterilizing their hands at the same time. Two small tables were placed on the side where the professor stood. On one was a tray with a few artery forceps, a couple of scalpels, a pair of scissors, and two retractors; also a dish containing silk ligatures. On the other were a brass sterilizer containing sterilized cheesecloth, rubber cloths, and absorbent cotton, and also a large bowl or two containing 1 : 1,000 bichloride and one containing salt solution. The patient was placed on the table, his legs were covered with rubber cloth, his knees strapped down, and sterilized rubber was placed above and below the site of the operation, which, with all the adjacent parts, was covered with 1 : 1,000 bichloride cheesecloth. From the sterilizer a piece of cheesecloth was picked up by Bassini, it all having been cut into yard squares. He took hold of two corners and his assistant of the other two, and they folded and refolded it until it was about four inches wide; then it was cut into squares for sponges. This odd manœuvre, always done in perfect silence, and high over the patient's body, was never omitted. An assistant, one female nurse, and the anæsthetist comprised the staff. Chloroform was given in large quantities by the open method. The nurse assisted the anæsthetizer. When the patient was fully anæsthetized, the cheesecloth was slit with a pair of scissors and the skin exposed. The assistant picked up the skin between his left thumb and forefinger, while the professor took hold of the same fold in the same manner, and with his scalpel cut it, and, before either loosened their grasp, caught all the vessels. When the skin was released, the cut extended from about the level of the spine of the ilium down to near the pubes, and in depth to the external oblique. The larger the hernia, the shorter was the skin incision. With a pair of scissors the external oblique was slit up beyond the internal ring, then dissected internally to the rectus muscle and downward to the shelving edge of Poupart's ligament. The cord and sac were then picked up, and their separation with the fingers was commenced at a point usually in the side of the sac. When it was well exposed it was first nicked and then freely opened, the inside inspected, and the lines leading to the bladder were pointed out. Thickened, diseased, adhered, or presenting omentum was drawn down, ligated with silk in small sections, and excised; in one case more than a double handful was removed. The entire canal was then with a scalpel thoroughly cleared of all fat, fascia, etc.; the sac was clamped, tied off with silk high up, and the stump dropped. The vessels of the cord were not touched, though small nodules of fat were picked off. A ligature was then passed under the cord and anchored to the cheesecloth with a pair of forceps so as to pull it out of the way. No hook was used as is ordinarily figured in American and German text-books.

The assistant retracted the edges, exposing the rectus muscle and the shelving edge of Poupart's ligament. Then with a full curved dragon-eyed needle, held with forceps, a lap-stitch was taken, commencing well in the rectus and including the internal oblique, transversalis muscle, and fascia, and emerging well back of the edge of the muscle. The finger was used to guide the point of the needle, then the needle was passed through the shelving edge of Poupart's ligament. The first stitch always, and the second stitch sometimes,

included a part of the rectus muscle. From four to six of these single stitches were used, approaching the upper angle of the internal ring. After their insertion, commencing at the upper one and carefully determining the constriction of the cord, they were tied and the ends cut short. The cord was then dropped, and with the needle without forceps a continuous stitch was used to suture the external oblique and the external ring. The size of the external ring was always carefully estimated by both Bassini and the assistant. When it appeared too large a few stitches very close together were inserted. The skin was then sutured with the double-knot stitch or friction-knot stitch, which I had the honor first to describe. And while I was pleased I was not surprised, as I had sent Professor Bassini, Professor Kocher, of Berne, and Dr. MacCready, of London, reprints of them in 1896. Professor Kocher and Dr. MacCready both replied, Dr. MacCready saying he purposed trying them at once. The wound was dressed with sterilized gauze, covered generously with cotton. The patient was drawn down to the foot of the table by the nurse, who stood between his legs and placed an iron bar lengthwise under each

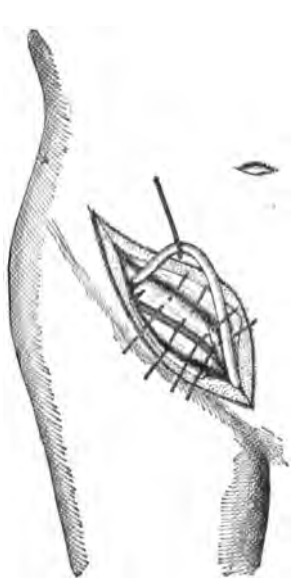

FIG. 1.—First Step in constructing the Canal: showing Bassini's lap stitches, one tied and the other placed.

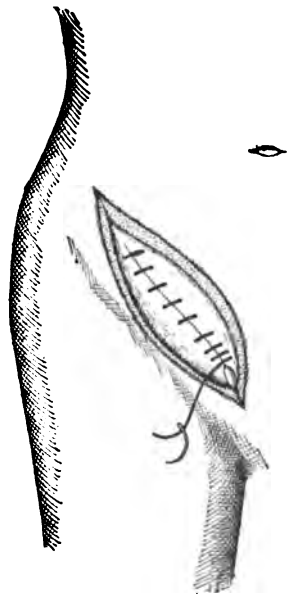

FIG. 2. — Second Step: showing Bassini's method of closing the external oblique over the cord with the continuous stitch.

one, crossing them under the buttock, with which he elevated the patient while the professor applied a plaster-of-Paris spica bandage. The time of the operation varied from thirty to forty-five minutes.

Professor Bassini informed me that he had performed nine hundred operations after the above method, and had not since done any operation after the method described by him about ten years ago, when he reported two hundred and sixty-two cases, and which is the one known and described in this country and in Germany. His recurrences with his later method he estimates to be less than four per cent., many of which are due to wasting diseases.

Dr. Lucas-Championnière, surgeon to the Hospital Beaujon, and to the celebrated Hôtel Dieu in Paris, is the antithesis of Bassini in his surroundings, dress, work, physique—in a word, everything. He is a small man with a long, large head, which makes his appearance more like that of a Scotchman than of a Frenchman; and in fact he was a student in Scotland, in the early sixties I believe. He speaks English well, and his clinic is a favorite of Americans and English. He informed me that up to that time he had operated upon nine hundred and sixty cases of inguinal hernia.

I spent some months in Paris and observed many of his operations for hernia as well as others in the whole range of surgery. His operating-room at the Hôtel Dieu is of the pre-germ-theory origin, and while not ancient nothing I saw was suggestive of anything later than mediæval origin. For the operation the patients are prepared by the usual scrubbings, antiseptics, etc. The doctor washes his hands with soap and then dips them into hot carbolic-acid solution of from two and one-half to five per cent. strength. The incision is made on the usual line over the internal ring, and with the greatest rapidity, ease, and precision by free strokes of the knife the cut is carried down to the internal ring. The sac is freed and, holding it up with his sac forceps, it is ligated and cut off; then with his forefinger the stump is carried up along Poupart's ligament, and with a Reverdin needle two stitches are passed under it, including the muscles and ligament, and tied, firmly anchoring it well away from the upper angle of the ring.

If the patient is of full habit, he is allowed to bleed freely, with the idea of preventing fever. Using the heaviest catgut prepared after one of the earliest formulas of Lister, and with a Reverdin needle, he inserts the sutures which he terms U-sutures, and which Halsted calls mattress sutures, and which are in fact interrupted sutures put in sidewise. Two rows are put in through all the muscles and fascia *en masse* of the abdomen on the upper side, and Poupart's ligament on the lower. One row commences back about an inch from the edge of one flap, and then passes through the other flap very close to the edge. The second one commences close to the edge of the first flap, and passes to the same distance back on the second as the first row did on the first. After they are all placed they are tied, forming a large, thick lap-joint. The muscles overlap the ligament usually, although by no means always. Before closing the skin the wound is sponged out with a five-per-cent. solution of carbolic acid in water. Interrupted sutures are used to close the skin. A rubber drainage tube is inserted with the free end at the iliac end of the cut. A dressing of antiseptic gauze, covered with a kind of peat instead of absorbent cotton, is held in place by a spica bandage. All visitors are allowed to approach the operating-table in their street clothes. The forbidden zone is the wound. This is touched only by the doctor, and sometimes, though rarely, by his assistants. Only about five per cent. suppurate, and many of these only after the second dressing, which is done by the internes. This is certainly a splendid showing under such adverse circumstances, for the doctor cannot be blamed for the manner in which the municipality of Paris furnishes its hospitals.

Professor De Garmo, of the Post-Graduate Hospital and Medical College of New York, is the only surgeon whose practice is now entirely limited to hernia and its complications. He is an avowed advocate of the Bassini procedure, and has performed that operation on adults more times than any other person except Bassini himself. In seven hundred and forty operations he has used the Bassini method six hundred and twelve times with only eight recurrences. Dr. De Garmo's personality is well known to the profession, and his authority is practically undisputed. He performs a rigidly aseptic operation, and like Bassini almost entirely without assistance.

He is somewhat neater and faster in his work, taking from ten to fifteen minutes less time than Bassini, and has performed it in ten minutes. The external cut is made on the flat, just over the internal ring, and is scarcely half as long as Bassini usually makes. In one case I saw it appeared to be no more than two inches. Hæmostasis is very carefully done, by the use of the ordinary gauze sponge and the ligature of all the vessels with plain catgut. The external oblique is slit

up to a point above the internal ring; the cord and sac are then picked up *en masse*, and their separation is commenced usually on the side of the sac. After the sac is well freed it is carefully opened and its inside inspected. All diseased or adherent omentum is drawn down and tied off in sections with catgut. He holds up the sac and carefully protects the viscera internally and the elements of the cord externally while his assistant ligates it. The sac is then cut and the stump dropped. Pronounced varicosities of the veins of the cord are unhesitatingly excised. He rather prefers some constriction and compression of the veins than their total obliteration. The wound is thoroughly cleared, all hemorrhage and oozing being perfectly controlled, and the reconstruction of the new canal commenced. The cord is lifted up and held out of the way with the hands. With a blunt, full-curved needle designed by himself, threaded with chromicized kangaroo tendon, a stitch is taken including the internal oblique, transversalis, and transversalis fascia. It passes through the shelving edge of Poupart's ligament, and without cutting of the thread a square knot is tied and the single-knot stitch described by me inserted through the entire line, and frequently, still without cutting it (the thread), the external oblique and the pillars of the ring are sutured together with the same stitch. In this line of sutures a wide insertion is taken, causing a considerable surface of approximation.

The first stitch embraces the cord very snugly, in fact it appeared to me to be constricted to about two-thirds of its normal size. A moderate amount of primary swelling of the testicle is not objected to. The skin is closed with the subcuticular stitch, using medium-sized, plain sterilized catgut. The wound is sealed with collodion and a light dressing applied.

The other famous operators in this branch of surgery whom I have had the pleasure of observing were Coley, of New York, and Broca, of Paris. Dr. Coley is so well known as the author in conjunction with Dr. Bull of almost all of the text-books on this branch that no extended description is necessary. He performs the Bassini operation. The sac is dissected until it widens out into the peritoneal cavity; then holding it up and watching, he transfixes it with a sharp, curved needle threaded with catgut. It is then tied and the stump dropped. The cord is transplanted in the usual manner. With this exception in suturing the deep muscles to the shelving edge of Poupart's ligament, the first stitch is taken above the cord. The external oblique is closed with a kangaroo tendon by a continuous stitch. In this row he informed me that after some practice he purposes to use a single-knot stitch. He invariably wears finger cots, and the assistants and nurses wear rubber gloves. The last operation I saw him perform was on a girl about eleven years old, and was without apparent hurry finished in eleven minutes.

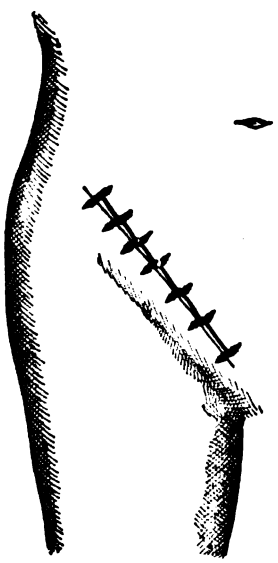

FIG. 3.—Third Step: Bassini's closure of skin with the Ford double-knot stitch.

Dr. Broca is a general surgeon, and has performed a large number of operations on the mastoid cells. The most striking points to me were his perfect *sang froid*, and rapid and free incisions. In his hernia operations he sutures up the canal with a Reverdin needle. Usually the suturing and dressing are turned over to an assistant.

The innovation of Bassini in using a lap stitch is, I think, a valuable one, for the reason that the free edge, when the stitches are tied, is turned either upward or horizontally backward on the bone, for the force operating to open the canal is a vertical one and not, or only secondarily, a horizontal one as is persistently implied by Bassini, Marcey, and other authorities. The only horizontal or bursting force is that of the intestinal gases, which normally is just sufficient to balance the circulation in the cavity. On the contrary, the vertical force is powerful, acting from the diaphragm in its descent with the aid of gravity through the omentum and loaded intestines. This force may be compared to a wedge bounded by the muscles in front and on the sides, by the backbone to the brim of the pelvis behind, the diaphragm bounding the base and the edge resting on the pubis, its ligaments and connecting fasciæ. But at the moment of the slightest protrusion it becomes deflected in a horizontal direction, and it then proceeds through the canal as a vertical one. I consider Bassini's use of silk indefensible, as few at the present time will question that kangaroo tendon may be satisfactorily chromicized and reliably sterilized. In the healing process the silk stitches become encysted *in situ* without tension. With them in this position one might reason that should a sudden strain occur and tear the line of union the stitches would come into play and prevent total recurrence; but in answer to this one must remember that recurrences are gradual in their progress, and steady pressure would cause the sutures to cut their way through the least vitalized part of the tissues they included. Again an encysted foreign body is always a menace. Witness the many bullets that have lain quiescent since 1861, and at the present time have to be removed. That all perfectly sterilized silk is absorbed, and that all silk that is not absorbed even after years was not perfectly sterilized, appears to me to be an untenable position. Its use for ligating and tying off the omentum is far less defensible than for suturing; and yet when Professor De Garmo said, "Should I for any reason be compelled to give up kangaroo tendon I would go back to silk," he expressed their true relations at the present time. Dr. De Garmo's method of suturing the external oblique and the pillars of the ring by taking a wide stitch is, I think, a good one. The deeper layers have been reefed, leaving the external layer of the muscle just

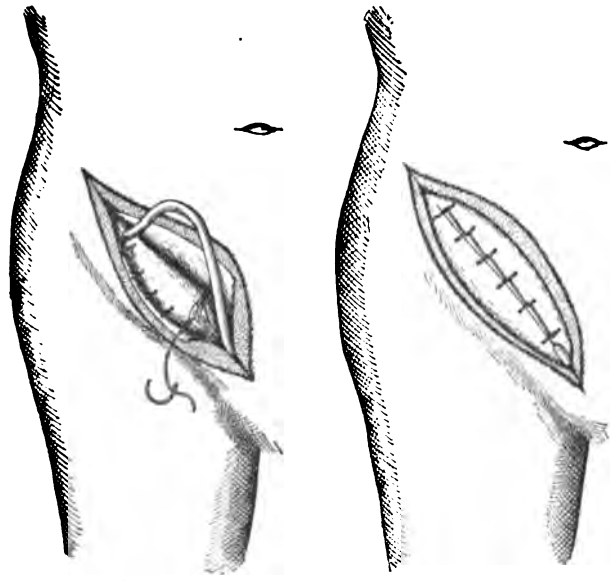

FIG. 4. FIG. 5.

that much slack; consequently when the pressure from the inside is directed against the wall, the deeper layer does not at once receive the support of the external layer. In regard to the sutures invented by me, the following are the directions for their insertion, also a new method using a Reverdin needle:

(1) Single-knot stitch (Fig. 8): The needle is passed through the divided tissues, and, without cutting the thread, a square knot is tied. For the second stitch the thread is held or thrown so that the needle will emerge in a loop, and, when it is drawn on through, a single knot will have been formed. The tension is now adjusted, and for the last stitch a square knot is tied. This may be modified by passing the thread around the needle or the needle around the thread. The tension of the stitches and between the stitches should be equal.

(2) The square-knot stitch: The same steps are taken as for the single knot, and when it is formed the needle is passed under the thread connecting the knots in the opposite direction from which the needle was inserted into the tissues.

(3) The friction-knot stitch: For the first stitch a square knot is tied, then the needle is passed as for a single-knot stitch, turning the thread twice around the needle instead of once. The last stitch is a square knot.

1st. With a Reverdin needle tie first as before for a single stitch, turn the thread around before inserting it; after it is inserted, thread the needle as is usually done, withdraw the needle, and the single knot will be tied. For a square knot put the needle under the thread between two knots, thread it, and withdraw.

2d. An assistant may form the knots while the surgeon passes the needle.

I wish especially to call attention to the fact that neither my single knot nor the double knot or friction knot suture is the buttonhole stitch commonly called Billroth's. Dr. Andrews, of Chicago, and Dr. Gerrier, of Paris, have both made this mistake. The reasons for their use I have somewhat elaborately set forth in the articles referred to, the chief of which is that they act at right angles to the line of approximation, and also

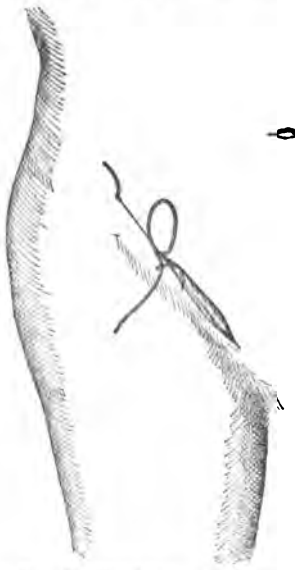

FIG. 6.—Third Step: De Garmo—showing the suturing of the skin with the subcuticular stitch.

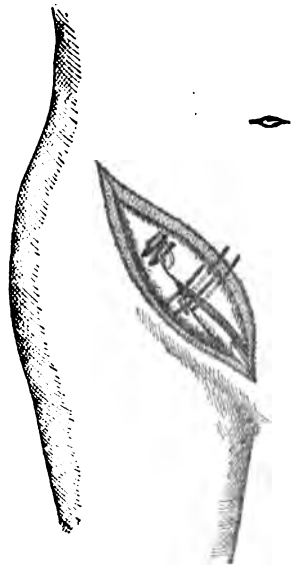

FIG. 7. — Lucas Championnière: Neck of sac turned under and held by two stitches; two U-stitches placed ready for tying.

longitudinally, comprising all the advantages of both the interrupted and the continuous stitches, and that they are much more quickly and more easily inserted, as one can sew with the single-knot stitch just about as fast as the needle can be passed; with a Reverdin needle where it can be used, with or without an assistant, the time is reduced so that it no longer figures in the operation. In doing the operation I follow the technique of Professor De Garmo in every detail, with this exception[1]: I use the square-knot stitch for the deepest layer, and I also now use the lap insertion. The blunt needle leaves the wound most satisfactorily dry, and especially when there is a tendency to bleed from sclerosis of the arteries. This needle is the only one that will take the first insertion of the deeper layer next to the bone and down to the shelving edge of Poupart's ligament, as the curve is just right. I do not know where the needles may be had, but no doubt a letter to Dr. De Garmo would obtain that information.

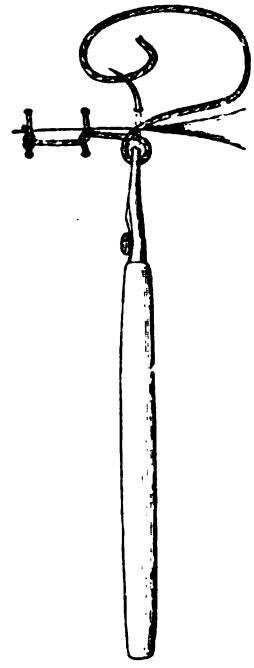

FIG. 8.

I have heretofore advocated a silk pelote or linen sponges for these and other operations, and still think it good practice. I have performed the operation five times since I returned from Europe, four on Italians, two of whom resumed heavy work in the Union Iron Works in five weeks, and are perfectly well at the present time. I see no reason for denying relief by operation to any person of any age from this distressing and dangerous condition. I have operated for hernia in a patient aged seventy-six, with perfect recovery in two weeks. In one case, with the assistance of Dr. McGill, I operated for a large scrotal hernia on a negro, with all the stigmata of age, gray hair, arterial sclerosis, pronounced arcus senilis, etc., who refused to consider himself confined to bed, and who actually went to work as chief cook on one of our large ocean liners at the end of one week, and who has suffered no return or inconvenience. Senility or age is a physical condition, not a question of years; consequently, an age limit is out of the question.

The operation for radical cure of hernia has the least mortality and the highest rate of perfect cures of any capital operation known to surgical science at the end of the century. It is a capital operation, and a long series of successful cases requires the most perfect technique known, the power to specify and to be exact.

Follicular and Periurethral Abscess in the Male.—Concerning this condition, W. F. Bernhart lays down the following rules: 1. Make sure of the diagnosis, for a follicular abscess may closely simulate a chancre or a gumma. 2. Try all the mechanical means available to produce an opening of the occluded duct or an absorption of the deposit. 3. Never await the breaking of a follicular abscess, as the destruction of the tissue is greater, or it may break both externally and internally, or it may rupture internally and point backward, thus favoring urinary infiltration. 4. Open through the urethra if possible.—*Memphis Medical Monthly*, April, 1901.

[1] "Interrupted Stitch by a Continuous Method." Trans. San Francisco County Med. Soc., June 9, 1896; Pacific Med. Journal, July, 1896; Scientific American Supplement, October 10, 1896.

Campbell Ford: "The Mechanics of Sutures, with a Description of Original Stitches, with a Report of Illustrative Cases." Phila Med. Jour., November 26, 1900. "Ford Stitch." American Year Book of Medicine and Surgery, p. 72. Gould, 1900.

VARICELLA IN ADULTS.

By ALVAH H. DOTY, M.D.,
HEALTH OFFICER, PORT OF NEW YORK.

A WIDESPREAD belief exists that varicella, or chickenpox, does not affect adults, but is confined to infancy and childhood. That this is not true, and that chickenpox may occur after puberty, is fully understood by those who are familiar with these diseases. The teaching of the older text-books, which supported this erroneous idea, and which evidently did not represent a careful personal investigation on the part of the authors, is largely responsible for this belief. Unfortunately, but little effort has been made to bring this error to the attention of the medical profession. For this reason I desire to present for consideration some practical signs in the differential diagnosis of smallpox and chickenpox, which have a direct bearing on the matter referred to, and which if understood will enable physicians not only more readily to detect these diseases, but to appreciate that chickenpox occurs in a typical form in the adult. The signs which I refer to are as follows:

First. The character of the eruption.

Second. The manner in which the eruption appears.

Third. The distribution or location of the eruption.

The Character of the Eruption.—In studying the eruptions of smallpox and chickenpox it is essential that we should have a general idea of the tissue changes which take place in the skin, which are constant and give to each eruption its peculiar character.

In smallpox the eruption appears as circumscribed hyperæmic areas, the margins of which are very sharply defined, and which involves the true skin to a considerable depth and gives to the eruption in the early stages the sensation of shot placed just beneath the surface of the skin. Hence the term "shotty" which is so uniformly applied to the eruption of this disease. This tense and hard condition naturally disappears as the papular and vesicular stages are succeeded by the pustular, or when suppuration occurs. Inasmuch as the true skin is deeply involved the latter stage is followed by a permanent loss of tissue, the result of which is familiar to us all as the "pitting" of smallpox. The depth to which the true skin is involved is also responsible in a way for the hard and resisting vesicle, the top or surface of which can be removed only by considerable force, and for the comparatively slow manner in which the different stages of the eruption pass from one to the other.

The eruption in varicella is in marked contrast to the description just given. The vesicles are very superficial and only slightly involve the true skin. They contain either a transparent or pearly-hued fluid, and are soft and pliable and can easily be detached, and are short-lived. In appearance they resemble the small blisters that follow the application of some irritating substance to the skin. It is of great importance to fix in mind the superficial character and tenderness of the varicella vesicles. In order to illustrate this practically, it is only necessary to sweep quickly and firmly the edge of the finger-nail over the vesicle, in which instance the latter is easily torn apart. Sometimes a varicella vesicle may become irritated, or for some cause affect the deeper structure of the skin. This will account for an occasional scar which may follow the eruption of this disease.

The Manner in which the Eruption Appears.—In smallpox the eruption presents itself in one crop, *i.e.*, it passes through the different stages practically together as papules, vesicles, and pustules. In some parts of the body the formation of each stage or the transition from one stage to another may be a little more rapid than others; however, when this is finished the eruption is complete and secondary crops never appear. Too much importance cannot be given to this sign, as none other more closely approaches that of a pathognomonic character.

The manner in which the eruption of chickenpox appears is diametrically opposite to that of smallpox, inasmuch as it notoriously comes in successive crops. Alongside of vesicles which have dried down with the formation of a black or dark scab, we find small tender vesicles just appearing which are torn by a slight touch of the finger-nail. This is so strikingly apparent that it can hardly be overlooked even in a superficial examination. Moreover, the eruption of chickenpox appears abruptly as vesicles, and is not preceded by papules as in smallpox.

The Distribution or Location of the Eruption.—To bring this at once to its important practical application, I will state that in smallpox, even in mild cases, the hands and feet are to some extent almost always involved; whereas in chickenpox, even with a profuse eruption, the hands and feet are either unaffected or have but little eruption. The appearance of hard, tough, circumscribed, and distended papules or vesicles on the hands or feet, particularly on the palms and soles, is an exceedingly important diagnostic sign of smallpox. Even in mild cases we are quite sure to find a few along the fingers and toes and palms and soles. In varicella the hands and feet are often singularly free from the eruption even when it is profuse on other parts of the body. In other cases a small number of spots may be found about the hands and feet, but they are few in comparison with the eruption in other parts of the body; besides, they do not often appear on the palms of the hands and soles of the feet. However, when this occurs, their nature will as a rule be made clear if they are considered in connection with the eruption on other parts of the body.

I may add that the back presents the best surface to study the eruption of varicella.

In regard to umbilication, which in the older text-books is spoken of as the pathognomonic sign of smallpox, I would say that it is a well-marked, constant, and valuable diagnostic sign of smallpox, but what will pass for and is regarded as umbilication is frequently found in chickenpox and some forms of syphilitic eruptions. This must be kept in mind.

I do not intend to present a treatise on smallpox and chickenpox, but desire to direct attention to only three signs, which I believe to be of great practical value in the diagnosis of these diseases. When these are fully understood, then signs and symptoms of less importance may be considered. Under all circumstances it should be borne in mind that the diagnosis of smallpox and chickenpox is made from the appearance of the eruption. I have made no reference to the constitutional symptoms; that these are important as corroborative evidence is true, but I believe they should be considered after the eruption has been studied. The more proficient one becomes in the diagnosis of smallpox or chickenpox the less he relies on constitutional symptoms.

Some time ago a vessel arrived at this port having on board a typical case of smallpox. Although the ship's surgeon had isolated the case, he reported that he did not believe that the patient was suffering from smallpox, as he had practically no fever and other constitutional symptoms were not present. I cite this instance simply to illustrate the error of giving constitutional symptoms undue consideration.

Within the past ten days two typical cases of chickenpox in adults have arrived at this station from foreign ports: one, a member of a ship's crew; the other, a second-cabin passenger. Cases of this character not uncommonly present themselves, and they will as a rule

be detected if the signs which I have referred to are carefully studied. I have made no reference to obscure or irregular cases of smallpox or chickenpox which from time to time present themselves. It will be of interest to note that these diminish in number as a physician becomes more practically familiar with these diseases.

Although it may not be pertinent to the subject of this article, I wish to say that I cannot too strongly condemn the use of the term "varioloid" which is variously accepted as indicating a mild, less dangerous, or distinct type of smallpox. The use of this term unquestionably tends to carelessness, as in these cases there is commonly a relaxation in the usual precautions taken to prevent the extension of smallpox. Therefore cases of "varioloid" are apt to be of special danger to the public health. Although "varioloid" represents a mild attack of smallpox, it is capable of producing in others the most malignant form of this disease.

QUARANTINE, April 18, 1901.

A PLEA FOR THE CONSERVATION OF BREAST MILK IN WHOLE OR IN PART.[1]

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THERE are probably very few practitioners to-day who do not acknowledge an ample supply of normal breast milk to be the best and safest nourishment for an infant. The great majority of the medical profession undoubtedly are aware of the difficulties and dangers which attend bottle-feeding, so that it is almost superfluous to recall the fact that ninety-seven per cent. of the infant mortality from gastro-intestinal diseases occurs in those who are nourished otherwise than exclusively from the breast.[2] Were statistics also available, based upon these two forms of feeding, so that we could compute with these deaths from gastro-intestinal diseases the deaths occurring among the bottle-fed from those conditions variously classed as athrepsia, marasmus, and malnutrition, and equally important those from broncho-pneumonia, the infectious diseases, and a host of other troubles to which the poorly nourished are more liable, and to which they more readily succumb, we should without doubt find both the morbidity and the mortality of the bottle-fed to be startlingly in excess of that of nursing infants. The official statistics of the German government show that of artificially fed infants fifty-one per cent. die during the first year, while only eight per cent. of those exclusively nursed perish during the same period.[3] We cannot then but feel that the larger part of the disease and death among young children results both directly and indirectly from the state of their nutrition, and that a very considerable part of both would have been avoided could the children have been intelligently nursed.

Yet the fact that artificial feeding is on the increase to the exclusion of maternal nursing will scarcely be denied by observant physicians, whatever the class of patients among whom they practise. Numerous factors enter into the etiology of this situation. To the fashionable mother whose child suffers, because, although abundantly able, she is selfishly unwilling to fulfil her maternal duty to her offspring, we can give neither sympathy nor consideration. The unhygienic influences of much of our boasted civilization, together with the mental pressure of our modern educational system upon the growing girl, and the consequent stimulation of the nervous system at the expense of the body at a critical period of her development, as well as the physical pressure of outgrown and tight corset waists and ill-fitting corsets, are everywhere producing a host of undeveloped and malformed women who will swell the number of incompetent mothers in the next generation. The incursion of women into the fields of labor formerly occupied exclusively by men, and their subsequent unwillingness or inability to relinquish these duties after marriage, are responsible for still other instances; while the subtle encouragement given by the multiplication of asylums, homes, and day nurseries, to the practical abandonment of the child, while the mother seeks employment, still further swells the number of the bottle-fed.

Excluding all cases in which it is impossible for the mother to suckle her infant, there still remains an even greater number of instances in which the infants are prematurely deprived of their natural food on account of the absolute ignorance of the mothers as to the simplest principles of nursing and of the means of conserving a normal mammary secretion. The blame for this does not attach to the mothers. The ultimate responsibility for this condition of affairs lies with the medical profession. It is definite and cannot be evaded. It falls upon the family physician, who has ample opportunity to advise concerning the education and dress of the growing girl, and upon the examining physicians and members of the medical boards of maternity hospitals and institutions for children. But the chief, because the most direct, responsibility attaches to the obstetrician and the general practitioner who attend confinements and care for the mother and child during the first days or weeks of infancy, for it is during this period that the subsequent nourishment of the child is usually determined. Here, then, is the opportunity to acquaint the mother with the dangers which the child will run if deprived of the breast without adequate cause. Here is the golden and fleeting opportunity to start the child rightly and safely upon such form of nourishment as can be made available, and to instruct the mother as to her diet and personal health if she is to nurse her infant. Yet at this all-important time there are the greatest indifference and neglect. This, perhaps, is hardly to be wondered at, when one considers that as late as a decade ago students were graduated by thousands from the medical schools of the country with scarcely a word upon the feeding of the young infant. As these men now form the majority of the practitioners, it is little to be wondered at that the obstetric aspect of a birth engages their attention to the exclusion of all else, and that, when the cord is tied and the child has shown reasonable evidence of vitality, it is turned over to the tender mercies of some nurse or relative, and thenceforth passes practically, if not absolutely, out of consideration unless some matter out of the ordinary arises.

Let us pause a moment to ask this question: How many of those who hear or read this paper are in the habit of carefully regulating the nursing of the infant, or of definitely outlining the artificial feeding of the infant for the succeeding weeks before they make their last visit in an ordinary confinement case? Even if this question could be answered in the affirmative by the majority, which is, it seems, extremely doubtful, how many of these are in the habit of specifically indicating the proper diet of the nursing mother in order that she may nurse her infant to the best advantage and maintain the supply of proper quality for a reasonable period? That minute directions of this nature should be necessary seems strange when we think that all other mammals suckle their young successfully under the infallible guide of instinct. This was

[1] Read at the meeting of the Medical Society of the County of New York, April 22, 1901.

[2] Holt: Keating's "Cyclopædia of Diseases of Children," vol. iii., p. 64.

[3] Winter: "The Feeding of Infants," p. 2.

doubtless the case also in the earlier days of the human race, before development in higher directions had obscured those intuitive leadings which are the possession of all animal life in its native state. Be that as it may, however, the maternal instinct to-day seems to teach only that the child is hungry when it cries, and that it may be quieted by engaging its attention with the breast, and beyond that absolutely nothing. The invariable answer of the young and ignorant primipara, when asked how often she nurses the child, is, "As often as it cries," or "Whenever it looks for it!" Under aboriginal conditions, with strong children and abundant milk, this may be sufficient when satiety would be followed by a considerable period of placid contentment, broken only by renewal of hunger when normal digestion was at an end. But the moment the health of the child or the quantity and quality of the maternal breast milk fall below the normal, what should be a protective or conservative instinct begins to lead directly into error, for it is not a too positive statement when it is affirmed that, despite the accumulated experience of centuries, not a ray of intuitive knowledge of how to nurse under abnormal conditions, or how to conduct artificial feeding, is as yet discoverable in the human race. What wonder, then, that, if the physician does not step in, the feeding of the child will be based upon hearsay, or ignorant custom, or tradition, and will be influenced by considerations of convenience or cheapness?

A service of nine years in dispensaries for the children of the outdoor poor, in the conduct of which it has been his aim to investigate the histories and to devote time and attention to each patient as carefully as would be the case in private practice, must be the author's ground and excuse for these dogmatic assertions. While acknowledging that a considerable portion of the profession have grasped and are daily testing and expanding the recently expounded principles of infant feeding, and that many others are endeavoring to do so, as attested by the interest displayed when this matter is the subject of discussion in our societies, it becomes patent from the evidence of the mothers who present their children for treatment at the clinics that, in the new enthusiasm over methods of artificial feeding, the importance to the child of the maternal nourishment may be quite overlooked and forgotten.

It is high time that the profession should give deep and thoughtful consideration to this problem. The medical press contains frequent articles upon artificial feeding, which refer, it is true, to the dangers of bottle-feeding, but accept the abandonment of the breast as an inevitable evil without any effort to strike at its root by offering practicable suggestions which may render such abandonment unnecessary. However perfect may be our measures for artificial feeding, we still find that in the aggregate these children do not thrive so well as the breast-fed child. Modifications of cow's milk are vastly superior to infant foods. They approximate more nearly to the natural nourishment of the infant. But the composition of cow's milk and human milk is not the same, and no amount of modification will make them exactly the same. We do know that the various proteids in the two differ in their relative proportions; but we can as yet only vaguely surmise the influence upon the infant of the immunizing and protective principles or the aids to digestion and normal growth furnished and adapted to the young of its own species by the secretion of the human breast. Let no one mistake our position for an attack upon modifications of cow's milk and the recognized value of percentage feeding when maternal breast milk is not available. But rather let it be clearly understood as a protest against any subtle tendency to the belief that, as a profession, we are yet fully warranted in substituting the bottle for the breast for young infants unless we have conscientiously exhausted every known means of maintaining the maternal milk.

The clientèle of an infants' clinic is naturally composed of the sick and not of the well. It is there, therefore, that we see, not the brilliant successes in artificial feeding, for the well-nourished infant not only does not need the physician, but by very reason of his good condition has at least a fifty per cent. better chance of escaping major and minor ailments, but rather the dismal failures in nutrition which flock to our doors. Therefore we believe it to be the function of such a clinic not only to treat the patients, but to discover the causes of illness and, if possible, to make known the remedies. In taking the histories of the puny infants who are brought to us as a last resort, after their parents' uniformly unsuccessful attempts to nourish them upon a variety of infant foods, the questions are usually asked: "Was the child nursed?" "If so, how long, and for what reason was nursing abandoned?" "If never nursed, why not?" From these questions it has developed that, while a certain proportion have never been nursed for what were accepted as good and sufficient reasons, such as no milk, depressed nipples, or serious illness of the mothers, the majority of these children have been nursed for periods varying from a few days to two or three months, and then a sudden change has been made to artificial feeding.

The reasons for this change are usually that the child did not thrive or that the milk did not agree, and that by the advice of friends, and too often also on the recommendation of a physician, artificial feeding was at once substituted. In a lesser number of instances it is stated that there was thought not to be enough milk in the breasts, and that on similar advice nursing was promptly abandoned. Again, in perhaps the smallest number of cases we are simply told that the milk gave out and that the lack was supplied by some substitute. But in only the rarest instances could it be learned that any systematic attempt had been made, even when under the care of a physician, to maintain or improve the supply of breast milk other than by the use of malt beverages, or occasionally of malt extracts. Furthermore, and perhaps still more surprising, no value had seemed to be placed in these early cases upon such breast milk as might still have been available after artificial feeding had been begun, except, perhaps, as a means of stilling the cry of the child at night, and thus incidentally of encouraging the disastrous habit of frequent night nursings. In short, there seems to be a widespread ignorance or disregard of the fact that the secretion of the human breast is as readily influenced by diet and hygiene as that of the udder of the dairy cow; also that close confinement all day in a stuffy apartment, and a diet which consists largely of strong tea, are not conducive to a secretion of suitable quantities of fat, milk sugar, and proteids in the breast milk. From the almost total lack of consideration of the subject one would be led to think that breast milk were a sort of manna sent each day from heaven, and having no bearing or dependence upon the diet and nutrition of the mother.

The adult of average weight throws off from the body in twenty-four hours sixty-nine to eighty-nine ounces of water, divided as follows:

Lungs	9 oz.	to	9 oz.
Skin	20 oz.	"	30 oz.
Urine	40 oz.	"	50 oz.
	69 oz.	to	89 oz.

To this must be added during lactation twenty to forty ounces secreted by the breasts, which, added to the above figures, gives a total of eighty-nine to one hundred and twenty-nine ounces, or, if an average is struck between these extremes, let us say one hundred and

nine ounces, or more than the equivalent of three quarts of fluid. Confronted with these figures, one realizes at a glance that the fluid, even including that contained in the solid food, taken by the average woman at each of the three daily meals would rarely reach one quart per meal, and that if three quarts and more are to be ingested during the twenty-four hours, it must be drunk freely between meals. Yet many women of the lower and middle classes seldom take of their own accord any fluids except tea, coffee, and beer. If from these beverages they are to supply the water necessary for normal excretion and secretion, it is apparent that the amounts ingested would carry with them quantities of stimulating principles which cannot but be hurtful, while the food values, except perhaps in the case of beer, and the fat-, sugar-, and proteid-making values are practically nil. From the very evident absurdity of the foregoing proposition, when worked out to a conclusion, the necessity becomes apparent of drinking water freely during lactation, or, much better, milk, thin gruels, and cocoa, which have definite food- and milk-making possibilities.

It is not among the lower classes alone that this tendency to take too little fluid prevails. If insufficient quantities of fluid are taken by any individual, the health is liable to suffer through constipation, due to dryness of the fecal masses, and more or less poisoning by effete matters, which should be thrown off by free and normal diaphoresis and diuresis. These conditions exist *par excellence* in tea-drinkers, and it is probable that as tea and allied beverages assuage thirst more quickly than plain water, less is consumed in a day. If now during lactation, in which there is, as has been seen, an additional demand for twenty to forty more ounces, the supply of fluid is not increased proportionately, there will be either a falling-off in the amount of milk secreted, or a still further reduction in excretion, or, in all probability, a lessening in the amount of both. Furthermore, it is seriously to be suspected that, when the emunctories of the mother are not acting properly, the secretion of the breasts contains effete and injurious matters.

What, then, are the measures which, when adopted immediately after parturition, favor the establishment and continuance of a breast milk sufficient for all needs of the infant? In these days of aseptic and afebrile midwifery there is no reason in keeping the healthy parturient for days on a low diet. During labor but little fluid is taken, while perspiration and hemorrhage directly reduce the fluids of the body. As soon as the mother is rested after parturition, or has recovered from the effects of the anæsthetic, she should be given bouillon, milk, or gruel in increasing quantities at the usual intervals of fluid diet (every two or three hours), and these should be continued for twenty-four hours. Then on the second day, while a liberal fluid diet is continued, there may be added easily digested semi-solid food, dropped or lightly boiled eggs, custard, rice, farina, etc. On and after the third day meat is allowed, with as liberal a diet of plain digestible food as seems suited to the individual; water, milk, gruels, and cocoa being insisted upon both with and between the more important meals. At this time it should be made clear to both mother and nurse that this additional fluid food is not a temporary measure, but must be continued throughout lactation in the interest of the infant. Abundant experience has shown that yellow cornmeal gruel is much more effective than any other gruel, and should be insisted on specifically. Thoroughly cooked and made, either with or without milk, as a thin gruel and salted, it is quite palatable, and should be drunk by the bowl—not by the cupful. Tea should be prohibited, and cocoa, made by long boiling of the "cracked cocoa" bean, substituted. It is a better stimulant and milk-maker than the so-called cocoa powders, which are practically chocolates, and does not disturb the digestion. The mother should be apprised of the great importance of adhering strictly to regular hours and intervals of nursing, and a schedule of nursing hours written out, covering the first three months. The second day after childbirth the bowels should be moved by a laxative, of which, from the standpoint of the mammary secretion, castor oil in full dose (℥ i.) stands pre-eminent. Mild salines may be chosen if indicated, but in general salines should be avoided in nursing women, as the watery stools decrease the mammary secretion. Constipation should never be neglected during lactation, but should be overcome in the interests of both mother and child; for this purpose cascara is especially suitable. Should the milk come into the breasts scantily, or threaten to disappear, the stimulating effects of breast massage should not be forgotten, and efforts should be made to hasten the mother's recovery by allowing her to sit up in bed as soon as possible, and to be out of bed at the earliest day compatible with proper uterine involution. Cheerful encouragement of the mother, when any anxiety concerning the child is developing, often turns the scale favorably, and fresh air and outdoor exercise also play their part. Anæmia, which would excite remark and receive treatment under any other circumstances, is often, nay, usually, disregarded after childbirth. Iron should be given early if indicated, and continued till the hæmoglobin approaches the normal.

The cases which are later presented to us for advice and treatment because the breast milk is thought to be at fault may be divided into two general classes:

Class I. Children who appear from a comparison of their present weight and age to be gaining satisfactorily, but who are said to suffer from vomiting, colic, crying, or disturbed stools. The primary test in cases of this class should be: Is the child really still gaining steadily in weight? This may be determined by weighing the infant without clothing in a suitable scale,[1] and again weighing it after the lapse of two or three days. If the appearance of the child be presumptive evidence of good nutrition, and especially if this be proven by successive weighings, the prognosis of the other ills is almost uniformly favorable. The diet of the mother is always investigated and corrected, but frequent and irregular nursing, "whenever the child cries" or "seems to want it," proves to be the most common cause of disturbances of this class, and most of the cases are set right chiefly by a simple regulation of the nursings to proper and exact intervals and a reduction of their number during the hours from 10 P.M. to 6 A.M. Colic, crying, and disturbed stools, the symptoms of indigestion from over-feeding with milk of varying composition, owing to variation in the nursing intervals, are thus remedied and avoided. Disappointment is often evinced by the mothers, at first, when they find that no medicine is ordered for the babies, but a little patient explanation will make them willing to follow the recommendations, and since the resulting improvement can be ascribed only to their own diet and the regulation of the nursings, the lesson to be taught is thus more definitely impressed. Spitting up, which results from a greedy ingestion from the breast of a larger quantity of milk than the stomach will accommodate when peristalsis begins, may be entirely disregarded if the child be shown by the scales to be gaining regularly in weight. Spitting up from excess of fat in the milk may be overcome by

[1] Since scales, combining both the platform and the scoop, and weighing accurately from half an ounce to two hundred and forty-four pounds, can now be obtained at a cost of $3 or less, they are within the reach of parents of even moderate means, and of every physician for office use.

changes in the mother's diet and the withdrawal of alcoholic and malt beverages. Still other cases yield readily to small quantities (ʒ ii.) of lime-water given some minutes before nursing.

Class II. Children who do not appear to have thriven on the breast, as attested by their small weight as compared with their present age and their size at birth, *i.e.*, whether small, average, or large.[1] In addition to the small weight there may be added colic, crying, short periods of sleep, and disturbed stools. This is probably the class in which the milk is so often declared to be useless, which leads most frequently to abrupt weaning and the substitution of some artificial food or mixture. Although doubtless such a change is often followed by brilliant results, it must be held responsible for a definite amount of the infant mortality from the early or late accidents attendant upon artificial feeding. It also furnishes us with a considerable proportion of our malnutrites. When such a case is presented, the child is undressed and its exact weight down to half ounces is at once taken and recorded. Spring and dial scales, which register only one-quarter or one-eighth of a pound, are notoriously unreliable and worse than useless for this purpose when small differences must be taken into account. This accurate weighing of the child is of prime importance, for by comparison with subsequent weighings made every second day one can alone determine the immediate results and decide upon the continuation or change of the remedial measures. The breasts of the mother are then inspected, and, with such aid as can be gained from questioning concerning the mother's own impressions and sensations and what can be learned of the behavior of the child at the breast, an attempt is made to form some sort of opinion as to the amount of secretion. This, of course, may prove to be deceptive. In hospital wards and private practice weighing both before and after a succession of nursings gives definite information on this score.

If the condition of the child is fair, and not absolutely threatening, the first and only indications at this time are to regulate strictly the frequency of the nursings and to correct the mother's diet, adding the fluid forms of nourishment above mentioned, with a view of regulating the infant's digestion and increasing and improving the milk supply. The child is subsequently weighed at intervals of two days, and the results are noted and compared. In a few days we may usually be able to judge pretty accurately of the present and prospective success of these methods. In the majority of cases our experience is that the child shows an immediate gain in weight, or else holds its own at first with a stationary weight, which is followed after a few more days, during which the breast milk is improved, by a gain which is continuous, and the progress of the child is thenceforth uneventful.

If, however, upon close observation there is a continuous loss or a persistent stationary weight, showing that the breast milk cannot be increased to supply all the needs of the child, the indications are for the beginning of supplementary feedings, and by no means for abrupt weaning, as long as the breasts contain any milk worth mentioning. In like manner, if at the first visit the condition of the child is such as to render definite nutriment imperative, or there is good ground for the belief that the breast milk cannot be built up sufficiently to supply all the needs of the child, no effort should be spared to stimulate rationally the secretion of milk, but some supplementary feedings are given tentatively at once. If the matter be urgent, the bottle is given, alternating with the breast, every two hours. If less urgent, two bottles are preferably given, one in the morning and one in the afternoon, in the place of nursings. Two such bottles are often enough to turn the scale and inaugurate a gain in weight. It should never be forgotten that a weak modification of milk digested and absorbed will produce this desired result, when a modification a little too strong would produce indigestion and utterly defeat the purpose. If two bottles prove insufficient to secure a gain, others may be added with caution more or less rapidly; but breast-feeding should, if possible, be maintained as often as every alternate feeding, for with this frequency the secretion is less liable to suffer. Moreover, there is good ground for believing, as breast milk is more readily and more completely digested than cow's milk, that bulk for bulk it furnishes a larger proportion of material for growth, while the alternation of bottle and breast allows of at least a four hours' interval between any two bottles. The proteids of the cow's milk thus have ample time to be digested, and there is less danger of the digestion being overtaxed than there would be if more of the proteids of cow's milk entered the stomach before the preceding bottle-feeding was entirely disposed of. It is doubtless partly for this reason, then, that, when an all-breast milk diet cannot be furnished, the infants who are nourished upon part bottle and part breast progress, as a rule, more steadily and uneventfully than do those who receive the bottle alone. Furthermore, by thus maintaining the secretion of the maternal breast, one is in an infinitely better position in the event of digestive disturbances or intercurrent disease, especially during the hot season, for it is then possible to fall back temporarily upon the easily digested breast milk alone. In some cases the increasing amount of breast milk under proper diet and hygiene allows later of dropping some or all of the supplementary feedings.

The importance of conserving the maternal milk in connection with such artificial feedings as will eke it out has received but little recognition. Some of the laity, and even occasional practitioners, are still found who believe and maintain that it is unwise or dangerous to give the child the two kinds of milk together. Several years ago, at the Infants' Hospital on Randall's Island, before the efforts of the medical staff for the establishment of an adequate milk laboratory had been crowned with success through the private generosity of Mr. Nathan Straus, the mortality of the bottle-fed infants under one year was very high, but that of foster-children, nursed by the wet-nurses in addition to their own children, was also most discouraging. Through the efforts of the author and his associates, the system of alternating nursing at the breast, with more or less supplementary bottle feedings, has been brought into general use with most satisfactory results, as attested by the condition and growth of these infants, which far excels that of the exclusively bottle-fed; for, contrary to the old belief, few women in institutions can furnish breast milk enough for the proper nourishment of two infants, and it is the foster-child that almost invariably suffers. This system of part breast and part bottle is apparently the only solution of the problem of mortality in foundling hospitals, as the recent statistics from Randall's Island amply demonstrate.

In almost all institutions, however, which provide for nursing women and young infants, there is the utmost disregard of the diet and hygiene of the women who are there to produce breast milk. Strong tea is served at nearly every meal and liberally drunk by the women. Milk to drink is often theoretically supposed to reach them, but it is left to a woman's own preferences whether she takes it or not. Pale, anæmic, and poorly fed, she sits all day listlessly about the ward,

[1] Birth weights as reported by mothers are almost invariably unreliable. They are usually mere guesses by the physician, nurse, or friends.

or is assigned to some more active duty in-doors. Methods the equivalent of these applied to cows would soon ruin the dairyman, yet these women are paid or receive benefits in return for the milk which they can furnish. Why, then, should they not be under closer supervision, and be supplied only with such nutritious and wholesome food as will enable them to give good milk and the largest possible quantity?

During the house service of Dr. J. C. Roper at the Nursery and Child's Hospital (January 1 to May 1, 1900), the nursing mothers and wet-nurses were stringently required to walk or be in the open air for one to two hours daily, while their diet was enlarged and supervised on the lines mentioned above, with the result of improving the supply of breast milk both in quantity and quality. This enabled them to supply breast milk to a larger number of orphan children than would otherwise have been possible. The women thus cared for during the winter and spring months were the only ones who successfully nursed their children through the summer. No further demonstration was necessary, to those who watched this experiment, of the feasibility of favorably influencing the secretions of the breast by these measures.

Since this paper was begun, the author has been pleased to find that Dr. Koplik, in his paper read before the American Pædiatric Association in June 1899,[1] advocated the utilization of part breast feeding when possible. It seems as if this must have been the conclusion reached by every one who has struggled thoughtfully and conscientiously with the problems of infant nutrition, yet it has scarcely found a place in the literature of the subject. On all sides the impression is found that as soon as a child digests several feedings daily from the bottle it is a matter of little consequence how soon the weaning is completed. The nearer the end of a normal child's first year approaches the more truth there is in this position. But if it be in the first few months or half year, I do not hesitate to assert that such early weaning to the bottle is fraught with very serious dangers to the child. The career of the infant whose food is in part at least breast milk is much more likely to be uneventful. The direct and indirect dangers of digestive disturbance and varying grades of malnutrition in those who receive the bottle alone can scarcely be set forward too strongly. Let no one count it a light matter, then, to advise the early withdrawal of the breast, for in so doing, in no small proportion of cases, the child's life hangs in the balance. What matters it that the mishaps may be postponed weeks or months? But, because they are postponed, the fatal outcome of the gastro-enteritis or broncho-pneumonia, or infectious disease, or rachitic convulsion is none the less due to the malnutrition of bottle-feeding.

47 West Fifty-sixth Street.

Cataract Formation after Lightning Stroke.—J. Preindlsberger has observed this event three times as a sequel to lightning stroke. One case was that of a man aged twenty-four years, who was thrown from his chair and rendered unconscious for ten minutes by the bolt. Difficulty with vision began a month or two later and progressed until even the power of finger counting was lost. The other two patients were brothers who were struck simultaneously and remained unconscious for some time. Shortly after the accident the vision was rosy, but improved again, only to be almost entirely lost in the course of time. In all three patients other causes for the formation could be excluded, and operation was followed by fair functional results.—*Wiener klinische Wochenschrift*, March 28, 1901.

[1] "Increase of Weight in Infants Fed Artificially." Arch. of Pediatrics, October, 1899.

ON BANDAGES FOR NEPHROPTOSIS.*

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As early as 1841, in his epoch-making memoir on the subject of movable kidney, Rayer[25] advocated the wearing of an abdominal bandage for the relief of the condition. Oppolzer,[23] fifteen years later, followed with a—for that time large—statistical contribution, in which he condemns the bandage as useless. Of the earlier writers, the majority advocate some form of artificial support. Later, after operative fixation of the kidney was proposed and performed by Hahn, in 1881, and as nephropexy gradually became established as a legitimate and successful operation, the advocates of the bandage treatment became relatively fewer and fewer.

Simple bandages, consisting of either a supporter or belt enveloping and sustaining either the whole or a part of the abdomen, were recommended by Herzka,[11] Zuelzer,[32] Douglas,[4] Miller,[19] Willmore,[31] Bevill,[3] and by Rose,[26] the latter advocating support by strips of adhesive plaster, more especially in cases of gastroptosis, although his device answers equally well in cases of movable kidney. These simple supports are rational in that they act by supporting the entire contents of the abdomen, in this way sustaining and more or less immobilizing the movable kidney or kidneys. They are most satisfactory in cases of movable kidney or kidneys associated with general enteroptosis. When movable kidney exists and produces symptoms in the absence of general enteroptosis, supporting bandages of any kind, including the low-reaching corset, will prove unsatisfactory.

Bandages, trusses, and belts, with special kidney pads, have been devised in great number. Ellinger[11] and Lindner[16] have described such special apparatus. Smith,[29] Niehans,[22] and Suckling[30] use a truss with a kidney pad; Stewart[27] uses a belt and pad. A supporting bandage with an air pad over the kidney was first recommended by Newman,[21] and subsequently by Le Cuziat[14] and Stifler,[28] while Lockhead[17] recommends a belt and rest.

Before discussing the various appliances with a kidney-pad feature, it may be of interest to summarize briefly the various other methods of treatment, exclusive of nephropexy, advanced for the cure of movable kidney. Of these measures, the only one that deserves serious consideration is general massage, either alone or combined with the rest cure. Massage of the kidney itself, as will be shown farther on, is injurious, and therefore to be avoided. Bachmaier,[2] Fellner,[12] and Eccles,[8] among others, have written on this subject. Other measures proposed possess interest simply as therapeutic vagaries. Such are the proposition of Newhall[20] to cure by electricity, applied by placing one pole over the kidney and the other in the vagina; of Abrams,[1] who believes he caused adhesions of the kidney by applying over it collodium cum cantharide; and of Raichline,[24] who succeeded in one case with hypodermic injections of renal extract or renine. Le Gendre[15] advocates diet and strychnine to reduce meteorism, while Guizburg, per contra, as quoted by Fischer,[13] administers a yeast ferment, with the object of producing meteorism, and thus sustaining the prolapsed kidney.

I shall now endeavor to show why all appliances devised to maintain a movable kidney in place by direct pressure upon the displaced organ exerted by means of a special kidney pad are not only illusory but really harmful.

In the first place, it is difficult, nay, impossible, for any one who has had even a moderate experience in

* Read before the Medical Society of the County of New York, April 22, 1901.

the examination of patients for movable kidney to understand how any pad can be contrived from the pressure of which a freely movable kidney will not escape. With the patient in the upright position, it is practically impossible to maintain a movable kidney securely in place for any length of time by the pressure of one hand applied ever so intelligently. The well-rounded, smooth organ, embedded in fat, escapes most provokingly in the direction of least resistance. How much more elusive, then, must it prove to any mechanical contrivance! With the patient standing, it requires two hands, one pressing from in front and the other from behind, with the fingers meeting below the lower pole of the kidney, or a similar grasp between the thumb and fingers of one hand, to sustain a movable kidney in place. No form of kidney truss has, to my knowledge, yet been presented with two pads—one pressing deeply into the hypochondrium and the other into the lumbar region, and no patient could be found capable of enduring the pressure necessary to sustain a movable kidney above two such pads and to prevent it from gliding down between them.

In the next place, such pressure, even if it could be endured by the patient, or a lesser degree of pressure, even if it could be applied to the kidney, must, according to the researches of Menge,[10] prove positively harmful. Menge found that even the pressure exercised upon the kidney in performing diagnostic palpation is not a matter of indifference. He examined the urine before and after palpation of the organ in twenty cases of movable right kidney and in one case of mobility of both kidneys. In six cases only were the urinary findings the same before and after palpation. In fifteen cases in which the urine was found normal just before palpation, it always contained albumin and a little blood after palpation. Albumin was always found in greater quantities than could be accounted for by the amount of blood present in the urine. He states, indeed, that we may have a pure albuminuria without blood corpuscles. He concludes that the albuminuria and its degree depend, probably, upon: 1. The vigor and duration of the kidney palpation. 2. The nutritive condition of the patient. 3. The tension or tonicity of the abdominal walls. 4. The degree of nephroptosis. 5. Indefinite conditions which we may group as "sensitiveness of the palpated organ." As a result of his investigations, he warns against massage of the kidney and against bandages with special kidney pelotes or pads.

The above observations seem to sustain the wisdom of Nature in placing the kidneys in the well-protected location they normally occupy. They may also help to explain some clinical observations of the writer in connection with his work in operative fixation of movable kidneys. In two hundred and forty-one nephropexies performed upon one hundred and seventy-six patients I encountered no less than nineteen kidneys affected with chronic interstitial nephritis and two with acute nephritis. In the fourteen patients affected with chronic nephritis the disease was confined to the right kidney in six, to the left kidney in three, in five it was bilateral. In other words, it was unilateral in nine, bilateral in five only, a fact pregnant with meaning and hope to sufferers from chronic nephritis. These findings seem to indicate that Bright's disease is proportionately more common in patients with movable kidneys than in individuals with kidneys in place. Is this because of circulatory disturbances connected with the displacement, or is it because a movable kidney is more exposed to various traumatisms than one well up beneath the ribs, or are both causes active in producing the result?

In connection with these eighteen nephropexies performed upon patients with chronic nephritis, the interesting observation was made that a cure of the nephritis followed operative fixation of the kidney in a large proportion of cases. Albumin and casts disappeared permanently from the urine. My earlier observations in this direction were published two years ago under the heading: "Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy."[8] Growing experience has added confirmation to the deductions drawn in this paper, and I am now prepared to go a step farther and propose surgical intervention for the purpose of attempting a cure of chronic nephritis, whether the affected kidney be movable or in place. The surgical intervention, as in my practice heretofore, is to take the form of a nephropexy with denudation of the kidney cortex when the kidney is movable. When the inflamed kidney is not movable, and operative fixation of the organ is, therefore, not indicated, I shall content myself with entirely denuding the kidney of its capsule proper, and thus affording free opportunity for the formation of new vascular connections, on a large scale, between the blood-vessels of the kidney and those of its fatty capsule. The relief to the kidney circulation by the establishment of an abundant collateral circulation, which, I believe, has been the chief factor in the production of the favorable results I have thus far obtained in the cure of Bright's disease affecting a movable kidney, will thus be applied to all chronically inflamed kidneys, whether movable or not. The rationale of the procedure will resemble, though with a distinct difference, that which applies to the modern surgical treatment of ascites due to cirrhosis of the liver. The writer is at present engaged in collecting from his operative clinical experience the evidence bearing upon this subject, with a view to its presentation in print in a fuller and more formal manner.

A third reason why a special kidney pad should never be applied is based upon the relations of movable right kidney and chronic appendicitis, to which the writer[7, 8, 9] has repeatedly drawn attention. It is my firm conviction, based upon painstaking clinical observation, that more or less congestion or inflammation of the vermiform appendix is present in nearly all cases of movable right kidney producing symptoms, and these cases are the only ones that call for treatment.

This conviction has been but strengthened by enlarging experience. Thus, in the last seventy-four patients upon whom I have performed nephropexy—unilateral in thirty-three, bilateral in forty-one—since June, 1898, chronic appendicitis was found and the appendix was removed, by inversion or excision, in no less than fifty-four. Of these fifty-four diseased appendices, eight were removed prior and one subsequently to the date of nephropexy; while in forty-five cases the appendicitis was operated upon simultaneously with the performance of right nephropexy through one and the same lumbar incision. Every special kidney pad, by virtue of its pressure above the region of the appendix, must interfere more or less with the return circulation of that organ, and must on that account prove injurious and dangerous.

Summary: Bandages for movable kidney may be divided into two general classes:

1. Simple bandages, and apparatus embodying the feature of a special kidney pad.

2. Simple bandages act by supporting the entire contents of the abdomen, sustaining and more or less immobilizing the movable kidney or kidneys on top of the intestinal mass.

3. All the relief to be gotten from bandages in cases of movable kidney, is obtainable from one of two devices, either from an elastic bandage, encircling and sustaining well the lower two-thirds of the abdomen, or from a long and low-reaching corset, fitted and adjusted with the same end in view.

4. The relief obtainable from bandages in any case of movable kidney will depend upon the presence and the degree of any associated enteroptosis. The greater the degree of associated general enteroptosis the better the prospects of relief from a bandage or corset. When movable kidney exists without general enteroptosis, no form of apparatus will prove satisfacory.

5. All forms of apparatus with special kidney pads or trusses are to be absolutely rejected because they are impotent to fix and sustain a movable kidney, and because any pressure they may exercise is injurious to either the kidney or to neighboring organs, especially the vermiform appendix, or to both.

6. In all cases in which relief of symptoms cannot be obtained from either a proper simple bandage or corset, nephropexy is indicated.

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59 WEST FORTY-NINTH STREET.

Secondary Tuberculosis.—I have repeatedly insisted that in all operations for secondary tuberculosis, complicated by pyogenic infection, it becomes necessary carefully to remove the tuberculous focus and to resort to vigorous means of chemical disinfection so as to render the early removal of the dressing superfluous; that is, iodoform gauze should remain for one or two weeks unless symptoms arise which furnish an indication for its earlier removal.—N. SENN.

VERSION: INDICATION, TECHNIQUE, LIMITATION.[1]

BY S. MARX, M.D.,
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IN the performance of version we attempt to substitute one pole of the fœtal plane for another. We recognize but one form of procedure; namely, the true internal version; we admit the value of both the external and the combined varieties, but since there is only an extremely limited field open to both of them it is thought better to limit these remarks to the one variety: the pure internal method. And again I must omit a subclassification of this variety—the various means of manual rectification, which are of great value in their particular sphere. This I do with reluctance, but the time limit in this discussion makes a lengthy discourse on this subject one that is out of the question.

Indications: For purpose of brevity I shall attempt to classify the indications into five categories:

(1) Malpositions and malpresentations.

(2) Contracted pelvis, either relatively or absolutely so.

(3) Prolapsus funis or allied conditions.

(4) For all other unclassified conditions, such as placenta prævia.

(5) Except under very rare conditions, in all cases in which the head remains above the brim; the exception being in those cases in which there is present a uterine rupture or a very much thinned-out lower uterine zone showing plainly the contraction ring of Bandl. This is my only indication for forceps as compared to version when the head is above the brim. But in most of these cases which are prolonged, fruitless, and severe labors, the child has often suffered so severely as to have been already sacrificed, or at best is in imminent danger of dying; here an elective perforation should always be given the preference. Instead of becoming more conservative in the use of destructive measures, in my own work so far as the child is concerned I am frank to admit that there is a very large, useful, and if I may say conservative field in the employment of destructive instruments. I speak from the standpoint of one who wishes to serve the best interests of his patients, and not from the standpoint of the hospital surgeon who is tabulating tables for quantity's, not for quality's sake. My strong plea is for the mother and not for the child when the latter is in extremis. When such conditions obtain and the mother is in danger I invariably sacrifice the fœtus. And it is a rule with me to perforate in all cases in which the child is either dead or is in grave danger, no matter what its position in the pelvis, unless its delivery can be so easily accomplished that the mother runs not the slightest danger by more conservative measures. I wish to emphasize the fact that, with the exception noted above, I stand squarely for an elective version in all cases in which the head remains above the brim; and my reasons for so doing are as follows:[2] Non-engagement of the head means either a malposition of the presenting part, or we are dealing with a pelvis that is relatively or absolutely contracted; and by a relative contraction I mean a pelvis that is large enough to admit of the passage of an ordinary-sized child, yet is too small to admit of the engagement of an overgrown or large-sized head. In this country minor pelvic contractions are not uncommon, and they cause most frequent trouble because of their not being recognized. In these cases the mechanism is different from that which takes place in normal pelves. Instead of engaging obliquely with fair flexion they engage transversely in a condition of hyper-flexion. Since most

[1] Being part of a symposium read before the section on obstetrics, New York Academy of Medicine, April 25, 1901.

[2] MEDICAL RECORD, April 15, 1899.

contractions are antero-posterior ones with compensatory increase in the transverse diameters, it would appear that nature conforms with what would be an ideal attempt on her part to overcome the dystocia. This is fulfilled in most cases; but in some, at the critical moments, the forces of nature are exhausted and the woman fails to deliver herself. Now if the forceps is applied either from side to side or even obliquely, pressure is exerted more or less from side to side, which in my experience is not compensated for by an overlapping of the bones; and thus, were this true, would not increase the biparietal diameter of the head; but from a personal experience the pressure from side to side causes an increase in the biparietal diameter, which conforms to the contracted antero-posterior diameter of the pelvic inlet. In this fashion it increases the pelvic contraction both relatively and absolutely in this direction. But when version is done under the above conditions, the after-coming head descending as it should be compelled to in a proper mechanism, that is transversely, pressure is exercised by the antero-posterior contraction upon the biparietal bosses, diminishing their diameter where the greatest contraction is; and thus we obtain a compensatory side-to-side head enlargement, which conforms to the enlarged transverse pelvic inlet. This, I believe, explains the superiority and safety for the child of version over the true high forceps application in case of pelvic contraction. And for all these reasons do I elect version over forceps in all cases in which the head remains above the brim. In cases of malpresentations and positions we are again called upon to elect the operation which will most clearly best serve our purpose. All positions, good or bad, which persistently remain above the brim and which are not readily correctible by various measures, should call for an elective version; for instance, posterior occiputs or face cases. When flexion or extension or postural treatment fails, an early and timely version done before exhaustion threatens both mother and child will give us the very best results.

In transverse arm or other atypical positions a spontaneous evolution can hardly be relied upon to overcome the complication. Here I have found that a prophylactic version, done as soon as the membranes have ruptured, serves the best purpose, allowing the active extraction interference to be postponed either until there is an urgent indications to terminate the labor or until the os uteri is fully dilated. More pressing is the indication to interfere when a placenta prævia is evidenced by active hemorrhage or when we are brought face to face with a condition which immediately threatens the life of the child, such as a prolapsed cord. Here an immediate version, preceded or not by a manual dilatation of the os as the experience of the operator dictates, is urgently indicated to alleviate the dangers which immediately threaten either the mother or the child. Other measures which have been recommended for the same purpose are at best uncertain and not to be relied upon; such as in case of a prolapsed cord its replacement by catheter or posture, or in the case of a vicious placental insertion a simple cervico-vaginal tamponade.

Finally, it may be stated in general terms that version is indicated in all cases in which the life of the mother is threatened, as for example by a uræmic convulsion or an embolus of the lung. Under these conditions we must presuppose a dilatable os or one that is fully dilated. When the latter conditions do not obtain we must immediately anticipate the version by a rapid manual dilatation or a deep Dührssen's incision of the os.

Technique: In speaking of the technique of version I shall limit my remarks to the pure internal podalic method. Before going into the details of this operation I beg leave to call your attention to the following rules which have been of inestimable value to me in the past:

(1) Always be sure of the position and the presentation.

(2) Certify to the fact that the fœtus is alive or at best is not in immediate grave danger. If this cannot be done by the ordinary methods introduce the hand in utero and palpate the cord. Unless the child be in such condition that an easy and rapid delivery will produce a living child, it would be far better to do an elective perforation than to subject the mother to any other operation which carries with it an increased danger, for the sole purpose of delivering her of a child that will probably be still-born, or if born asphyxiated will give to this already overcrowded class of idiots another victim in the ranks. We, as accoucheurs, do not follow up these poor unfortunates, but the neurologists and baby doctors can tell us many a sad tale which, as they state, are the result of our too great conservatism in the use of destructive instruments.

(3) Do your version as early as you can in the presence of an intact fruit sac; or, at least, as soon after the membranes have ruptured as possible.

(4) Always introduce the hand corresponding to the position of the fœtal feet.

(5) Always turn the child in such a fashion that will keep nature's classic ovoid intact; that is, carry the foot along the abdominal plane of the fœtus and not away from it. In the presence of unruptured waters it is advisable to preserve the integrity of the membranes until the foot is grasped. The woman being placed on the back, that hand is introduced which corresponds to the position of the feet: the left hand when the feet are in the right segment of the uterus, consequently to the left of the operator as he faces the patient; or the right hand when the opposite condition obtains. Slowly insinuating the hand between the membranes and the uterine wall, it is carried up to the fundus until a foot is felt. It is perfectly immaterial which foot you grasp or whether one or both, so long as you have a foot. If a hand or arm is delivered by mistake, it should not be replaced, but should be left delivered by attaching it to a sling, since I have always felt that an arm delivered is worth two undelivered. Rapidly bringing the foot down in a direction which does not disturb the well-flexed position of the child it is generally advised to finish the case by an immediate extraction. When a manual dilatation has preceded the version it is a well-known clinical fact that a rapid retraction of the lower uterine zone is likely to recur, and for this reason, in order to prevent the head from being caught in the grasp of the spasmodically contracted cervix and causing the loss of the fœtus at the critical moment, it is always advisable to do a very rapid delivery. When we are dealing with a small pelvis the after-coming head must always be guided through the largest diameter of the inlet, which is usually the transverse. As the head comes through the contracted pelvic inlet the woman must be thrown momentarily into the Walcher position in order to increase the conjugate of the inlet, which it certainly does by one-half to three-quarters of an inch, but at the expense of the corresponding diameter at the outlet. Consequently, as soon as the head has passed the contracted inlet the patient must be placed in the exaggerated lithotomy position. I feel that the great error committed by all of us is to rely too much, in delivering the breech, upon the traction efforts instituted by pulling on the legs, and far too little on the vis a tergo. From my own standpoint I always refrain from active traction efforts from below, but use the legs more as a guide for the after-coming head. Well-marked and well-directed pressure from above will do more to keep the head firmly flexed and carry it through the brim than any manœuvre that I know of. The after-

coming head can be delivered by any of the usual methods, but as an accessory measure I have found very useful the introduction of the fingers, not at the point of the jaw but well back to and beyond the root of the tongue, in order more forcibly to flex the head. The malar bones for this same purpose give too little and too uncertain a purchase.

Now as to the limitations of the operation. I feel that I am approaching a very difficult and uncertain theme, for much depends on the skill and the personal equation of the operator in placing the limits of version. If we knew what constitutes a contracted pelvis or if by any known scientific means we could gauge the size of the child's head, we would be dealing with a very simple problem. But no one can have the skill to do this with certainty, but only approximately. For we all have known small babies to be born quickly through markedly small pelves, while on the other hand finely built women have been subjected to grave measures in order to confine them of a very large child. For general purposes, in order to obtain a reasonable working basis, we must estimate from the standpoint of the average pelvis and the average-size child. In all such conditions in which the head remains above the brim a version ought always to be performed, providing the head cannot be pushed into the pelvis by suprapubic pressure. Further, no operative measure short of a perforation should be instituted in the presence of a dead or dying fœtus. Our lowest limit for a deliberate elective version would be in the case of a pelvis whose true conjugate is at or above three and three-fourths inches in the presence of an average-sized or small child. Further, if it be remembered that by placing the woman in the exaggerated extension or Walcher position we obtain an increase of the true conjugate of the inlet of between one-half to three-quarters of an inch, then our extreme lowest limit would be almost three inches. It is of the utmost importance to remember that the time for the Walcher is then and then only when the head is passing the contracted inlet. These measurements are purely arbitrary and certainly would not hold good in the presence of a large or over-sized child. Here then is the time when the matter of personal equation comes in. It has never appeared to me that the subject could be a matter of centimetres or of inches, but a relation, pure and simple, between the ability of the head to pass through the pelvis by head-first or head-last mechanism, or again such disproportion between the two that nothing short of a Cæsarean or symphyseotomy operation would suffice to terminate the labor. Finally the finer details will ever remain a problem which only the individual skill and experience of the expert accoucheur may possibly solve. But this much I may be allowed to opine—and a personal statement it is—and that is, that the operation of version stands squarely midway as an alternate operation between (of course excluding perforation) forceps and Cæsarean section. From what I know my experience has taught me, I feel that the field for symphyseotomy is becoming smaller and smaller, and with increasing expertness in the field of a rational pelvimetry and with the possible hope that our methods for gauging the size of the head of the unborn child will become a finer and more exact art, it is to be hoped that the operation of symphyseotomy will soon be remembered as one that was performed during a wave of an enthusiastic period.

947 Madison Avenue.

Eucaine hydrochlorate may be combined with two-per-cent. sodium sulphate for subcutaneous injection. For application to mucous membranes when local ischæmia is desired it should be followed or combined with suprarenal extract.—Wingrave.

AXIS-TRACTION FORCEPS.[1]

By EGBERT H. GRANDIN, M.D.,
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The impression I have gained from observation and reading is that but few teachers of obstetrics, and in consequence but few practitioners trained by these teachers, realize the decided advantages possessed, under certain conditions, by the axis-traction forceps over the more familiar type of instrument. It is a surprising matter to me that in this country so little has been written upon the subject of axis-traction, in view of the fact that "fads" (if you will pardon the term) of foreign origin too readily gain entrance here, and that in no country on the face of the globe is the medical profession so prone to test faithfully and to sift judiciously the value of any and every procedure or instrument which is born with or without the weight of authority. Certainly in matters obstetrical we have not moved slowly in almost every respect, and yet to-day, even as twenty-five years ago, the axis-traction forceps, outside of the hands of an exceeding few, is rarely owned and rarely utilized. Has it, therefore, real value?

In 1879 it was my privilege for a few months to walk the wards at the Maternité in Paris with the late Professor Tarnier, and over and again, with the enthusiasm characteristic of his nature, he dilated on and demonstrated the value of axis traction. These views were utterly at variance with those of my teachers in obstetrics—Buckingham and John Reynolds—and I recall the quandary I was in at the outset of my career as to whether it was worth my while to purchase the axis-traction forceps. During my connection with the New York Maternity Hospital and the New York Infant Asylum ample opportunity for practical test offered, with the result that, under the indications I shall shortly dwell upon, I became convinced, and I am still convinced, that the axis-traction forceps is not alone a life-saving measure when any other type of instrument is very liable to fail, but that it also saves fœtal life, with less liability to cause intracranial lesions or to inflict deep and serious damage on the maternal parts.

Before stating tersely the advantages carried by the type of forceps under discussion, it seems wise to recall the following elementary data: The main use of the forceps is as a tractor. Its subsidiary uses are for the purpose of leverage and rotation. Necessarily associated with traction, leverage, and rotation is compressive force applied to the part of the fœtus which is in the grasp of the instrument. Leverage is a necessary accompaniment of traction, for the simple reason that it is infinitely difficult to pull in a straight line. The forceps, as a rotator pure and simple, should rarely be utilized, except in so far as during traction the instrument obeys the natural forces which demand rotation in the given case. Forcible rotation risks deep lesion of the maternal parts, and, furthermore, the fœtal trunk may not follow the movement imparted to the fœtal head, and the result is self-evident.

Forceps application is conveniently divided into high (*e.g.*, the presenting part is above the pelvic brim or engaged by its greater segment); median (*e.g.*, the presenting part is within the pelvic cavity); low (*e.g.*, the presenting part is on the pelvic floor and at the outlet). For the purpose of low application any type of forceps should answer, and similarly in the case of median application in instances in which deficiency in the expelling force is at the bottom of the retardation in labor. High application in my hands is limited to instances in which the membranes have ruptured and the presenting part has just engaged; otherwise, for reasons

[1] Read before the section on obstetrics and gynæcology of the New York Academy of Medicine, April 25, 1901.

which it is beyond the scope of my subject to dwell upon, version should be the operation of choice.

For high application and for difficult median application we need a type of instrument which will fulfil the following indications:

1. Traction in the correct axis.
2. Traction with expenditure of the least effort on the part of the operator.
3. Traction with the least compression of the fœtal head.
4. Traction with the least interference with normal mechanism (*e.g.*, rotation).
5. Traction with least consequent damage to the maternal parts.

Those who are familiar with the axis-traction forceps will tell you that there is no type of the instrument which meets these indications to better advantage.

The first indication is self-evident and requires scarcely any comment. Under the conditions given (high and median application), the necessity for traction downward and backward as much as possible exists, and the axis-traction forceps can alone do this.

The second indication—least effort on the part of the operator—is a necessary corollary to the first indication. The nearer we can approximate traction in the correct axis with the greater facility may the presenting part enter the superior strait and traverse the cavity, and therefore the less traction force requisite.

The third indication—as little compression of the fœtal head as possible—requires some comment. The subject of intracranial lesions and remote effects the result of undue compression during difficult labor, has been dwelt upon so much that I need only refer to it. As practical obstetricians, we must avoid this compression, and in so far as traction is made in the correct axis, compression is certainly lessened. Furthermore, when the fœtal head is properly grasped by the axis-traction forceps it is maintained in position by the contact of the blades of the forceps and the pelvic wall. Extra compression can alone be applied through the screw which the forceps carries, and this screw need rarely be utilized when the operator becomes expert, unless disproportion between the pelvis and the presenting part is so great that delivery by forceps is an impossible problem. Very different is the case with any other type of forceps, in which compression during vigorous traction depends, so to speak, on the strength of the grasp of the operator. The harder he pulls the more firm the grasp.

The fourth indication—non-interference with normal mechanism, *e.g.*, rotation—is alone satisfied by the axis-traction instrument. Imagine the fœtal head grasped by the ordinary type of forceps—and remembering I have always in mind difficult delivery—during vigorous traction the head endeavors to rotate, and the operator cannot—as he should—be conscious of this effort to undergo normal mechanism, it may be, into faulty position, *e.g.*, posterior. Imagine the same head grasped by the traction forceps; the handles of the forceps are an ever constant index of the position the presenting part is assuming, and it is the duty of the traction rod to follow this index. Should the handles turn in the direction which indicates that the head is rotating after a normal mechanism, traction on the rod in the correct line may assist this rotation. Should the handles tell us that the head is rotating posteriorly, the alert operator may sometimes prevent this by making traction in an opposite direction, or by grasping handles and traction rod resort to the procedure so well described recently by Dr. Simon Marx under the term rotary axis-traction forceps. In short, for blind traction is substituted sentient traction.

The fifth and last indication—avoidance of deep lesion to the maternal parts—follows as a corollary from the fact that traction is possible more approximately in the correct axis, and, furthermore, in that the tendency to utilize leverage is reduced to the minimum where the traction rod exists. The "see-saw" motion, which is almost inevitably resorted to when difficult traction is made with the ordinary type of forceps, does not enter into the problem when the axis-traction instrument is substituted.

The rules governing the application of the axis-traction forceps are similar to those associated with other types. In high application the blades are applied to the sides of the pelvis; in median application, to the sides of the fœtal head.

While axis-traction forceps, even as any other type, may slip if improperly applied or if the grasp be faulty—and here the operator is at fault and not the instrument—it must be stringently taught to all who use the former that inattention to the following cardinal rule will always result in slipping, with consequent lesion of the maternal parts. While making traction, the traction rod must ever remain parallel to and almost in contact with the handles. Neglect or ignorance of this rule renders the axis-traction forceps a very dangerous instrument.

Necessarily, within the time limit, I have been unable to enter into details, and have been obliged to be somewhat dogmatic in my statement. My faith is strong, however, that one need only be trained in the use of the axis-traction forceps to learn the wisdom of all I have here written, and then in the hands of the many there will be fewer impossible forceps deliveries, far less avoidable damage to the maternal parts, and—possibly chiefest of all—fewer intracranial injuries laid to the door of one of the most useful and beneficent instruments ever devised.

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CÆSAREAN SECTION.[1]

By EDWIN B. CRAGIN, M.D.,
NEW YORK.

For a clear idea of Cæsarean section as it stands today, one has very largely to free himself from past impressions of indications and results and study the operation under the light of present experience.

Into the literature of the subject the writer will not enter, the object of this paper being the presentation of the work in this line done by him at the Sloane Maternity Hospital, and a discussion of the experience gained therefrom. During the last three years the writer has performed Cæsarean section at the Sloane Hospital in nine cases, with a successful result for mother and child in all save one case of advanced carcinoma of the uterus and vagina, in which the child was dead and beginning to macerate, and the operation of Cæsarean section was determined upon not from choice but as the only means of delivering the woman, who evidently had but a short time to live. A brief abstract of the cases is here presented.

Case I.—Mrs. G——, aged twenty-seven years, primigravida, native of Ireland, was admitted to the Sloane Hospital May 31, 1898. Four years previously a ventrofixation had been performed for retroversion of the uterus. Her last menstruation began August 4, 1897. The presentation was transverse; the position, R.D.A. The first stage of labor began May 30th. The membranes ruptured before admission. The abdomen showed the cicatrix of the previous median incision, from which union was apparently not primary. The cervix was situated high up posteriorly and admitted two fingers. Extending from the cervix to the point

[1] Read before the section on obstetrics and gynæcology at the New York Academy of Medicine, April 25, 1901.

of suture of the uterus to the anterior abdominal wall was a muscular tumor, formed of the anterior uterine wall, blocking the entrance to the pelvis. Delivery *per vias naturales* was evidently impossible, and Cæsarean section was decided upon. The Sänger-Cæsarean operation was performed May 31st, the child being delivered in two and one-half minutes from the first incision. The time of the complete operation was fifty-four and one-half minutes. The child at birth weighed eight pounds. The convalescence of the mother was uneventful. She was allowed up on the twenty-first day, and mother and child were discharged in good condition July 6, 1898.

Case II.—Mrs. F——, aged twenty-seven years, primigravida, native of Ireland, was admitted to the Sloane Hospital October 30, 1898. Her last menstruation began January 25, 1898, and lasted only one day, although usually lasting five days. Pelvimetry showed the distance between the spines 23.50 cm.; between the crests, 24.50 cm.; the right oblique diameter, 20.50 cm.; the left oblique, 20 cm.; the external conjugate, 17.75 cm.; the diagonal conjugate, 9.25 cm.; the true conjugate, 7.75 cm. The presentation was vertex; the position, L.O. The fœtal heart beat was 140. The head lay three fingers' breadths above and projecting in front of the symphysis. The membranes ruptured November 4th, at 4 A.M., five days after admission. On November 9th the fœtus showed signs of compression, the fœtal heart slowing down to 60 and an umbilical souffle being detected. The cervix admitted a finger tip. The head failed to descend, and Cæsarean section was decided upon and the Sänger operation performed. The child was delivered in sixty-five seconds from the first incision. The time of the complete operation was twenty-six minutes. Convalescence was interrupted on the sixth day by a rise of temperature to 102.6° and pulse to 156. Vaginal examination showed the cervix contracted and the lochia retained. Temperature and pulse fell to normal on the eighth day, and further convalescence was uneventful. The patient was allowed up on the twenty-first day, and mother and child were discharged in good condition December 15, 1898. The child at birth weighed seven and three-fourths pounds. The diameters of the fœtal head were: suboccipito-bregmatic, 9.50 cm.; suboccipito-frontal, 11 cm.; occipito-frontal, 11.25 cm.; occipito-mental, 13.50 cm.; biparietal, 8.50 cm.

Case III.—Miss F——, colored, aged fourteen years, primigravida, native of the United States, was admitted to the Sloane Hospital November 7, 1898. She did not remember the date of her last menstruation, but felt life in July. She had been a weakly child, not walking till three years old. On admission she measured three feet ten inches in height. She was a rachitic dwarf with a marked lordosis; her abdomen was slightly pendulous, and the tibiæ showed an anterior and inward curvature. Pelvimetry showed a flat, rachitic pelvis. Distance between spines, 23 cm.; between crests, 22.75 cm.; right oblique, 16.25 cm.; left oblique, 17 cm.; external conjugate, 14.75 cm.; diagonal conjugate, 6.50 cm.; true conjugate, 5 cm. Cæsarean section was decided upon and December 5th selected as the date. The child was delivered in thirty seconds from the first incision. The placenta and membranes were removed and then a complete abdominal hysterectomy was performed. The child at birth weighed four pounds nine and a half ounces. The diameters of the fœtal head were: suboccipito-bregmatic, 8.50 cm.; suboccipito-frontal, 10.25 cm.; occipito-frontal, 10.75 cm.; occipito-mental, 12 cm.; biparietal, 8.50 cm. The patient made a good convalescence and union was primary. She was allowed up on the twenty-first day, and she and her baby were discharged in good condition January 6, 1899.

Case IV.—Miss B——, aged twenty-nine years, primigravida, native of Germany, was admitted to the Sloane Hospital December 17, 1898. Her last menstruation occurred March 10, 1898. She had been a weakly child, not walking till three years old. She was in the second stage of labor when admitted. The child was in breech presentation and left sacro-anterior position, both feet and the right hand being easily felt. The breech overrode the symphysis. Pelvimetry showed the following diameters: distance between spines, 28 cm.; between crests, 28.50 cm.; right oblique, 20.50 cm.; left oblique, 20.50 cm.; external conjugate, 17 cm.; diagonal conjugate, 9.25 cm.; true conjugate, 7.75 cm. The size of the pelvis compared with the size of the child seemed too small for delivery *per vias naturales*, and Cæsarean section was determined upon and the Sänger operation performed. The child was delivered in sixty seconds from the first incision, the complete operation occupying forty-two minutes. The child at delivery weighed eight pounds eight and a half ounces, with the following cephalic measurements: suboccipito-bregmatic diameter, 10.50 cm.; suboccipito-frontal, 11.75 cm.; occipito-frontal, 12.75 cm.; occipito-mental, 13.50 cm.; biparietal, 10.75 cm. The union was primary. The patient was allowed up on the twenty-first day, and mother and baby were discharged in good condition January 19, 1899.

Case V.—Miss H——, aged twenty-two years, primigravida, native of the United States, was admitted to the Sloane Hospital September 4, 1899. At the age of eight years her spine was first noticed to be in condition of kyphosis. This gradually increased till she was fourteen years old. Since then she had been strong and well. On admission she measured four feet four inches in height. There was a very marked kyphosis occupying the whole of the dorsal region, with a compensating lordosis in the lumbar. Pelvimetry showed the distance between spines to be 23.50 cm.; between crests, 26 cm.; right oblique, 19.75 cm.; left oblique, 19.50 cm.; external conjugate, 20 cm.; diagonal conjugate, 11.50 cm.; true conjugate, 10 cm. The vagina was posteriorly placed, the hollow of the sacrum easily felt, the subpubic angle acute. The distance from the tip of the coccyx to the subpubic ligament was 6 cm.; between the tuberosities, 5.50 cm. The child was already too large to pass the pelvic outlet, and Cæsarean section was determined upon and performed October 16, 1899. After an abdominal incision from 2 cm. below the umbilicus to 2 cm. above the symphysis the uterus was incised *in situ*, the child extracted in thirty seconds from the first incision, and the uterus then lifted from the abdomen. This was followed by supra-vaginal hysterectomy. The complete operation consumed forty-two minutes. The child at birth weighed seven pounds four ounces. The cephalic diameters were: suboccipito-bregmatic, 9 cm.; suboccipito-frontal, 10 cm.; occipito-frontal, 11.50 cm.; occipito-mental, 12.25 cm.; biparietal, 10 cm. The convalescence was interrupted by two small stitch-hole abscesses, but the wound was entirely healed on the twenty-seventh day. The patient was allowed up on the thirty-third day, and mother and child were discharged in good condition November 28, 1899.

Case VI.—Mrs. M——, aged thirty years, tertiigravida, native of the United States, was admitted to the Sloane Hospital April 11, 1900. She did not remember the date of her last menstruation, but she felt life in the latter part of November, 1899. Her previous labors had been normal. For the past two years she had been suffering with a progressively increasing metrorrhagia and for a year with a foul discharge, emaciation becoming more and more marked. She had lost thirty pounds. The posterior lip of the cervix, the adjoining vaginal vault, and the right side of the uterus were involved in a cancerous mass reaching as high as the brim of the pelvis. A recent posterior laceration

of the cervix had been produced by traction on the growth by a midwife who mistook it for an extremity. This caused considerable hemorrhage before the patient was admitted to the hospital. On admission the cervix admitted two fingers. The patient's pulse was 88 but small and weak. The fœtal heart could not be heard. The patient was very restless and vomited coffee-ground material. She had been in labor twelve hours and the uterus was in tonic contraction; the pains were severe with no intermission. She was given chloral by the rectum and morphine hypodermically and sent to bed. On the following morning, April 12th, the cervix still admitted only two fingers. The tissue of the lower uterine segment was so infiltrated and rigid that, in spite of the child being already dead, Cæsarean section was determined upon instead of craniotomy. The child, slightly macerated, was extracted in one and one-half minutes from the first incision. Abdominal hysterectomy was then performed. The patient stood the operation poorly, and in spite of liberal stimulation and saline intravenous infusion during and after the operation she gradually failed and died in three hours. The child weighed five pounds fifteen and a half ounces.

Case VII.—Mrs. O——, aged forty-five to fifty, primigravida, native of Bohemia, was admitted to the Sloane Hospital December 17, 1900. She said her age was fifty years; her relatives said she was only forty-five years. Vaginal examination was difficult on account of extreme rigidity of the perineum and obliteration of the vaginal fornices by senile vaginitis. The os uteri was also obliterated. The presentation was vertex; the position L.O.A. The last month of pregnancy was normal save for recurrent attacks of indigestion ascribed to improper mastication of food, her teeth being mostly gone. The first stage of labor began January 26, 1901, at 11 A.M. At 5 P.M., the cervical atresia persisting, an opening was made with the scissors and the cervix dilated under anæsthesia sufficiently to admit a No. 2 Champetier de Ribes bag. The pains continued, and at 1 A.M. January 27th, No. 2 bag was pulled through and a No. 4 inserted. This was removed at 4 P.M. At 10 A.M., no progress having been made, the membranes were ruptured. On the morning of January 28th no progress was found; the cervix was still rigid; the head had not engaged; the uterine pains were diminishing; the fœtal heart was slow, and the mother was becoming exhausted. As the mother was anxious for a living child, Cæsarean section was determined upon and performed at 11:30 A.M. January 28th. After the usual abdominal incision the uterus was incised *in situ*, and the child extracted in twenty-five seconds from the first incision. The uterus was then lifted from the abdomen and the placenta and membranes were removed. The uterine incision exposed a fibroid tumor about the size of an egg. This was excised and the uterine incision was closed by interrupted sutures of catgut, including all layers but the endometrium. Over this line of suture the peritoneum was approximated by a continuous Lembert suture of catgut. The abdominal wall was closed by a continuous catgut suture in separate layers for peritoneum, fascia, and skin; that for the skin being subcuticular. A small umbilical hernial sac was dissected out before the abdomen was closed. On the morning of the third day the patient got out of bed to procure a drink of water, apparently with no ill effects. She was allowed up on the twentieth day, and was discharged with her baby, both in good condition, March 7, 1901.

Case VIII.—Miss S——, aged thirty-one years, primigravida, native of Germany, was admitted to the Sloane Hospital March 25, 1901. She was evidently rachitic in early childhood, not walking till four years old. Her last menstruation occurred June 6, 1900. On admission, the membranes were found ruptured, the fœtal head lying high; the promontory was easily felt. Pelvimetry showed: distance between spines, 26 cm.; crests, 28.50 cm.; right oblique, 22 cm.; left oblique, 21.50 cm.; external conjugate, 19.50 cm.; diagonal conjugate, 9.25 cm.; true conjugate, 7.75 cm. After a careful estimate of the relative size of the head and canal it was decided that delivery of a living child *per vias naturales* was impossible, and Cæsarean section was determined upon and the Sänger operation performed March 26, 1901. The child was delivered in forty-nine seconds from the first incision. The uterine incision was closed as in the preceding case. The urine at the time of operation contained eighty per cent. albumin and her convalescence was complicated by toxæmic symptoms, but these gradually subsided and the patient made an excellent recovery. The child at birth weighed six pounds thirteen ounces. The cephalic diameters were: suboccipito-bregmatic, 9.75 cm.; suboccipito-frontal, 11 cm.; occipito-frontal, 11.75 cm.; occipito-mental, 12.75 cm.; biparietal, 10 cm. The growth and development of the child were all that could be desired.

Case IX.—Miss T——, colored, aged twenty-four years, primigravida, native of the United States, was admitted to the Sloane Hospital April 9, 1901. Her last menstruation occurred August 12, 1900. Her health had been good up to the onset of labor which occurred fourteen hours before admission. She had been under the care of a midwife and a physician, by whom frequent examinations had been made. On admission, the patient was in good condition; the presentation was vertex; the position, R.O.P. The fœtal heart sounds were good. Vaginal examination showed a firm, sausage-shaped tumor lying in the hollow of the sacrum, fixed below the pelvic brim and greatly diminishing the parturient canal. A diagnosis of congenital displaced kidney was made and Cæsarean section determined upon as the safest method of delivery. After manual dilatation of the cervix for drainage, the abdomen was opened by a median incision extending from the umbilicus 10 cm. downward. The uterus was incised *in situ* and the child delivered in twenty-seven and four-fifths seconds from the first incision. The uterus was then lifted from the abdominal cavity, the placenta and membranes were removed, and the uterine incision was closed by three rows of continuous catgut sutures, the endometrium not being included in the suture. Examination showed both kidneys congenitally displaced; the right being firmly attached below the brim of the pelvis, the left loosely attached at the left sacro-iliac synchondrosis, and the two kidneys loosely attached to each other. The convalescence of the patient was complicated by a mild grade of sapræmia due to retained lochia; but after one intra-uterine douche the temperature fell to normal and thereafter remained so. The child at delivery weighed five pounds fourteen ounces. It was not a vigorous child and lived for only two weeks. The mother was suffering from albuminuria at the time of her delivery, which may have accounted for the low vitality of the child.

This series, though not a long one, seems extensive enough, and with indications for operation varied enough to enable one to gain a just opinion of the procedure, its indications, results, and methods. With the development of the science of obstetrics, the more careful study of each individual case from early pregnancy till the close of the puerperium, and the improvement in the technique and results of cutting operations for the delivery of the living child, the conclusion is being gradually established among the profession that a deliberate craniotomy, or embryotomy upon a living child, with the mother in good condition, is justifiable only in conditions of emergency and ex-

treme infrequency. The writer frankly admits that in private practice the obstetric surgeon has to be governed very largely by the wishes of the family and friends of the patient, who may induce him to attempt an obstetric operation which, although not offering so great a chance of saving the life of the child, does avoid a cutting operation upon the mother. Many craniotomies have been done only as a last resort after an attempt at version or a prolonged forceps operation has failed, the life of the child having in the mean time probably been sacrificed.

A certain number of these cases will probably always occur, as with the difficulty in determining the relative size of passenger and passage mistakes are bound to occur, and heads too large to pass unreduced in size through a given pelvic canal will escape the knowledge of the surgeon until too late to deliver by any other procedure than that of reduction in size of the presenting part.

Such an occurrence, however, should be a rare one, and with increasing study and knowledge of the relative size of child and canal, and resort to the induction of premature labor at the proper time, it will be still more rare. The question of prime importance in determining to recommend and perform one of the cutting operations upon the mother in order to save the life of the child is this, What is the danger to the mother? The writer believes firmly in the rule that in all procedures in the conduct of a parturition the life of the mother stands first, and if either life has to be sacrificed it should be that of the unborn child. So long, then, as the maternal mortality of the cutting operations varied in different countries from fifty to ninety-nine per cent., as obtained twenty-five to thirty years ago, no conscientious surgeon could feel justified in advising these procedures, especially in private practice, if delivery of the woman in any other way was possible. With a maternal mortality below ten per cent., however, as shown by the statistics of Leopold, Olshausen, Reynolds, and others, one must consider, in certain cases at least, the question of fœtal as well as maternal life. It must be admitted that there is and should be a freer field for obstetric surgery in hospital than in private practice, for reasons of greater control of patients, more favorable surroundings, ease of preparation for operation, and abundance of assistants. It is in hospital practice, then, that we will first discuss the maternal mortality of cutting operations for the delivery of living children. Have we reached a point in the development of obstetric surgery when in a modern hospital, with a woman in good condition, we are justified in delivering that woman by a cutting operation when we are convinced that the life of the child can be saved in no other way? The experience of the writer with the nine cases here reported seems to justify him in an affirmative answer. Case VI., with carcinoma, the only fatal one in the list, can hardly be used in the general discussion of the subject, as here the indication for Cæsarean section was absolute and choice found no place, as it seemed to the writer that craniotomy would be impossible without losing the patient on the table from laceration and hemorrhage. The smooth recovery of the eight remaining mothers and the life of the eight children left no doubt in the writer's mind that delivery by a cutting operation in hospital cases, when by such a procedure alone could a living child be secured, was not only justifiable but the only right course. There are two periods when the question of delivery by a cutting operation presents itself for acceptance or rejection:

1. Early in pregnancy when a prognosis of a difficult or obstructed labor is made.
2. In labor, difficult or obstructed.

In early or mid pregnancy, if the case is seen to be one to give marked difficulty in delivery, the question of a cutting operation upon the mother comes in competition with the induction of premature labor and as a rule yields to it as the operation of choice, except in cases in which the delivery of a viable child by this latter procedure seems impossible. At the time of labor several questions present themselves:

1. Can the woman be delivered of a living child by forceps or version?
2. Is the woman in good condition?
3. Is the child in good condition?

If the woman can be delivered of a living child by forceps or version, the question of a cutting operation should not present itself. If the woman cannot be delivered of a living child by the above milder obstetric procedure, the question of a cutting operation comes in competition with a craniotomy or embryotomy.

If the woman is in poor condition, so that her life would be seriously endangered by a cutting operation upon her, such a procedure should, in the judgment of the writer, yield to a craniotomy be the child living or dead.

If the child is in poor condition and its chance of survival slight, all cutting operations upon the mother should yield to a craniotomy, unless the parturient canal is so obstructed that delivery by craniotomy would expose the woman to greater dangers than Cæsarean section.

With the woman and child both in good condition and delivery by version or forceps impossible (determined perhaps by a gentle application of and traction by the forceps), the question of a cutting operation presents itself with especial force. Although formerly in competition here with craniotomy, the writer believes that, for hospital practice at least, that time has passed, and the time has come for the latter to yield to the former; for the cutting operation upon the mother in the interest of a living child to take its place as the recognized procedure, justified and expected. Having decided that a cutting operation for the delivery of a living child is indicated, which shall it be? At the present day there are only two which claim or deserve consideration—Cæsarean section and symphyseotomy. In extreme degrees of pelvic contraction there is no competition between the two operations, and with a true conjugate of 6.5 cm. or less we are all agreed that if a living child is to be delivered it must be by Cæsarean section. Personally the writer never wishes to attempt the operation of symphyseotomy with a true conjugate below 7 cm. In cases in which the parturient canal is obstructed by tumors either uterine or ovarian, and in obliquely contracted pelvis with an ankylosis of one or both sacro-iliac synchondroses, we are generally agreed that symphyseotomy is not indicated. It is then only in cases with a true conjugate between 6.5 cm. (better 7 cm.) and 9 cm. that symphyseotomy comes in competition with Cæsarean section. On this common ground which operation deserves the preference of the surgeon? In choosing an operation for a patient under his care the surgeon should be influenced by the following factors: 1, the mortality of the operation; 2, the ease and rapidity of convalescence; 3, the ease of the surgeon.

In both the operations under discussion there are two patients for whom the mortality must be considered. It is a difficult matter to arrive at a just conclusion regarding the mortality of the two operations. Francourt Barnes, in a paper before the International Congress at Amsterdam in 1899, gives for—

Symphyseotomy: Maternal mortality, 10.8 per cent.
Fœtal mortality, 14.5 per cent.
Cæsarean section: Maternal mortality, 7.6 per cent.
Fœtal mortality, 7.6 per cent.

While the advocates of symphyseotomy may claim that in similar cases the above statistics are unjustly adverse to symphyseotomy, it is generally agreed that

the maternal mortality from symphyseotomy is as high as and the fœtal mortality higher than from Cæsarean section. While the writer has been fortunate in securing living children in the symphyseotomies performed by him, he has lost one mother whom he has always felt Cæsarean section would have saved. So far, then, as mortality of mother and child is concerned, symphyseotomy has nothing to recommend it over Cæsarean section. Regarding the ease and rapidity of convalescence, the writer believes that no one who has watched the convalescence of patients after the two operations would fail to select Cæsarean section if given the choice.

The ease of the surgeon during any operation depends chiefly on whether he has during the procedure each step of the operation thoroughly under his control.

Here it is that Cæsarean section has a distinct advantage over symphyseotomy. The one object of the operation is the delivery of a living child, yet there must exist in every symphyseotomy a doubt in the mind of the operator as to whether the space gained will enable him to save the child. When one compares this doubt with the comparative certainty that, if the child is in good condition when a Cæsarean section is begun, that child will be saved, few surgeons will hesitate on the ground of their own ease to choose Cæsarean section.

Viewed from the standpoint, then, of mortality, ease and rapidity of convalescence, and ease of the surgeon, Cæsarean section deserves the preference even in the class of cases in which symphyseotomy comes in distinct competition with it, and if this decision is justified in hospital practice, much more does it hold in private practice, in which certainty in result and ease of convalescence are the chief demands.

The writer will, perhaps, be criticised for attempting the rôle of a prophet; but after a careful study of the operation during the last three years, watching patients convalesce from a Cæsarean section with the same ease as from a salpingo-oöphorectomy for diseased appendages, or an abdominal hysterectomy for fibromyomata, he cannot but feel that the time is not far distant when in private practice patients with parturient canals so contracted as to make delivery possible only with marked danger alike to themselves and their children, will be prepared for and subjected to Cæsarean section with satisfaction to themselves and their friends.

A few points in the technique of the operation deserve consideration. If there is one condition which above others conduces to the comfort of the patient after operation, it is an empty alimentary canal when the patient is placed upon the table, as otherwise the pressure of the large uterus in a contracted pelvis soon compresses the rectum sufficiently to cause distention and discomfort.

In the first four operations of the series the uterus was lifted through the abdominal wound before the uterine incision. The length of the abdominal incision required for this procedure induced the writer in the fifth and subsequent cases to incise the uterus *in situ* and deliver the child before raising the uterus out of the abdominal wound. Pressure of the abdominal walls against the uterus by the hands of an assistant during the extraction of the child prevents soiling of the peritoneum, and the shortness of the abdominal wound and resulting cicatrix justify the method.

During all the operations the broad ligaments were held by the hands of an assistant, and contraction of the uterus was stimulated by frequent irrigation with hot saline solution.

In the first six cases, in which the uterus was not removed, the uterine wound was sutured with one row of interrupted silk sutures passing through peritoneum and muscle, but not including the endometrium. Over this line of sutures the peritoneum was approximated by a continuous Lembert suture of catgut.

In the last three cases the uterine wound has been sutured entirely with catgut, in the first two of these three cases catgut being substituted for the deep interrupted sutures of silk, and in the last case three rows of continuous catgut suture being used. The results with the use of catgut have been so satisfactory that the writer feels justified in discarding the silk suture. While in the early cases the abdominal incision was closed with through-and-through sutures of silkworm gut, the fascia being approximated by a continuous suture of catgut, in the last three cases the abdominal wound was closed by continuous catgut suture in separate layers for peritoneum, fascia, and skin, that for the skin being subcuticular. This last method of suture has proven most satisfactory.

Some operators advise placing the omentum behind the uterus before closing the abdominal wall, so that if leakage should occur from the uterine cavity it would find its way through the abdominal wound to which the uterus had become adherent. The writer believes this not only unnecessary but detrimental, and prefers to avoid adhesion of the uterus to the abdominal wall as much as possible by drawing the omentum down in front of the uterus and over its incision. The tardy involution of the uterus and tenderness of the fundus, observed in some cases, are undoubtedly due to adhesion between the uterus and the abdominal wall.

The tendency of the cervix to contract and involute more rapidly than the body of the uterus, and the consequent danger from retention of the lochia, emphasize the importance of a manual dilatation of the cervix if dilatation by the bag of waters or the presenting part has not taken place.

Regarding the performance of an hysterectomy as a succeeding step to Cæsarean section opinions differ. Following in the line of recent conservative work in gynæcology, and realizing that, as a general rule, a woman is healthier and happier in the possession of all her organs, the writer has thus far adopted the plan of leaving the uterus, if it and the appendages are normal, and there is a possibility of the delivery of a living child without a cutting operation if labor is induced even as early as at seven months.

If the uterus or appendages are infected or diseased, or the pelvic deformity is extreme, the writer prefers to follow the Cæsarean section by hysterectomy.

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A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old.—Manning Simons reports this case. On examination the child's abdomen was found very much distended. It was full of fluid with a solid mass most prominent at the umbilical region and extending toward the right side. Its outlines were difficult to distinguish, and its connections could not be traced, on account of the great distention and tension of the abdomen. At operation the tumor was found to be attached by a thin pedicle to the right lateral wall of the pelvis. The pathological report was as follows: This tumor belongs to the variety known as the teratomata. These tumors are usually cystic in nature, congenital, and very complex as to their histological structure. This one is probably congenital, and takes its origin from the ovary and broad ligament. Histologically, it consists of papillomatous cysts containing mucoid material; the stroma is mixed, both adult and embryonic tissue being present, also bundles of unstriped muscle, and plates of cartilage. This stroma at certain places looks decidedly sarcomatous. The tumor is probably malignant

and apt to recur. The child is at present, however, apparently in the best of health.—*Virginia Medical Semi-Monthly*, March 22, 1901.

Some Anatomical Lesions Caused by Tuberculous Poisons.—Angelo Marcantonio has found that the defibrinated blood of animals suffering from experimental acute miliary tuberculosis, when injected after filtration into the peritoneum or the subcutaneous connective tissue of healthy animals, causes the formation of tuberculous-like foci in lungs, liver, and spleen, but without bacilli or giant cells. The substance of the body of the tubercle bacillus, which is insoluble in chloroform, injected into the veins of a rabbit causes the formation of giant cells scattered throughout the tissues of the lungs, liver, and spleen. When injected subcutaneously or in the peritoneum it causes small abscesses or caseous nodules at the point of injection, besides an extensive destruction of the red blood corpuscles. The other constituent of the bacillus which is soluble in chloroform produces no lesion beyond an induration, sometimes followed by an eschar, at the point of injection.—*Giornale Internazionale delle Scienze Mediche*, March 15, 1901.

Albuminuria in the Early Stages of Syphilis.—C. P. Bacon says that there is no clinical difference between Bright's disease occurring as an accident of secondary syphilis and the malady as usually observed. And, if it were not for the existence of syphilitic lesions and the unhoped-for benefit sometimes obtained from specific treatment, the real nature of the disease would often remain uncertain. As in many cases every sign of syphilitic taint has at this period disappeared, there is little doubt that many cases of this kind have passed unnoticed. Taking into consideration particularly the dyscrasic state of the system in syphilis, the functional derangements and the organic lesions of the urinary apparatus may be attributed to a primary alteration of the blood, particularly of its globules and albuminoid principles. But it might also be affirmed that the micro-organisms of syphilis in their migration through the kidneys may determine a sort of traumatism of the arterial walls and of their cellular elements, and thus induce infectious nephritis.—*Massachusetts Medical Journal*, April, 1901.

Meckel's Diverticulum as a Source of Intestinal Obstruction.—J. F. Purviance believes that there can be no reasonable doubt of the fact that many cases of formidable obstruction and intestinal inflammations arise from this source. And yet, in a common way, every other possible cause is thought of before this. If the severity of the case leads to an operation, the search is for appendicitis, intussusception, concretion, torsion, omental hernia, etc., while a little pouch may hang from the ileum so harmless in its appearance as scarcely to attract attention, and yet be responsible for every evil result in the case. It is the writer's belief that the case of a child or an adult with intestinal obstruction and centrally localized pain in connection with early vomiting and hiccough, and with little or no rise of temperature, should justify a diagnosis of diverticulum, so far as to authorize an early incision for exploration. All due efforts should be first made for relief, but no unnecessary time should be lost in this course if benefits are to be expected from an operation.—*Medical Summary*, April, 1901.

Diagnosis between Appendicitis and Typhoid Fever.—M. R. Richardson states that in rare instances an appendicitis in which the abdominal symptoms are mild simulates a typhoid in which they are pronounced. The symptoms which should put the surgeon on his guard against typhoid are, in the order of their importance: pain without rigidity; pain and tenderness without rigidity; pain and tenderness without rigidity, without tumor; a history of malaise, headaches, slight fever preceding the pain, even if of only twenty-four hours' duration; an initial and sustained temperature of 103° or more preceding the pain; increased area of splenic dulness when other symptoms suggest equally appendicitis and typhoid fever; rose spots, and normal leucocyte count. Sometimes the diagnosis cannot be made. It will be almost always safe to wait, and the surgeon should wait when, from the absence of rigidity and tumor, typhoid is suspected, especially if the patient is near at hand. Twenty-four hours will usually be time enough to establish the diagnosis of appendicitis or to rule it out. Many days may be necessary to recognize positively typhoid fever. The dangers of exploration in the initial days of typhoid are probably slight. The wound pursues an aseptic course. In one case, at least, if it existed, the disease was aborted by the removal of the mesenteric glands and the appendix. Moreover, the most experienced and careful diagnostician may be misled by the prominence of abdominal symptoms in typhoid into advising operation. Chagrin at such a mistake should not be felt if the examination has been careful and thorough, with the possibilities of typhoid being kept well in mind. Finally, even with the abdomen opened, there is no positive way of recognizing typhoid in the first days. When glands are removed which present the features of typhoidal glands, a rapid convalescence of the patient throws some doubt upon the diagnosis, especially when no typhoid bacilli are found in the glands and the cultures from blood serum are sterile.—*Providence Medical Journal*, April, 1901.

Epidermolysis Bullosa Hereditaria.—H. L. Smith reports a case of this rare skin disease, claiming that it is the first ever recorded as occurring in the negro race. His patient was a girl of seven who had been subject since early infancy to a breaking out of water-blisters on her hands, feet, buttocks, and scalp. The eruption began as small, itching pimples, which were rapidly transformed into tense vesicles, varying in size from a small pea to a pullet's egg. They remained about one week before breaking, and after drying up left a brownish discoloration but no scar. It had been noticed that these blisters were numerous in the warm weather of spring and summer, and had rarely appeared during the winter. The father, who gave the history, had since his earliest recollection been at times a sufferer from the disorder. His mother was also similarly affected. His wife had never miscarried, and was the mother of eight children, three of whom—two brothers and one sister of the patient—had at intervals since their birth had the eruption. The father remarked that the children who appeared the strongest were those affected. The patient had gone without shoes during the last summer, owing to the fact that they had been during the previous summer a constant source of irritation to her feet, with consequent blister formation. Examination of the patient showed on the scalp, buttocks, abdomen, and the extensor surfaces of the forearms and legs pigmented areas. Tense bullæ, containing clear fluid, and ranging in size from a large pea to a robin's egg, were situated mainly on the feet. On the outer and inner surfaces of the left foot, below the malleoli, were large bullæ. The exudate of the inner bulla was slightly blood-tinged. Behind the right heel there was a bleb of considerable size, which caused the patient to limp. Vesicles of smaller size were irregularly scattered over the feet and the legs. The smallest one was on the extensor surface of the left forearm, just above the wrist joint. Excision of a bleb was refused. When the patient was next seen, two weeks later, all the bullæ had disappeared.—*Maryland Medical Journal*, April, 1901.

MEDICAL RECORD:

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THE PROGRESS OF SANITATION IN HAVANA.

No branch of preventive medicine—if it may be so termed—has made such remarkable advance during the past fifty years as has sanitary science. In those places where our present knowledge of sanitation has been thoroughly applied, the increased healthfulness has seemed to be in many instances almost supernatural; and even when, owing to prejudice or niggardliness, the efforts of the sanitary reformer have not been allowed full sway, decided beneficial effects have always resulted.

A better example of the truth of this latter statement cannot be brought forward than Havana. In the MEDICAL RECORD reference has been often made to the much more favorable hygienic conditions which have followed the introduction to a somewhat limited extent of American methods of sanitation in that city. The report of Major Valery Havard, chief surgeon of the department of Cuba, which has been recently published, strongly emphasizes this fact. However, as statistics of the death rates of Havana for the past ten years, given in the report of Major W. C. Gorgas but a short time ago, were commented upon at length in this journal, there is no need to discuss this phase of the question here. Other points no less instructive in Major Havard's report invite a critical consideration.

In the first part of the report Major Havard examines the special causes to which the high mortality of Havana must be attributed, how they can be remedied, and what has already been done to that end. These causes can be placed under the following headings: Sewerage, street and house sanitation, disposition of garbage, overcrowding and ventilation, clothing, food.

Of this list it is stated that an efficient system of sewerage is the most immediate and pressing necessity, and until this is introduced sanitary methods, however well carried out, must to a great extent fail.

Street and house sanitation has been conducted in a vigorous and successful manner from the beginning with correspondingly successful results. The garbage is now mostly conveyed to the deep sea, and not, as under the Spanish *régime*, dumped into the bay. Nevertheless the bay is still much contaminated by drainage and refuse. Major Havard believes that this means of infection will be completely avoided when all the sewage is carried to the open sea as contemplated, and that the bay will then disinfect itself, rendering unnecessary the proposed canal.

The overcrowding of Havana is, with the defective sewerage system, the most fruitful cause of the propagation and spread of disease in the city. When it is stated that the population of Havana is two hundred and fifty thousand persons, contained in about twenty-six thousand houses, the ill effects to health will be readily believed. Through ignorance and poverty many of the inhabitants are not suitably protected against climatic changes. Much mortality is caused especially among male infants by allowing them to go naked or scantily clad about the house or in the street.

With regard to food, Major Havard is of the opinion, held by a large number of authorities, that meat is an indispensable component of a good diet in all parts of the world, and that to its lack in tropical countries among the poorer dwellers is due their anæmic and generally unhealthy appearance.

The second part of the report will arouse close attention. It deals with yellow fever from the standpoint of the sanitarian.

In these days nothing is more typical of the age than the overthrowing of old, long-cherished beliefs and theories; this is especially the case in matters pertaining to medical science. This iconoclastic spirit is excellent when not carried to excess, and is the road which leads to true progress. The time-honored theory as to the etiology of yellow fever has been the last to be shattered. Yellow fever has ever been esteemed a disease having its origin principally in filth; in fact, unsavory surroundings have been looked upon as indispensable to its inception and spread. The investigations of Major Walter Reed and his co-workers have demonstrated with apparent certainty the fallacy of this theory, their researches having shown that yellow fever is propagated in the identical way by which malaria is communicated, and that fomites and contagion have nothing to do with the case.

Major Havard, arguing from his experience in Havana, is a strenuous supporter of these views, and points out that in Havana in 1900 no visible correlation could be seen between dirt and yellow fever, the district which became first strongly infected being one of the cleanest and best constructed, while the most unsanitary wards became infected late in the season, and only to a slight extent. Hygienic conditions did not influence in any degree the direction of the fever; it did not follow the poor and unclean, nor the march of previous infections, but rather the movements of non-immunes. The discovery that mosquitos are the chief if not the only means of conveying yellow fever, should be of inestimable value. Indeed, Major Havard is sanguine enough to anticipate the total eradication of both yellow fever and malaria from Havana by the destruction of the malaria-bearing Anopheles and that of the yellow-fever-bearing Culex. While not doubting that the extirpation of the insects in question would have a remarkable effect in the subjugation of the two diseases, attention may be drawn to the fact that the problem of how wholly to destroy these mosquitos has yet to be solved, and is, more-

over, one which on an extended and a comprehensive scale would seem to present almost insuperable difficulties. Preventive measures, such as the careful protection of patients and non-immunes by mosquito-nets, the isolation of those infected, and, above all, the thorough drainage of the vicinity, should go far toward ridding Havana of the yellow-fever pest.

There is also another important lesson to be learned from the discovery of Major Reed and his colleagues—that infected linen, bedding, and effects of all kinds play no part in the conveyance of the malady. The existing methods of disinfection and quarantine must be revolutionized. Disinfection is useless when there are no infectious germs to destroy, and consequently the object to be attained is simply to find out the most effective methods of destroying infected mosquitos which lurk in the house in which patients are cared for. Major Havard recommends formaldehyde gas for this purpose. Again, with regard to quarantine, upon the assumption that infectious germs do not exist outside of man and the mosquito, disinfection of baggage is as a natural sequence superfluous. Detention of possibly infected persons for five days and fumigation of the ship with formaldehyde will be, as in the case of a dwelling, an effectual safeguard against the spread of yellow fever.

Given that yellow fever is propagated solely by the agency of the Culex as the intermediary host, it is clearly obvious that the destruction of and protection from infected mosquitos must be the preventive measures employed.

Major Havard concludes his report by discussing the question of immigration as a means of keeping alive yellow fever in Havana, and discourses instructively upon the subject of immunity against the disease. His paper is an excellent presentation of the whole situation as regards yellow fever in Havana, and deserves to be widely read.

ANOPHELES AND MALARIA.

THE *Journal of Hygiene*, a new British quarterly, produced under the editorship of Dr. George H. F. Nuttall, lecturer in bacteriology and preventive medicine in the University of Cambridge, late associate in hygiene in the Johns Hopkins University, Baltimore, assisted by an able staff, contains among other good things the first instalments of a series of studies in relation to malaria. The first article, contributed by Dr. Nuttall, Dr. Louis Cobbett, and Mr. T. Strangeways-Pigg, treats of the geographical distribution of Anopheles compared with the former prevalence of ague in England, and incidentally goes to show that the assertion of Grassi, to the effect that the geographical distribution of the genus Anopheles coincides with that of malaria, does not hold good in all parts of the world. In his latest publication Grassi, basing his deductions upon the results of his investigations in Italy, makes the claim of this coincidence, and proceeds, on the strength of their wider geographical distribution, to exclude a number of blood-sucking animals from being possible carriers of the parasites of malaria. The observations of MacDonald in Southern Spain would seem also to add greater weight to the contention of Grassi.

The authors of the article in the British *Journal of Hygiene*, while not doubting that the number of Anopheles present in a district will be found to agree with the extent to which malaria prevails, at the same time clearly demonstrate that Grassi's claim has no general application, for they have found Anopheles in many parts of England where there is no record of malaria having previously existed, and where there is certainly no malaria to-day.

After describing the methods of their investigations and the former geographical distribution of ague in Great Britain, the writers end a most interesting article by saying: "It having been incontestably proved in Italy, Holland, England, and the United States that at least two species of Anopheles occurring in Great Britain are capable under certain conditions of transmitting malarial infection to man, we, on the strength of our investigations, have reached the following conclusions:

"1. The disappearance of ague from Great Britain does not depend on the extinction of mosquitos capable of harboring the parasites of malaria.

"2. Three species of Anopheles (A. maculipennis, A. bifurcatus, A. nigripes) are to be found in Great Britain in all districts which were formerly malarious, but also in places concerning which there is no record of the former prevalence of ague.

"3. The Anopheles to-day are most numerous in low-lying land containing many ditches, ponds, and slowly flowing water, suitable for their habitat, and corresponding to the districts where ague was formerly prevalent.

"4. Since the disappearance of ague does not depend upon the extinction of Anopheles, it is probably due to several causes operating together:

"(*a*) A reduction in the number of these insects consequent upon drainage of land, this being in accord with all the older authors, who attributed the disappearance of ague largely to this cause.

"(*b*) Reduction of the population in infected districts as the result of emigration about the time when ague disappeared from England. This would naturally reduce the number of infected individuals, and thus lessen the chance of the Anopheles becoming infected.

"(*c*) It is possible that the use of quinine has reduced the chances of infecting the Anopheles through checking the development of the parasites in the blood of subjects affected with ague.

"Of these the first-mentioned cause seems to have been chiefly operative. The possibility is not yet excluded of there being another intermediary host besides man capable of harboring the parasite, and, assuming that this were so, this host may have become extinct in the lowlands where it is known that the fauna and flora have altered.

"5. The coincidence of the geographical distribution of ague and Anopheles, as claimed by Grassi for Italy, and as probably holding good for other parts of the world, is hereby disproved for England, and conse-

quently the generalizations are proved to be premature whereby he excludes other blood-sucking insects from being possible hosts of malarial parasites on the strength of this supposed geographical agreement.

"6. Since the geographical distribution of Anopheles in England is wider than the former distribution of ague in this country, we are forced to conclude that it is not a matter of the geographical distribution of Anopheles as much as of their numerical distribution.

"7. Our observations having proved the existence of Anopheles in non-malarious districts, we believe they will explain the occasional occurrence of ague in out-of-the-way places, without making it necessary to assume that malaria-bearing mosquitos have been freshly imported, for, given suitable conditions of temperature and the requisite number of Anopheles, a malarious subject coming from other parts might well infect the local insects, which in turn would spread the infection to healthy persons.

"8. We would suggest to those engaged in the investigation of malaria in other countries to search as carefully for Anopheles in non-malarious as in malarious regions. More data as to the number of these insects in various localities are certainly required, though we are fully aware that numerical estimates permit of a considerable degree of error. Nevertheless they would always possess a relative value."

The foregoing summing up, although somewhat lengthy to be included in an editorial, is so suggestive and so much to the point that a thorough understanding of the author's position with regard to the question would be difficult if this were not done.

Of late it has been taken perhaps too much for granted that several species of Anopheles are the only agents in the spread of malaria. Of course Ross, Bignami, and others have made it a matter of common knowledge by means of their brilliant researches that species of this mosquito act as hosts of human malarial parasites, and that when thus infected are capable of communicating the parasite to man, but the investigations above referred to tend to cast some doubt upon the theory that these are the only possible carriers of the parasites of malaria. At any rate the geographical distribution of Anopheles and of malaria, so far as Great Britain is concerned, does not support this view of the case.

The advice, therefore, to search as carefully for Anopheles in non-malarious as in malarious regions is exceedingly apt, and should, if diligently followed, supply all the missing links in the chain of research.

The proposition put forward by Dr. Nuttall and his collaborators, that there may be another intermediary host besides man capable of harboring the parasite, is well worthy of consideration, and would, if proved, explain much that is at present incomprehensible in the problem. The studies of malaria contained in the British *Journal of Hygiene* are valuable contributions to the literature on the subject, and will, we trust, inspire investigators to pursue zealously the same lines of research in other countries.

The number of suicides in New York during the past quarter averaged over two daily.

PLAGUE IN SAN FRANCISCO.

THE report of the special commission appointed by the United States government to ascertain the existence or non-existence of bubonic plague in the State of California, and in the city of San Francisco in particular, was published in the Public Health Reports of April 19th.

The appointment of such a commission was undoubtedly a wise and necessary step on the part of the government, as it has disclosed the exact conditions of affairs to the American public, which by reason of the somewhat conflicting accounts which have appeared from time to time, within the past twelve months, has not clearly understood the true merits of the case.

Bubonic plague then is present, and has been present for a considerable period, in the Chinese quarter of San Francisco, but, judging from the course of the disease in other civilized communities, it may be affirmed with a certain amount of confidence that there is little fear of the disease spreading. So long as it lasts its existence will be confined to the Chinese portion of the city, and it will menace but to a slight extent the remaining inhabitants of San Francisco.

At the same time it is satisfactory to the country at large, as well as to those more immediately concerned, that experts have made their pronouncement, and furthermore every one may now rest assured that by their advice the best methods known to extirpate and prevent the spread of plague will be rigidly enforced.

THE PROTOZOON OF CANCER.

HARVEY R. GAYLORD publishes in the *American Journal of the Medical Sciences*, May, 1901, a report of his cancer study during the past three years in the New York State Pathological Laboratory. He describes some incubation and inoculation experiments previously referred to in a communication made to the Medical Society of the State of New York in 1899. In a case of adeno-carcinoma of the peritoneum the greater portion of the tumor had undergone mucoid degeneration and the peritoneal cavity was filled with a clear, straw-colored fluid. This fluid, removed with every aseptic precaution, was found to contain a large number of small hyaline bodies, which were observed under the microscope to increase in size and change their form and pass through a cycle of development to what appeared to be a spore-forming stage. This fluid was injected into three animals—two, a dog and a guinea-pig, in the peritoneal cavity; one, a guinea-pig, in the jugular vein. The guinea-pig and dog which were inoculated in the peritoneal cavity developed no tumor, but a marked peritonitis and enlargement of the regional lymph nodes. The abdominal cavity of each animal contained a small amount of fluid; and in this fluid could be detected the characteristic spherical bodies, nucleated bodies, and sacs filled with granules present in the primary case. In slides taken from this fluid and incubated for a period of three or four days in the thermostat it was possible to trace the development of larger structures from the small hyaline forms.

Of particular interest was a portion of a slide so treated, in which were found numbers of the organisms which had sent out pseudopodia toward a neighboring air-bell. In the animal injected in the jugular vein, killed after fifty days, the lungs were found to contain minute white nodules, which were beginning foci of adeno-carcinoma. The pulmonary blood-vessels showed marked proliferation of the epithelial and adventitial cells. The spleen of the animal contained a large amount of blood-pigment, and the Malpighian corpuscles were enlarged. The cells of the tumor and those of the enlarged follicles in the spleen were each found to contain within the nucleus irregularly shaped, deeply stained bodies of unusual appearance. About the periphery of the follicles and scattered through the splenic pulp were a number of round and oval bodies, which corresponded morphologically to what are known as Russell's fuchsin bodies. In the perivascular lymph spaces of the lung there has since been detected, by means of Plimmer's staining-method, the presence of the half-grown organisms in large numbers, which correspond to those described by him as of constant occurrence in carcinoma in man.

Early attempts to cultivate these organisms were negative in their results, but in later experiments Gaylord has succeeded in cultivating the organisms, directly from cancer, from fluids which were in contact with cancer, and from experimental animals. The culture medium which he has found to be most satisfactory is fucus crispus bouillon, recommended by Celli for the cultivation of amœbæ. The micro-organisms found in the peritoneal fluid were pale, spherical bodies from 2 μ to 10 μ in size. They were homogeneous, of pale, yellowish-green color, and at first were mistaken for fat droplets, although on closer examination their refractive index was seen to be too low. They were likewise resistant to ether, and when treated with osmic acid they failed to give the black reaction which characterizes fat. Attempts to stain them were partly successful. A few of the bodies contained granular material, which showed marked Brownian movement. The tubes were examined from day to day, and it was seen that the bodies slowly increased in size, became more indefinite, and gradually lost their yellowish-green color. As they increased in size they apparently became more fluid and commonly sent out pseudopods and long projections. Fine colorless granules appeared in the protoplasm, and in some a delicate nucleus could be made out. Ultimately the larger forms of the organism became transformed into what appeared to be large sacs containing highly refractive granules and small spherical bodies, not unlike the free spherical bodies above described. The membrane of the sac was demonstrable as a pale, colorless structure. The diameter of these sacs was on the average about 20 to 25 μ, or that of a good-sized epithelial cell. The author determined to his satisfaction that the yeast organism was not the essential cause of carcinoma and sarcoma and could not be confused with the organism already observed by him in fresh scrapings of carcinoma and in his experimental animals, and convinced himself of the identity of the organisms found in the fresh state and the forms known as Russell's bodies, Plimmer's bodies, and protozoon forms in the tissues. The organism is a protozoon belonging in the same group with the vaccine organism described by Funk in the *British Medical Journal* for February 23, 1901. It was found abundantly in all the organs, including the blood, in all cases of cancer examined, and in all cases in which cachexia was well marked the organism, especially in its younger forms, could be found in the peripheral blood.

News of the Week.

The Rivington Street Public Bath, which has been building for three years, is at last completed and open for the cleansing of the inhabitants of that densely crowded tenement district.

"Zeitschrift für Krankenpflege und Aerztliche Polytechnik."—Dr. Mendelsohn, of Berlin, has retired from the editorshhip of this journal, his place being taken by Drs. H. Reineboth, of Halle, and Richard Rosen, of Berlin.

Yellow Fever in Yucatan.—It is reported from Oaxaca, Mex., that a yellow-fever epidemic in Merida and other cities of Yucatan is causing many deaths, particularly among the foreigners. News has just been received of the death, of yellow fever, of Dr. Hormah Rubitsa, a prominent German physician of Merida.

The Missouri State Medical Association.—The annual meeting of this society will be held at Jefferson City on May 21–23, 1901, under the presidency of Dr. U. S. Wright, of Fayette. The programme contains titles of forty-four papers. The committee of arrangements consists of Drs. R. E. Young, J. L. Thorp, and J. N. Enloe.

College Rivalry in Hospital Appointments.—At the annual examination for internes at the Cincinnati City Hospital there were twenty-seven candidates, seventeen from the Ohio Medical College and ten from the Miami. Of these ten were successful in securing appointments, six from the Ohio and four from the Miami. There is always a rivalry between the two colleges at this examination, but the result was mostly a tie at this, though the Miami men claimed a slight advantage.

The Invention of the Ophthalmoscope.—Drs. Harry Friedenwald, of Baltimore, and Casey A. Wood, of Chicago, constitute a committee of the American Medical Association appointed to arrange the details for a commemoration at the St. Paul meeting of the fiftieth anniversary of the invention of the ophthalmoscope. In order to make the historical exhibit of ophthalmoscopes as complete as possible, the committee requests the loan of instruments of the older models from any who may have such in their possession.

Annual Report of Mount Sinai Hospital.—This report has been issued recently and shows that the hospital did excellent work during the year 1900, not-

withstanding its lack of space. In the period covered by the report 3,352 patients were cared for in the hospital, the total number of applications for admittance being 6,522, so that a large number of deserving cases were refused on account of the constantly crowded conditions of the wards. The officers of the Mount Sinai Hospital have long felt that, in order to relieve their sick adequately, new hospital buildings must be erected. This important work is now about to be commenced. The sum already subscribed toward this object is considerably over $1,000,000, and the directors are amply justified in expressing the opinion that the entire amount needed ($1,650,000) will be readily forthcoming, and will supply a splendid monument to the generosity of the Jewish community. It is confidently expected that the new hospital will be ready for occupancy in 1902.

A Gift to Muhlenberg Hospital.—Mr. J. Howard Wright, of this city, has placed $10,000 at the disposal of the board of governors of Muhlenberg Hospital, of Plainfield, N. J., for building an operating-room in connection with the proposed new hospital. The gift is a memorial to his grandsons, Howard Wright Corlies and Parker Wright Mason, who died at Plainfield last year.

University of Pennsylvania.—Mrs. C. B. Newbold has donated $25,000 for the construction of an obstetric amphitheatre in memory of her mother, Mrs. Thomas A. Scott. The new building will adjoin the west wing of the present maternity pavilion; it will be fifty feet square and will accommodate one hundred and fifty students. It will be provided with a complete sterilizing plant for instruments and dressings, and with a system for flooding the operating department after each operation.

American Congress of Tuberculosis.—The second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, in the city of New York, on May 15 and 16, and perhaps 17, 1901, in joint session with the Medico-Legal Society of New York. The medical profession of all countries has been invited to contribute papers to be read before this Congress. As the questions to be discussed involve medical legislation, legislators, lawyers, judges, and all publicists who take an interest in the subject, are also invited both to enroll and contribute papers.

Army Dentists.—In the army bill passed recently by Congress, provision is made for the appointment of thirty dentists in the army. These are to be employed under contract, in the same way as are the acting assistant surgeons, their pay being $150 per month, and their term of service three years. They must be between twenty-four and forty years of age, and are to be engaged after an examination before a board of three dental surgeons appointed by the Secretary of War. The dental surgeon will be attached to the medical department, and will wear the uniform of an assistant surgeon with the rank of first lieutenant. Instruments and supplies will be furnished by the medical department; the dental surgeons will attend only to officers and men of the army, including acting assistant surgeons. The families of officers and civilian employees are not entitled to their services. Before nine o'clock in the morning and after four o'clock in the afternoon, however, dental surgeons may operate on others, and will be permitted to charge for such extra work.

Sir William MacCormac has been made a Knight Commander of the Order of the Bath, in recognition of his services in South Africa.

Removal of the Stomach.—The papers announce that Dr. B. B. Eads, of Chicago, has successfully exsected the entire stomach from a man named Paul Krüger, who is, however, not Oom Paul.

Dr. Nathaniel D. McDowell, of Rochester, has been appointed from the State civil-service list as optical surgeon at the State Industrial School. The salary is $40 a month.

A Monument to Professor Skene.—A movement is under way in Brooklyn to raise a fund of $25,000 for the erection of a bronze statue of the late Dr. A. J. C. Skene, of that borough, in Prospect Park.

Suicide in a Dispensary.—A patient shot himself in the head one afternoon last week while sitting on a bench awaiting his turn in the Bellevue Hospital College dispensary. He was under treatment for heart disease.

Dr. George Blumer, of the Bender Laboratory, Albany, has been appointed by the New York State health commissioner director of the newly established bureau of bacteriology and pathology of the State health department.

Insanity as a Ground for Divorce.—The Florida legislature has passed a bill providing that four successive years of insanity on the part of husband or wife is just ground for divorce. The person getting the divorce must provide means for the maintenance of the divorced one.

The Austro-Hungarian Hospital of New York.—A fund of $10,000 has been raised for the purpose of converting the East Side Dispensary, at 322 and 324 East Third Street, into the Austro-Hungarian Hospital. The work of reconstruction will begin on May 1st, and the new hospital with thirty free beds is to be ready about the middle of June. The name Austro-Hungarian was selected because many persons of that nationality have subscribed liberally toward defraying the cost of converting the dispensary into a hospital. The object of the hospital is mainly the care of the sick poor in that section of the city.

The British Casualties in South Africa.—Since the beginning of the Boer war 690 British officers and 13,734 men have been killed or have died of wounds or disease in South Africa; the missing and prisoners now amount to 17 officers and 758 men; 1,892 officers and 43,534 men have been sent home as invalids, of whom 4 officers and 300 men have died and 2,189 men have been discharged from the service as unfit, making

a grand total of 60,625; but of this total all but 711 officers and 16,692 men have returned to the field. In March of this year 4 officers and 103 men were killed, 26 officers and 270 men were wounded, 5 officers and 48 men died of wounds, and 3 officers and 36 men were missing or taken prisoners. Twelve officers and 406 men died of disease, and 129 officers and 2,940 men were sent home invalided.

A Monument to Bunsen, Kirchhoff, and Helmholtz.—A committee, largely composed of medical men, has been formed for the purpose of erecting a triple monument in Heidelberg to Bunsen, Kirchhoff, and Helmholtz. Special appeals for contributions are to be issued to learned societies and academies in the German empire, as well as to personal friends and admirers of the late scientists, but it is understood that the public at large will not be invited to contribute. The chairman of the committee is Dr. A. Kussmaul, of the University of Strasburg.

The Highest Death Rate in the World.—A cable despatch to *The Sun* from Durban, Natal, states that it is reported there that the Delagoa Bay district of Portuguese East Africa has been terribly affected by fever. In the last three months there have been five hundred deaths. The normal population is about three thousand, but this has been reduced owing to the war and the commercial depression resulting therefrom. This is the highest death rate in the world, and if it continues it will mean the extermination of the Europeans in that territory.

A Question of Privilege.—In a divorce suit recently tried in St. Louis the counsel for the plaintiff, the woman, wished to introduce the testimony of Dr. E. S. McKee, of Cincinnati, concerning a communication made to him by the husband regarding his wife, who was Dr. McKee's patient at the time. Dr. McKee refused repeatedly to testify before a notary in Cincinnati, holding that the communication was a privileged one, and was finally constructively committed to jail. The case was brought before Judge Hollister, of Cincinnati, who ruled that, as it was the woman and not the man who was the actual patient, the husband's communication was not a privileged one.

The Plague seems slowly but surely becoming pandemic throughout the world. Telegrams from Melbourne announce that the disease is increasing in the Australian commonwealth, and that there is much alarm over its spread. Another report states that eighteen thousand persons have died of the plague in the Lamko district of Hai-Nan island during the last few months. In letters from India to the State department at Washington, covering the period from November 4th to February 16th, it is reported that in Bombay alone there were 4,554 cases of plague, with 2,574 deaths, and in Calcutta 1,052 cases, of which 1,002 cases were fatal. At Cape Town, during the week ending April 20th, there were 64 new cases, 33 deaths, and 29 convalescents. Altogether there have been 455 cases of the disease, of which 113 patients have been Europeans. The total number of deaths has been 185, including 32 Europeans. The report of the commission appointed to investigate the plague in San Francisco, published by the surgeon-general of the marine-hospital service, has established beyond doubt, and greatly to the rage of the governor of California, that the disease prevails among the Chinese in that city.

Medical Association of Georgia.—At the recent meeting of this society the following officers were elected: *President*, Dr. James B. Baird, Atlanta, Ga.; *First Vice-President*, Dr. William H. Doughty, Jr., Augusta, Ga.; *Second Vice-President*, Dr. J. D. Chason, Bainbridge, Ga.; *Secretary and Treasurer*, Dr. Louis H. Jones, Atlanta, Ga. The association will hold its next meeting in Savannah on the third Wednesday in April, 1902.

Pathological Society of Philadelphia.—At the annual conversational meeting held April 25th, Dr. Charles Wardell Stiles, of the Bureau of Animal Industry, read a paper entitled "Trichinella Spiralis, Trichinosis, and Trichina Inspection—a Zoological Study in Public Medicine." He pointed out the importance of the discovery by Leidy of the parasite in pork more than fifty years ago, and the practicability of preventing infection by means of thorough curing and cooking. Man acquires trichinosis from swine, these from rats, and the latter from swine and other rats. The ova are matured in the intestinal tract, where the mature parasite extrudes enormous numbers of eggs, which gain entrance to the circulation and migrate to the muscles. Here they cause irritation with the generation of inflammatory products and the encystment of the parasite, which may survive for a long time, finally, however, to undergo calcification. For political reasons Germany has endeavored to exclude American pork on the pretext of the danger from trichinosis, and as a matter of fact actually did practise such exclusion for a period of nine years; but the evidence goes to show that trichinosis is less common in the United States than in Germany, and that little of the trichinosis in Germany can be traced to American pork, although Germany maintains a most expensive, though obviously not efficient, system of meat inspection. In the United States, on the other hand, only meat for export and for interstate consumption is inspected by the government, the greater importance being attached to perfect curing and thorough cooking. Fortunately, further, the vicious practice of eating uncooked pork is far less common in the United States than in Germany. Flesh for consumption within the borders of the State is subject only to local supervision; and inasmuch as two per cent. of swine are infected, it is obvious that too rigid precautions cannot be observed in the use and the preparation, especially of fresh pork.

Historical Club of the Department of Medicine of the University of Pennsylvania.—The first stated meeting of this club was held at the office of Dr. Charles A. Oliver on Wednesday evening, April 17, 1901, Dr. Oliver presiding. The club, which was organized in March, 1901, has for its object "the study of the history, with the collection, presentation, and

publication of data relating to the Department of Medicine of the University of Pennsylvania. Besides original research into the past history of the department, with the periodical publication of a series of proceedings, and the getting of a special library, it is intended that the club shall collect historical portraits, pictures, engravings, furniture, instruments, books, certificates, etc., to be placed in appropriate university quarters.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending April 27th. Assistant Surgeon J. B. Dennis detached from the Naval Academy and ordered to the *Chesapeake*, May 2d. Assistant Surgeon C. G. Smith ordered to the *Vermont*, April 25th. Medical Inspector F. Rogers ordered to the *Brooklyn* for duty as fleet surgeon of the Asiatic station. Surgeon W. F. Arnold detached from duty at Olongapo, P. I., and ordered to the *New Orleans*. Surgeon C. F. Stokes ordered to the Cavite naval station to await the *Solace*.

The Fifth International Congress of Physiologists will be held in Turin on September 17–23, 1901, under the presidency of Prof. Angelo Mosso. Americans wishing to participate in the work of the congress are requested to notify the secretary, Dr. Z. Treves, Corso Raffaelo, 30, Turin, and also Prof. Frederic S. Lee, Columbia University, New York. The congress fee is ten francs, to be paid to Dr. Treves in September. The official languages of the congress will be English, French, and German. No official report of the work of the congress will be published, and representatives of the medical or lay press will not be officially admitted to the congress, but each member is at liberty to offer his paper for publication to any journal he may select.

Obituary Notes.—Dr. James S. Carradine, of New York City, died at East Orange, N. J., on April 23d, of pneumonia. Dr. Carradine was born in Mississippi in 1839, was graduated from the University of Pennsylvania Medical College in 1858, and began the practice of his profession in New Orleans. At the outbreak of the Civil War he was appointed a surgeon in the Confederate army, serving through the war. Since that time he has practised in New York City. He was a member of the New York County Medical Association and the County Medical Society. A widow survives him.

Dr. J. Frank Williams, one of the most promising of the young physicians of Cincinnati, died in that city on April 8th, of diabetic coma. He was twenty-five years old.

Dr. Edward Watts Morris, of Birmingham, Ala., died in that city of pneumonia on April 23d, at the age of thirty-six years. He was born in Virginia, and was graduated from the Medical College of Virginia, Richmond, in 1885. He practised first in Richmond, but removed to Birmingham sixteen years ago.

Dr. Roy Inglis, of Jersey City, died on April 24th, at Denver, Col., where he went last fall for his health. He was born in Paterson in 1867, and was graduated from the College of Physicians and Surgeons of this city in 1890. He was for a time a member of the staff of the City Hospital of Jersey City and the German Hospital of this city. He began to practise in Jersey City in 1892. His widow, a daughter of the late Dr. B. A. Watson, and three children survive him.

Dr. Richard C. Baker, of Brooklyn, died at Otego, Otsego County, N. Y., on April 24th, of pulmonary tuberculosis. He was born in Otego forty-seven years ago, and was graduated from the New York University Medical College in 1874. He was secretary of the Brooklyn health department for several years, and was attending physician to the Eastern District Hospital.

Dr. Henry Byron McKellops, a well-known dental surgeon of St. Louis, died April 23d, at the age of seventy-eight years. He was born in New York State, and received the degree of D.D.S. from the Ohio Dental College in 1855. In 1865 he organized the Missouri Dental Association, and throughout his professional life was an active member of many local and national dental societies.

Dr. Samuel Griswold Dorr, of Buffalo, died suddenly on April 28th, of angina pectoris. He was born in Dansville, N. Y., in 1840, and was graduated from the Medical Department of the University of Buffalo in 1875. Since 1899 he had been postmaster of the city.

Dr. Charles K. D. Tanner, the "whip" of the Irish Nationalists in the British Parliament, died on April 22d, of pulmonary tuberculosis, at the age of fifty-one years. He was the son of a medical man and was himself a surgeon, having been lecturer on anatomy at Queen's College, Cork, and surgeon to the South Cork Infirmary and the County Hospital. He had sat for Cork in Parliament for fifteen years.

Obituary.

WILLIAM HENRY DRAPER, M.D.,

NEW YORK.

Dr. William H. Draper died of pneumonia at his home in this city on Friday morning, April 26th. He had been in failing health for more than a year, and last winter suffered an attack of influenza which left him more prostrated than before. About two weeks ago he was seized with pneumonia, to which he succumbed after a week's illness. He was buried from Grace Church on Monday morning.

Dr. Draper was born on October 14, 1830, in Brattleboro, Vt. He studied at Columbia College and was graduated in arts in 1851. He played the organ in St. Thomas' Church, while attending college, and in that way helped to earn his expenses. He studied medicine in the office of Dr. Willard Parker, and was graduated from the College of Physicians and Surgeons in 1855. He obtained his degree of Master of Arts from Columbia the same year. He then went abroad and studied in Paris and London for about a year, when he returned to this country and began the practice of medicine in this city. During the Civil War he made a trip of inspection to the Peninsula in connection with the sanitary commission. In 1869 he was appointed clinical professor of diseases of the skin at the College of

Physicians and Surgeons. He retired from that professorship after a time and took that of clinical medicine in the same college in 1879. He held that post until 1898. He then retired, but was appointed emeritus professor, which honor he held at the time of his death. He was a trustee of the College of Physicians and Surgeons until it became part of Columbia University, and then he was made a trustee of the university. He was appointed attending physician in the New York Hospital in 1862 and acted until 1889. Illness caused his retirement, but he remained consulting physician. In 1893 he became attending physician again, his health having permitted a resumption of this more arduous work. Altogether he served this hospital for thirty-nine years. Besides the New York Hospital Dr. Draper was connected with St. Luke's, the Presbyterian, Trinity, Roosevelt, the New York House of Mercy, and the Northwestern Dispensary. He was appointed attending physician at the Roosevelt Hospital upon its organization in 1871 and resigned in 1897, whereupon he became consulting physician there. He was president of the medical board of Roosevelt in 1893. He was at one time president of the Alumni Association of the College of Physicians and Surgeons. In 1886 he was president of the College of Physicians and Surgeons, and president of the Academy of Medicine. He belonged to the Association of American Physicians, of which he was a founder and one of the early presidents, the Academy of Medicine, the County Medical Society, the Pathological Society, and the Physicians' Mutual Aid Association.

Dr. Draper was the highest type of the general practitioner, of a cheerful disposition, a genial manner, and a scientific mind, full of medical knowledge, and eminently practical in his application of it at the bedside. He was a successful teacher, but was especially happy in his manner of discussing medical problems at society meetings. He was logical in his reasoning, clear in his language, and convincing in his arguments. As a consultant he was much sought after, and his counsel was always welcome and most helpful to patient and practitioner.

Progress of Medical Science.

Boston Medical and Surgical Journal, April 25, 1901.

Chorea during Pregnancy.—F. S. Newell thinks that chorea deserves a special place in the pathology of pregnancy. It is not an accidental complication due to the recurrence of a previous infantile chorea, but in the majority of cases appears for the first time during pregnancy, and is to a great extent produced by this condition, although pregnancy alone cannot be regarded as the direct cause. Various conditions, such as heredity, previous infective diseases, etc., act as predisposing causes, and some nervous shock is usually the starting-point of the trouble. The prognosis is more grave than in early life. The principal drugs used in treatment are sedatives and alteratives. In grave cases ether and chloroform may be given as in eclampsia. Pinard gives chloral to produce almost continuous sleep, waking the patient only to administer food. When improvement in the choreic movements appears, the doses are diminished, but are continued until the movements entirely disappear.

A Special Form of Phlegmon of the Neck.—F. P. Emerson reports a case in which the neck was uniformly swollen down to the clavicle, presenting a three-lobed tumor separated by membranous septa, full and resistant throughout. There were no enlarged cervical glands; no redness; the neck was sensitive to pressure, and of a woody feel. There was great difficulty in swallowing and breathing. Ice poultices, alternating with unguentum resorcin, one drachm to the ounce of lanolin, were recommended; also cracked ice and a steam spray of campho-menthol, with supportive treatment, were given. Pus was seen exuding from the left side of the larynx; the discharge was gradual and convalescence uneventful. This would seem to be a case illustrative of the suppurative process described by Brousses and Brault, contained in what the authors call the glosso-thyro-epiglottidian cavity.

Experience in Search of a Cure for Asthma in the Far Southwest; with Observations of the Comparative Value of Different Sections in Respiratory Diseases.—Robert Bell from personal experience finds that asthma is much benefited in Arizona and a large percentage of cures is made. He prefers Tucson to all other places for patients with chronic respiratory disease. It stands on a mesa of twenty-four hundred feet elevation, has an annual rainfall of eight to ten inches, and is singularly free from wind, dust, and sudden changes of temperature because it is nearly surrounded by high mountains. It has a maximum of sunshine and is a desirable place to live in, meeting all the requirements of civilized life. The author gives much excellent advice in regard to practical points to be observed in sending patients to the far Southwest.

Remarks on Anæsthesia, General, Local, and Spinal.—By Maurice H. Richardson.

Notes on X-Light.—By William Rollins.

New York Medical Journal, April 27, 1901.

The Relation of Arterial Changes to the Heart.—Beverley Robinson says that in cases in which arterial sclerosis comes on early we should take account of heredity as a possible factor. Other factors are imperfect assimilation of food, irregular hours, working too soon after eating, etc., all acting by changing both quantity and quality of the blood. Renal disease may be only a secondary manifestation of arteriosclerosis. In the nodular form of the latter aneurismal dilatation is no uncommon sequence. The diffuse form of arteriosclerosis is frequently found among middle-aged men and particularly those who are strong and vigorous. It is in this form that we usually find cardiac hypertrophy, but as a rule unless the coronary arteries are involved there is no fibrous myocarditis. Cases of cardiac insufficiency following hypertrophy due to arterial changes are frequently mistaken for chronic valvular diseases, especially when there is a blowing systolic apex murmur. Such cases call for strychnine, digitalis, and strophanthus, while it is also advisable to give the iodide in moderate doses and for long periods with occasional interruptions. Local or general blood-letting may be of service in threatened heart failure in hypertrophic dilatation. A few leeches to the præcordium will often give great satisfaction when all drugs have failed.

A Combined Intranasal and Extranasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose; with the Report of a Case.—By B. S. Booth. The steps of the operation must be read in the original article. The author incidentally discusses the relative advantages in these cases of general anæsthesia and the combined use of cocaine and suprarenal extract. He prefers the latter course for the following reasons: (1) There is less immediate danger from heart failure or suspension of breathing. (2) The hemorrhage during the operation is *nil*. (3) The operator can see what he is doing at every step during the operation. (4) The patient can sit upright and hold his head in place during the operation—an obvious advantage. (5) No special instruments are necessary—a step toward simplifying the operation. (6) The operation can be done as well in an office as in a hospital. This not only saves time and expense, but will be preferable to a large percentage of patients. (7) The pain is insignificant, and certainly less distressing than are the nausea and vomiting following the use of ether.

Hospital Appointments: Are They Open to Women?—Miss Helen MacMurchy, M.B., has collected figures bearing on this question, compiling her information especially for the Woman's Medical College in Toronto. From a lengthy list of appointments it appears that there are in all 559 medical appointments—government, municipal, and hospital—held by women physicians (and also 11 appointments recently opened to competition). Of these, 215 are resident; 302 (including 114 resident) are in the United States, and 188 (including 99 resident) are in the British empire.

A Contribution to the Explanation of the Nature of the So-Called Predisposition to Infection with Staphylococci.—From a series of experiments with the staphylococcus pyogenes aureus on rabbits, F. W. Gaertner concludes that in states of anæmia consequent on bleeding and starving, infected animals showed a quicker multiplication of the germs than did normal animals infected under similar conditions. He therefore does not hesitate to conclude that the conditions which favor a disposition to infectious diseases have to be looked for in the hydræmia of anæmia.

Peripheral "Anæsthesia Paralysis"; Report of an Unusual Case of Bilateral Brachial Paralysis Occurring during Narcosis (for Appendicitis).—By W. M. Buckner.

Pneumonia; its Proper Management in Children.—By Louis Fischer.

Tenonitis and Tenotothecitis Prolifera Calcarea.—By Carl Beck.

Philadelphia Medical Journal, April 27, 1901.

Scurvy in Infants.—Louis Starr tersely states that the cause of scurvy in infants is continued deprivation of fresh food. The faulty foods he classes as follows: The different proprietary infants' foods administered without or with slight addition of cow's milk; these foods are responsible for the greatest number of cases, and the variety most harmful depends greatly upon the degree to which it is used; oatmeal or wheat gruel; barley and other farinaceæ administered with water alone or with water and insufficient cow's milk; condensed milk and water; sterilised milk; properly modified milk mixtures, but subjected to a temperature of 212° F. from thirty minutes to an hour or more; too dilute milk-and-cream mixtures; laboratory mixtures with too low albuminoid percentages. Scurvy is found more frequently in infants reared in luxury than in the very poor. The essential cause of this disease is unknown, but it is acknowledged that it is due to some peculiar deprivation. Very few post-mortem examinations are on record, as very few cases are fatal. The anatomical lesions are chiefly due to hemorrhage, the most characteristic being the subperiosteal blood effusions about the shafts of the femora and tibiæ, sometimes of the long bones of the arms or of the cranium and thorax. Hyperæsthesia is almost invariably the initial symptom. Immobility follows. The general features are very diverse in degree of prominence. The essential treatment is the employment of a food composed of cow's milk, cream, water, and milk-sugar, the milk and cream not having been passed through the separator and not sterilized. The juice of fresh ripe fruit—orange juice especially—is a useful addition to the diet. An appropriate food schedule for scurvy in an infant of eight months is: At 7 A.M., cream, ½ ounce; milk, 4½ ounces; milk sugar, 1 drachm; water, 3 ounces. At 9 A.M., one to two teaspoonfuls of fresh orange juice, according to effect on the bowels. At 10:30 A.M., same as at 7 A.M. At 11:30 A.M., two teaspoonfuls of raw beef juice, free from fat, and with a little salt. At 1 P.M., one to two teaspoonfuls of fresh orange juice. At 2 P.M., same as at 7 A.M. At 3 P.M., two teaspoonfuls of raw-beef juice with salt. At 5 P.M., one to two teaspoonfuls of fresh orange juice. At 6 P.M., same as at 7 A.M. At 8 P.M., two teaspoonfuls of raw-beef juice with salt. At 10 P.M., same as at 7 A.M. A substitute for orange juice may consist in scraped ripe apple or fresh grape juice. Iron is indicated. The body may be gently rubbed with warm olive oil. Complications must be met as they arise.

Observations and Tabulated Report of the Results of One Hundred and Fifty Operations for Appendicitis.—By Leon Brinkman.

Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.—By Heinrich Stern.

Notes on Leukæmia, with a Report of Three Cases.—By Charles S. Jewett.

Clinical Experience with Adrenalin.—By Emil Mayer.

Journal of the American Medical Ass'n, April 21, 1901.

When Should Patients be Advised to Eat Everything?—Boardman Reed says we should never advise our patients to "eat everything" until we have thoroughly cured their diseased digestive organs and freed them from the lithæmic condition; and, powerful as are our modern weapons against these, we cannot often succeed in accomplishing such a radical cure until the patients have reformed their unhygienic habits, not only in their eating and drinking, but also in both their work and play. They must learn self-denial and at least the rudiments of the immutable laws of health, and, having learned, obey them. They must take into their stomachs, in approximately right proportions, the things that will nourish and strengthen them, and little or none of those whose chief effect is to derange or irritate the functions or tissues of the body. In many cases, besides, they must give up sedentary employments or pleasures and take regularly, every day, an adequate amount of exercise out-of-doors. In short, oxygenation must be made to bear its proper ratio to alimentation. Nor should we advise even the well persons in the families under our charge to "eat everything," without some regard to their idiosyncrasies and tendencies, as well as a reasonable amount of care that they do not follow a harmful acquired taste for too much of the rich and complicated viands or such an undue proportion of nitrogenous food as would make patients of them a few years later, by setting up gradually insidious forms of chronic disease which would inevitably result, at a relatively early period of their lives, in gout or rheumatism, or in other more serious and fatal organic affections.

Poisoning from Auto-Intoxication.—T. D. Crothers confines his remarks to the effects of alcohol, which he claims leads to a poisonous action on the system, laying down the following propositions: (1) Alcohol in any form, taken into the body as a beverage, is not only a poison but produces other poisons, and associated with other substances may develop toxins. Alcohol is also an anæsthetic and not a tonic or so-called stimulant. It increases the waste products of the body and diminishes the power of elimination. It also destroys the phagocytes of the blood, and thus removes and lessens the protective power of the blood cells. (2) Whenever alcohol is used continuously as a beverage, for its medicinal effects, favorable conditions and soils for the cultivation and growth of poisoned compounds are created. These may be neutralized by other conditions and not be apparent in the derangements of the functional activities which follow. (3) The functional and organic symptoms of derangement appearing in those who use spirits in moderation or excess, which quickly disappear by abstinence and eliminative measures, are clear indications of auto-intoxications from this source. (4) The treatment of all such cases, in which alcohol is used in any form, should be by antiseptic and eliminative measures, and the supposition should always include the possibility of poison by chemical products formed in the body.

A Rule for Combining Crossed Cylinders.—H. S. Pearse gives the following formula to transpose crossed cylinders into a sphero-cylinder: "The cylinder is the sum of the two cylinders with the sign and axis of one of the cylinders. The sphere is the strength of the other cylinder with its sign." Example:

$$-1 \text{ c. axis } 180^\circ \bigcirc + 2 \text{ c. axis } 90^\circ =$$
$$-1 \text{ s.} \bigcirc + 3 \text{ c. axis } 90^\circ, \text{ or}$$
$$+2 \text{ s.} \bigcirc - 3 \text{ c. axis } 180^\circ.$$

The use of the lighter and thinner lens is always to be aimed at and will usually give the best result; occasionally, however, the heavier lens will be more satisfactory, and rarely there are cases in which only the crossed cylinders will be accepted. It is in retinoscopy especially that the student will find rules of this character of great value, for there are always two meridians to be reduced to a sphere or a sphero-cylinder. The experienced refractionist will not need them.

Floating Kidneys in Children.—J. A. Abt reports five cases. The etiology in this condition is not clear. Floating kidney may be only one symptom of a general enteroptosis. Traumatism is doubtless a very frequent cause. In very young infants the condition must be regarded as congenital. In older children there can be doubt that a congenital tendency exists, while the exciting cause is an acute or chronic trauma. The latter expression has reference to causes which are constantly acting or at least are of frequent occurrence, eventually dislodging the kidney from its fixed position. The symptoms consist of pain, colicky or paroxysmal in character, and possibly accompanied by chill, fever, vomiting, and sweating. The urine may be diminished, while the kidney is usually sensitive. Symptoms referable to the gastro-intestinal organs are not uncommon.

The Pollution of Streams and the Purification of Public Water Supplies: Comparative Efficiency of the Slow Sand and the Mechanical Filters.—By G. M. Koner.

Advance in Obstetrics during the Last Half Century.—By A. H. Halberstadt.

Notes on Adrenalin and Adrenalin Chloride.—By E. Fletcher Ingals.

Proposed National Bureau of Materia Medica.—By F. E. Stewart.

Hospital Cars for Railway Service.—By W. L. Estes.

Hypospadias.—By C. H. Mayo.

Medical News, April 27, 1901.

The Medical Man in the Navy.—W. K. Van Reypen states that the medical corps of the navy is recruited directly from civil life. A permit to appear before a naval medical examining-board will be given to an applicant between twenty-one and thirty years of age who presents satisfactory references. Political and other influences are eliminated in these appointments, and merit only is considered. The order of examination is as follows: (1) Physical; (2) written; (3) oral; (4) clinical; (5) practical. In the written examination a thesis is written upon some professional subject. Besides this there are questions on hygiene, quarantine, etc. The oral examination includes the usual professional branches. In the clinical examination the microscope, thermometer, laryngoscope, ophthalmoscope, and other aids to physical diagnosis are made use of. In the practical part are surgical operations on the cadaver, the application of splints, bandages, surgical dressings, while chemical and pharmaceutical manipula-

tions are included. Naval life includes travel at home and abroad, with a period at sea and a period on shore in one's own country with service in different naval hospitals or shore stations. This life offers varied and wide opportunities to the medical man.

The Municipal Health Department System, and More Especially in Reference to its Advantages and Disadvantages as an Opening for the Young Medical Graduate.—Arthur R. Guerard proves that both the mortality from and prevalence of disease are being reduced by modern sanitary science and preventive medicine. The sanitary bureau of the board of health of New York City includes six divisions: (1) General and special sanitary inspection. (2) Contagious diseases and medical sanitary inspection. (3) Food inspection, offensive trades, etc. (4) Pathology and bacteriology. (5) Medical school inspection. (6) Marine inspection. There are four hospitals under the control of the board of health. Appointments to the health department are governed by civil-service rules. Competitive examination is always necessary. The salaries average about $1,200 a year. As a rule Sundays and holidays are free. There is a vacation of two weeks in the year. The medical health officer is liable to become unpopular. The obstacles in the way of appointment are great. However, this work opens up a broad field and offers rich opportunities for doing good.

The Outlook for the Young Physician in State Hospital and Sanitarium Work.—Carlos F. MacDonald declares that the medical service in state hospitals for the insane offers a most inviting field for clinical study to the young physician, and a comparatively generous compensation. Each State hospital is legally required to have one woman physician on the staff at an annual salary of $1,000 to $1,500 and maintenance, but who is not in the line of promotion. The State is most liberal in providing for the living of its officers. As to private institutions for the insane, they are of two kinds: incorporated private asylums, or hospitals, and small sanatoria that are conducted on the "family plan." The clinical advantages in the former are good, but the pay and allowances are generally less than in the State institutions. In the private sanatroia clinical opportunities are meagre.

The Medical Man in the United States Marine-Hospital Service.—The Treasury Department of the United States government offers to those capable of filling the positions an assured income and excellent social position. This is practically an appointment for life. The examinations are most rigid. A successful applicant is appointed to the grade of assistant surgeon with a salary of $1,600 per annum. There is opportunity for the varied talents of the different officers of the service to be exercised and thereby secure the promotion of their successor. Wire-pulling and political influence cannot give a man one of these life positions if he is not by his own merits commended to the examiners.

The Advantages in Examining for Life Insurance.—Brandreth Symonds believes that this work is most advantageous to physicians. The compensation is good for the work required. The fee for an examination is generally $5. This includes the filling in of question blanks, a thorough physical examination, and a chemical examination of the urine. An insurance examiner is considered among the first of his associates. The sphere of observation is enlarged in this work and an insight into human nature gained. The discipline gained in the pursuance of this work is invaluable. The work is exacting, and requires skill and alertness.

The Relation of the Student of Medicine and the Recent Graduate to the Field of Surgery.—By George Ryerson Fowler.

The Study of Internal Medicine.—By William Osler.

British Medical Journal, April 20, 1901.

Veld Sores.—Alexander Ogston believes that this disease is peculiar to South Africa. Veld sores resemble epidermic vesication but are not vesicles. These sores occur mostly on the hands and forearms, as well as on the feet and legs; not so often on the less exposed parts of the body. They are not frequent on the face. Suppuration is not a characteristic of this lesion. A break in the continuity of the skin seems to be necessary for the origin of the disease. It may often result from the bites of insects. Usually it is due to the inoculation of a virus into an existing abrasion by house flies. The serum appears to contain a pure culture of a peculiar micrococcus. This micrococcus campaneus is probably an inhabitant of the vegetation and soil of the veld. In treating the sores, after as much epidermis as possible has been removed, any good antiseptic, as carbolic or salicylic acid applied in solution or in vaseline, speedily brings about a cure.

Enteric Fever in South Africa: Effective Sterilization of Excreta.—H. A. Cummins from experiments shows that by the present methods of disposal of stools many bacteria survive half a minute, while after one minute only one species remained alive. At two minutes all forms of life had become extinct. Even spores lost their vitality. The cauldron into which all waste is emptied has a capacity of forty gallons. It is emptied every evening for cleansing purposes; twenty gallons of a solution of izal or crude carbolic acid in water, ℥ss. to the gallon, is poured in, and when heated to near boiling-point the apparatus is again fit for use. No nuisance is caused. Smell is practically absent.

Venesection in the Treatment of Gunshot Wounds of the Chest.—F. J. W. Porter reports the case of a lieutenant who was shot through the right chest. There was a good deal of hemorrhage into the right pleural cavity. He was put into an ambulance, but suffered so from the jolting that he required morphine. His condition became so bad, the pulse small, the heart's impulse diffuse, the lividity great, that the writer withdrew about ten ounces of very dark blood from the median basilic vein. The patient made an uninterrupted recovery. His heart had been unable to drive the blood through the undamaged lung, and was relieved by the reduction of the volume of blood.

Some Observations on Veld Sore.—W. H. Harland states that this sore is first noticed as a small papule which rapidly increases in size. It is filled with clear, yellowish serum which soon becomes turbid. The skin overlying is thin and fragile. The sore is somewhat painful and dirty-looking, covered with a dirty scab, exuding serum and pus freely. The sores are generally multiple. The treatment is simple, consisting in incision with application of boric or carbolic fomentations. The most probable cause is the sting of the large brown horse-fly.

Report on Two Hundred and Ninety-Five Cases of Enteric Fever, General Hospital, Tin Town, Ladysmith.—By David Melville.

Conclusion of a Case of Removal of Scapula for Sarcoma in the Infraspinatus Muscle.—By George H. Edington.

Reminiscences of the Welch Hospital in South Africa (Springfontein and Pretoria).—By J. Lynn Thomas.

Medical Notes from the Imperial Yeomanry Hospital at Pretoria.—By J. W. Washbourn.

The Princess Christian Hospital in South Africa.—By George V. Worthington.

Clinical Notes on the Wounded in South Africa.—By J. W. Smith.

No. 6 General Hospital, Johannesburg.—By Archibald Watson.

The Lancet, April 20, 1901.

On the Causation and Treatment of Profuse Epistaxis in People Beyond Middle Age.—George Coates gives abstracts of histories of several cases, in all of which the sequence of events leading up to the hemorrhage was the same, namely: (1) long-continued arterial pressure; (2) some sudden cardiac failure; (3) over-filling of the whole venous system, the weakened heart not being sufficiently able to empty the engorged veins against the high pressure in the arterial system due to contracted arterioles; (4) leakage from an over-filled vein. The most scientific and satisfactory treatment of these cases of epistaxis, and by analogy of the other forms of passive venous hemorrhage, is to empty the overfilled veins. As long as they are enormously distended with blood the hemorrhage must continue unless direct mechanical means are used, and if one nostril be plugged the epistaxis is apt to start from the other. If, on the contrary, we can relax the walls of the arteries and help the enfeebled heart to do its work, it will soon empty the overfilled veins. But, as a rule, this cannot be done by giving heart tonics at first. Immediate treatment must be directed to the capillaries and small arteries, as the real cause of the epistaxis lies there, not in the nose. Nitroglycerin is quite effective, nitrite of amyl might be more so, but one of the more quickly acting nitrites should be used at first; afterward one of the more slowly acting, as erythrol tetranitrate or possibly even thyroid tabloids, might do as well. When the capillaries and arterioles are dilated and pervious, then comes the time for strychnine or strophanthus. In spite of everything plugging may have to be resorted to in some cases, but in most of them the hemorrhage can be stopped without resort to this procedure, which is always most uncomfortable to the patient and sometimes even dangerous.

When to Operate in Perforative Peritonitis.—A. C. Roper calls attention to the fact that in cases of suspected perforative peritonitis we must first exclude the possibility of hepatic or renal colic. If the patient is rolling about in bed, he probably has colic of some kind, intestinal, biliary, or renal. Patients with peritonitis keep their abdominal muscles very still. Though they may toss the arms or the head about, they do not move the abdomen. Roper considers the four cardinal signs of perforation in

the early stage (*i.e.*, for the first few hours after it has occurred) to be rigidity, tenderness, presence of fluid and free gas in the peritoneum, to which may be added the pain and signs of collapse. Several hours later one may find: (1) Rigidity giving place to distention, but still there is immobility in respiration. (2) Tenderness still present, though in less degree and not so general. In an appendix case the localization of the pain at this stage may be an invaluable guide. (3) Free fluid probably increased, though it must not be forgotten that great distention of the intestines may obliterate the percussion dulness in the flanks by displacing the fluid. (4) One will probably find that neither fæces nor wind have passed per rectum. This period is the golden opportunity for operating, or even for removing a patient to a hospital or place suitable for operating in; and, while the writer personally would not deliberately wait for it as the elective period for operation, yet he would not, having made his diagnosis at an earlier stage, or seeing the case for the first time in this stage, when a competent man had earlier diagnosed perforation, refuse to operate because the patient had apparently become so much better.

The Open-Air Treatment of Phthisis at Home; a Short History of a Case.—By F. W. Bartlett. The case is that of a woman of thirty-eight years, who lived in the country. Removal to a sanatorium was out of the question, so she lived for one whole winter in the daytime in a shepherd's van, which was moved into the garden at the rear of her house. A small stove kept the van warm enough for comfort. At night she slept in her house, the windows (screened) being always open. She confined herself to a plain but nutritious country diet, and took creosote sparingly with a terebene cough mixture. The results were fully as good as those usually obtainable in an institution, and the case is reported to encourage the further adaptation of this sensible mode of treating pulmonary tuberculosis in the cases of those who for various reasons are compelled to remain at home.

A Case of Recovery after Operation for Diffuse Peritonitis from Perforation of the Appendix.—By C. A. Morton. The author does not believe that the infection in his case involved the upper part of the peritoneal cavity. It occurred in the course of a fourth attack of appendicitis in a man of forty-four years. Operation was done about forty-eight hours after the initial symptoms. The patient did well after operation. In ten days the abdomen was soft and of natural shape, and he was taking fish and other kinds of solid food. Noteworthy symptomatic features in the case were a pulse hardly above normal, very slight fever, no vomiting, and no signs of general prostration.

Correspondence between Cholera and the Prevalence of Comma Bacteria in Well Waters of Gujerat during the Famine of 1900.—By C. M. Glasg.

Recurring Attacks of Catalepsy Alternating with Violent Mental Excitement.—By W. G. Stone.

Case of Concurrent Erythema Multiforme and Erythema Nodosum.—By E. McCullogh.

Carcinomatous Stricture of the Duodenum.—Clinical lecture by H. D. Rolleston.

Autopsychorhythmia or Repetition Psycho-Neurosis.—By C. H. Hughes.

Barium Water in Weakness of the Heart.—By W. B. Jones.

Note on the Treatment of Otorrhœa.—By D. W. Aiken.

French Journals.

Movable Kidney and its Treatment (Surgical Treatment Excepted).—Roskam states that the movable kidney is almost always on the right, almost never on the left. It occurs especially in women. The time most favorable for its appearance is from the establishment of the menses to the end of the menopause. The young girls affected by this trouble are more numerous than married women. The symptom of pain varies with the position of the kidney. The pain is more severe in the slighter degrees of displacement. Digestive troubles are most characteristic, and vary from the simplest form of dyspepsia to serious disorders. The stomach gives the first signs—a feeling of heaviness with the evolution of gas. Vertigo, cardiac palpitations, and constipation occur. There may be true gastric crises with vomiting. Symptoms on the part of the liver are common. Nervous complications are not rare. Massage does not have a favorable effect on the movable kidney, and only a limited action on certain concomitant troubles in the cases of enteroptosis, but it has a real value in certain lesions of the large intestine. The physician should strive to immobilize the kidney in such a position that the patient will not suffer in attending to her affairs. Sudden movements should be avoided. The patient should as soon as menstruation occurs go to bed. The style of bandage appropriate to be worn will vary with the degree of displacement. When necessity for massage appears it can be resorted to. Static electricity is good for neurasthenics, but the treatment giving the best results in the author's opinion is a combination of electricity, massage, and hydrotherapy. In patients affected by neurasthenia or hysteria, all causes of irritation should be removed, even if this necessitates operation. Every painful movable kidney capable of producing reflexes provokes disturbances in the digestive system with the production of toxins. Operation should be proposed without hesitation.—*Annales de la Société Médico-Chirurgicale de Liège*, March, 1901.

A Case of Malignant Osseous Tumor.—Laffarelle reports this case of a man aged fifty-three years. He first complained of pain in the right hip in March, 1899. The pain continued, although it was ameliorated from time to time. The diagnosis of aneurism was made, since the tumor, which was increasing in size, pulsated. This was thought to have destroyed the vertebræ at its site and to be pressing upon the nerves which supplied the lower extremities. In November the right lung became affected by tuberculosis, in December the left, and at the same time a tumor appeared at the level of the second rib. On January 8, 1901, the patient died. The suffering had at times been excruciating. Only a partial autopsy was allowed. The tumor in the chest was examined. It was round and about the size of an orange. It was surrounded on all sides by muscle, from which it was separated by an envelope of connective tissue. On section, the tissue appeared soft, of uniform red coloration, from which escaped a large quantity of blood. The tumor had evidently originated from the periosteum, and consisted of young connective tissue and of chondromatous tissue at the periphery. The centre was soft. It evidently belonged to the type of tumor called alveolar sarcoma. Hildebrand first described it under the name of endothelioma of bone. The cachexia was late in developing, and the patient in spite of his pain kept in good condition, and it was tuberculosis which caused his sudden death. This case differed in its symptoms to a certain extent from the typical description, for the evolution was not remarkably rapid, the malignancy was not demonstrated, and the generalization was not rapid. The pulsations, however, were present, and the bone near the tumor was destroyed.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, April 14, 1901.

Pulmonary Complications of Influenza.—Ed. Michel states that among the infections la grippe has the most frequent and varied pulmonary complications. The toxins of this disease seem to affect particularly the nervous system. The reaction is felt in various parts of the body, but especially in the lungs. These pulmonary complications of grippe may be comprised in two classes: (1) Diverse congestive manifestations probably due to grippe alone; (2) pulmonary complications dependent upon the agents of a secondary infection. Among the first are simple catarrh, congestive bronchitis, congestion of the entire chest, diaphragmatic pleurisy, and hæmoptysis. Examples of the second class are broncho-pneumonia and pneumonia. The characteristics of grippal pneumonia and broncho-pneumonia are insidiousness of onset, slow resolution, and painful convalescence. Abscess of the lung may develop. The prognosis depends upon the nature of the pulmonary process. It is good for the simple congestive forms, but extremely bad for pneumonia and broncho-pneumonia. The best treatment for these severe cases seems to be serum injections, and local or general application of cold.—*Le Bulletin Médical*, March 30, 1901.

Note on the Leucocytic Reaction, Both Local and General, in a Severe Case of Jaundice.—Paul Caziot, from careful blood examinations of a severe case of jaundice, concludes that in grave jaundice with acute hypertrophy of the liver the hyperleucocytoses, both locally and in the circulating blood, are parallel from a quantitative point of view. In this case they were parallel also qualitatively at the sixth day, for, considering the high degree of leucocytosis of the blood, there could be said to be a relatively large number of mononuclears in the circulating blood. The parallelism disappeared at the time of death, as at that time the number of multinuclears was very marked. As in pneumonia, increase of leucocytes with considerable increase in the proportion of multinuclears indicates an extremely grave prognosis. The grave form of jaundice is a general infectious malady accompanied by hypertrophy of the lymphoid organs as a means of defence.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, April 11, 1901.

Study of the Causes of Death in Serious and Extensive Burns, and of the Injection of Large Amounts of Salt Water as a Therapeutic Means.—Adrien Besson concludes his article in this number with the study of injections of salt water. By diluting the blood with suitable liquids, dehydration of the tissues is guarded against by restoring to them the water which they have lost. Their important

functions are renewed and blood pressure is raised. The blood circulates normally and gives nutrition to the parts. Distribution of heat is equalized and nutritive changes are reanimated. Visceral circulation is modified and the blood is freed from the toxins elaborated when nutrition was at a low ebb and when the eliminative organs were not acting normally. The blood is actually washed.—*Journal des Sciences Médicales de Lille*, April 6, 1901.

Three Cases of Restoration of the Nose in Hypertrophic Acne.—J. Pantaloni believes the method of cure used in these cases, which he reports, to be the best. It consists in the complete ablation of the hypertrophied parts. This excision is sufficient in the majority of cases without recourse to immediate rhinoplasty. The excision may be made with scissors and bistoury, but with the former one can work more quickly and easily. It seems more truly surgical. Sometimes plastic operations on the nose are necessary later, but ordinarily immediate rhinoplasty is useless.—*Archives Provinciales de Chirurgie*, April 1, 1901.

Deutsche med. Wochenschrift, April 4, 1901.

Acute Yellow Atrophy of the Liver Terminating in Recovery.—Albu reports this case, which makes the eighteenth that has been published. The patient was a man of thirty-six years, with a negative past history, who three weeks before coming under observation had become jaundiced after an emotional shock. This condition continued for some time until mental hebetude and great prostration developed, when the author was called to the case. There were then noted profound muscular weakness without any emaciation, slight impairment of the mental faculties, a temperature of 103°, and slow pulse. The liver dulness was greatly decreased, extending from the sixth rib only two inches downward, there being tympany under the free costal arch. The spleen was palpable, the urine bile-stained and containing no albumin, but large amounts of indican, leucin, and tyrosin. The stools were acholic. At the end of the sixth week from the first access of the jaundice the temperature stayed down permanently, the liver dulness began to increase, and the enlarged spleen receded. The patient soon regained his former strength and vigor, though the jaundice did not wholly disappear until about three months later.

The Detection of Minute Traces of Albumin.—A. Praum describes a method of facilitating the detection of albumin in the urine in amounts so small as to give only very slight cloudiness. A small quantity of the suspected urine is filtered into a test tube and a few drops of the reagent are added. Sulphosalicylic acid in concentrated solution is highly recommended for this purpose, though other substances may be used. The funnel is again put into the test tube and a little more urine filtered through, taking care that the stream flows down the side of the tube (which may be facilitated by the use of a funnel with the stem obliquely ground), so that it will form a layer on top of the first portion. The two now being in one tube, accurate comparison is possible, and minute precipitates that might otherwise pass unnoticed are easily detected.

The Treatment of Fresh Cases of Tropical Dysentery.—R. Ruge's experience with Plehn's method of calomel treatment for this disease has not been so satisfactory as the long-established ipecac therapy. Plehn recommends calomel in one-grain doses given every hour twelve times a day, and avers that salivation is produced but rarely. Ruge was less fortunate, and caused severe stomatitis without sensibly affecting the disease, while infusion of ipecac with milk diet invariably gave him satisfactory results. The infusion should not be stronger than 1 : 40, and may be given three times daily in doses not exceeding two and one-half ounces.

The Chemistry of Elastin Staining and its Practical Application in Staining Sputum.—By L. Michaelis.

The Galvano-Caustic Closure of Vessels as a Preliminary to Intranasal Operations.

The Biological Reaction for Albumin in the Blood and Urine.—By G. Zuelzer.

Observations on the Therapy of Diseases of the Tear Duct.—By Albrand.

The Soluble Iron in Natural Ferruginous Waters.—By C. Binz.

Max von Pettenkofer.—By F. Erismann.

Berliner klinische Wochenschrift, April 1 and 8, 1901.

A Remarkable Form of Urticaria Factitia Accompanying Scleroderma.—Bettman describes two cases of scleroderma which presented at the same time an unusual type of dermatographia. Urticaria is of itself not a rare complication of scleroderma and appears to be simply a concomitant vasomotor phenomenon, which by some authors is regarded as an initial stage of the disease; but in the two cases described the symptom was remarkable for the length of time during which the wheals persisted after the skin had been irritated. Scratching the surface of the chest or back with the finger nail caused the appearance of the usual elevated markings, which in the one case regularly persisted as long as twenty hours and in the other five or six days. In addition to this wholly unprecedented duration of the phenomenon, the cases were also atypical in the slowness with which it appeared, a number of minutes usually elapsing before a perceptible elevation of the skin was produced.

The Prognosis of Brain Diseases in Children.—(Concluding article.) H. Oppenheim describes a series of cases in which the symptoms suggested the presence of brain tumors, but in which the use of combinations of iron and iodine led to full recovery. None of the children presented any evidences of inherited or acquired syphilis. Oppenheim is inclined to believe that the cases were due to a localized meningo-encephalitis of a tuberculous nature, affecting especially the motor zone of the brain, and that such a lesion is curable by the establishment of retrograde changes in the tuberculous deposits and subsequent cicatrization. The condition has been called by French writers "méningite en plaque tuberculeuse."

A Case of Idiopathic Hemorrhage between the Retina and the Vitreous.—H. Ziegner reports the case of a man aged fifty-two years, who suddenly noticed while at work a dimming of vision in the right eye. Upon consulting his physician it was found that there was a collection of blood between the vitreous body and the retina. The mode of treatment is of interest in that absorption of the clot seemed to be greatly hastened by the subconjunctival injection of solution of common salt, 1 c.c. being used for each injection. Under this treatment the clot was entirely absorbed and vision was restored.

A Case of Splenic Anæmia with many Mononuclear Neutrophile Leucocytes.—G. Freund presents a detailed enumeration of the various kinds and numbers of the different forms of blood cells found. The treatment consisted in the use of arsenic both internally and by hypodermic injection. The patient's subjective condition was greatly benefited, but the size of the spleen was not affected.

The Distribution of Tetanus Poison and Tetanus Antitoxin in the Living Animal Body.—By F. Ransom.

Tetanus Poison and Tetanus Antitoxin in Living Animal Bodies.—By F. Ransom.

So-Called Membranous Enteritis.—By H. Westphalen.

The Journal of Tropical Medicine, April 1, 1901.

A Case of Quartan, Showing Cyclic Variation of Parasites.—G. Douglas Gray reports the case of a native Indian suffering from typical quartan fever. Blood examinations were made during three entire cycles before quinine was given. During the first observed, but really fourth cycle, there was an average of 500 parasites; during the second observed cycle an average of 446 per cubic millimetre; during the third an average of 627; and the fourth observed cycle showed an average of 302 parasites per cubic millimetre. Quinine was then given and continued, though the parasites did not immediately disappear, and three days later 210 per cubic millimetre were still present; on the following day 35 per cubic millimetre were found, and later on only so occasionally that the number could not be estimated. If uninterrupted multiplication existed and the parasites in the first observed cycle were 500, in the second they should have been at least 3,000, in the third 18,000, and at the commencement of the fourth cycle 108,000. Some natural check to such multiplication must have existed. These observations have an important bearing both on natural cure and immunity, and on the protracted periods during which the parasites appear to be latent.

A Case of Yellow Fever at Saltpond, Gold Coast.—S. Osborne Browne reports the case of a Scotchman whose illness lasted four days, terminating fatally. Temperature started at 104° F., fell to 102° under medication, but rose again to 104° before death. Black vomit appeared on the third day. The patient had been only one year in the tropics. Although a teetotaller at home, he took stimulants on the coast, and for some time before his last illness had eaten oranges immoderately, and was often ill from dealing with rubber. His residence was in a good position on rising ground, clean, new, and not very near native houses or the lagoon. His illness occurred in the height of the dry season, and mosquitos were conspicuous by their absence, although a few existed, especially Culex.

Beri-Beri in Hong-Kong, with Special Reference to the Records of the Alice Memorial and Nethersole Hospitals, and with Notes on Two Years' Experience of the Disease.—By B. MacLean Gibson (a continued article).

Reviews and Notices.

THE THEORY AND PRACTICE OF MILITARY HYGIENE. By EDWARD L. MUNSON, A.M., M.D., Captain Medical Department, U. S. A. 8vo, pp. 971. New York: William Wood & Company. 1901.

IN his preface the author very truly states that, "save a small collection of sanitary precepts intended for the use of officers of the line, no book exclusively devoted to the preservation of the health of troops has been published in the English language for more than a generation."

When are taken into account the great and fundamental advances made during this period in military and other forms of hygiene and disease prevention, and the great necessity of formulating the valuable material accumulated, the great need for the present work is without question.

The best that can be said of the efforts of the author is that his work is destined to take its place as the leading and most comprehensive one on the subject in any language. In a word, it deserves the highest praise for its thoroughness, scope, and adaptability to the needs not only of the military surgeon but of the student of hygiene in general.

Every subject is treated with clearness; and the painstaking collection of accurate data, the tabulation of valuable statistics, and the logical treatment of their relative significance and value, prove the eminent fitness of the author for the work on hand.

The arrangement of the book is thoroughly systematic and affords ample opportunities for ready reference in the order of importance of the topics discussed.

The selection and development of the recruit and his care during the march comprise an amount of useful and practical information never before presented in such readable and intelligible form.

The chapters on Water and Ration are particularly valuable and are treated in a plain and comprehensive way. The diseases which come from a bad water supply are fully described, and the chemical and bacteriological methods of their propagation are quite exhaustively presented and are suitably illustrated. Particular attention is paid to the proper selection of wells, and the different means of filtration are virtually exhaustive in the application to different forced conditions of environment.

Ventilation also receives its due consideration in connection with the practical application of advanced theories to primitive conditions.

The nutritive qualities of different foods are duly tabulated, their adaptability to different climatic requirements are shown by reference to actual experiences in our own and other armies, and above all the necessity for occasional change in the best dietary lists is properly insisted upon. Naturally in this connection a great deal of attention is given to the various diseases associated with infected foods, notably to tuberculosis, trichinosis, tapeworm, anthrax, and the various toxin poisonings. A practical outcome to the discussion of this important subject is the following terse and emphatic statement of the author: "For field use no meat can take the place of bacon." This opinion accords with all the recent experiments which have gone to prove that pork in any of its forms is the most nourishing and sustaining of all the flesh meats.

The chapters on the selection of camp sites, their arrangement and sanitary management, are full of practical directions and are profusely illustrated. In fact the reader is easily induced to believe that with the modern simple and compact appliances for cooking, mess arrangements, and bestowal of garbage it is almost possible to adapt most of the modern hotel improvements to all the real necessities of tent or barrack life. It is eminently becoming for an American work to give the latest improvements in hospital construction, and the author meets the demand in a most effective manner by a detailed description of the best forms in use by our armies in comparison with the most approved constructions of other nations.

The disposal of excreta is a topic to which much serious attention is directed. The author discusses the fundamental principles of drainage from a very comprehensive standpoint. The different forms of primitive apparatus shown and their descriptions are studies in sanitary plumbing which cannot fail to fulfil every expectation of perfection of detail and adaptability of purpose. Indeed, to the ordinary camper-out, to the inhabitant of unsewered rural districts there is an amount of valuable information in this chapter which cannot be found in any truly sanitary work with which we are acquainted.

The prevention of disease in the soldier is the natural outcome and so-to-speak focal purpose of the book. And herein the author is thoroughly up to date in availing himself of all the recent observations connected with the more modern methods of disease propagation. The medical reader will be particularly interested in the admirable epitome of the present opinions regarding the rôles of the mosquito in the dissemination of yellow and malarial fevers. The literature on this subject is so voluminous and the statements of authors are in some respects so contradictory that it is refreshing to obtain a clear and unprejudiced view of the situation. While our author very properly acknowledges that the pestiferous insect is undoubtedly the host of the malarial parasite and the propagator of yellow-fever infection, he is somewhat loathe to believe, and we think with some reason, that neither the Culex species on the one hand nor the Anopheles on the other is absolutely the only agency of the respective infections.

The work is profusely illustrated and contains eight full-page plates. Although it is specially intended for army use and has been adopted as the official book of reference by the Secretary of War, Commander of the Army, and the Surgeon-General's Department, it will be found an invaluable addition to every medical library, inasmuch as it deals with such general principles of hygiene, water and food supply, nutrition, drainage, sewage disposal, and disease propagation as are of the greatest practical value to the general physician in his responsible position as a ready adviser on all health matters.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA, Held at Morgantown, May 9, 10, and 11, 1900; instituted April 10, 1867. Wheeling: 1900.

THIS volume contains the usual number of interesting papers and has a frontispiece portrait of R. W. Hazlett, A.M., M.D.

FLESH FOODS, WITH METHODS FOR THEIR CHEMICAL, MICROSCOPICAL, AND BACTERIOLOGICAL EXAMINATION. By C. AINSWORTH MITCHELL, B.A., F.S.C. London: Charles Griffin & Co., Limited. Philadelphia: J. B. Lippincott Company. 1900.

THIS is a very instructive book, dealing with the details of proper methods of examination of meat and allied flesh foods. Many interesting tables are given and various illustrations add to the value of the book. It seems adapted for those desiring detailed laboratory methods rather than for the practical every-day physician.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine of Paris, Member of the Biological Society, etc. Authorized translation by M. S. GABRIEL, M.D., with additions by the author. New York: D. Appleton & Co. 1901.

THIS book contains just the rudiments requisite for a preliminary grasping of the problems so intricate and varied in the study of medicine. The translation is certainly a credit to the author. This book will appeal to the student and to the one looking for rudimentary knowledge.

THE MENSURATION AND CAPACITY OF THE FEMALE BLADDER. By GUY L. HUNNER, M.D., Assistant Resident Gynæcologist to the Johns Hopkins Hospital, and IRVING P. LYON, M.D.

A small brochure.

ANATOMIE GÉNÉRALE APPLIQUÉE À LA PHYSIOLOGIE ET À LA MÉDECINE. Par XAV. BICHAT. Première Partie. Paris: G. Steinheil. 1900.

THIS paper-covered volume carries us to page 256 of a work which, when completed, will embrace all departments of applied anatomy. The first part comprises general considerations and the cellular and the nervous systems. The text is carefully prepared but without illustrations.

HANDATLAS DER ANATOMIE DES MENSCHEN in 750 theils farbigen Abbildungen mit Text. Mit Unterstützung von WILHELM HIS, bearbeitet von WERNER SPALTEHOLZ. Dritter Band, i. Abtheilung. Leipzig: S. Hirzel. 1900.

THIS third fasciculus of the first part of this choice work on anatomy corresponds with those previously issued, and which were favorably mentioned in these columns. Many of the plates are colored sufficiently for the purpose of differentiating vessels and other tissue.

VASECTOMY RELATIVE TO PROSTATIC DISORDERS AND CATHETER LIFE, and Report to the Thirteenth International Congress of Medicine (Paris, 1900) on Urethro-Stenosis. By REGINALD HARRISON, F.R.C.S. Eng. London: J. & A. Churchill. 1900.

THIS is a small collection of papers which appeared in *The Lancet* from August 5, 1899, to July 14, 1900, together with a report to the International Congress of Medicine, 1900, on urethrostenosis. There is also added a list of the author's works on surgical subjects.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

COLITIS—PATHOLOGICAL SOCIETY—DROPSY—BRITISH MEDICAL ASSOCIATION—PLAGUE DUTY AT THE CAPE—SIR W. CHURCH—A BLIND SURGEON'S LEGACY FOR THE BLIND—DEATHS OF OCTOGENARIANS.

LONDON, April 12, 1901.

WE have heard a good deal of late years about colitis, and not a few have thought it was an old acquaintance with a new name. It seems to have been specially prevalent in the lunatic asylums, and the London county council appointed Drs. Mott and Durham to investigate it in those under their control. The result is a valuable report, from which it seems that most if not all of the cases of colitis have been dysentery. The true nature of the disease having thus been brought to light, the necessary precautions against its spread will no doubt forthwith be rigidly enforced. The report insists on the infectivity, and traces the infection from bed to bed in several instances, showing how it spread by direct communication. The reporters do not find that lunatics are specially liable to dysenteric diarrhœa or ulcerative colitis. In fact the staff and officials of the asylums had sometimes suffered. The spread of the disease among the patients was due to the non-recognition of its infectivity, to the overcrowding of dormitories on account of the pressure of fresh admissions, and to the difficulty of attaining complete personal cleanliness of some lunatics.

Isolation, disinfection of clothing, etc., and other measures must now be systematically enforced and the plague stayed. Something, too, must be done to prevent overcrowding, but surely that ought not to be the erection of more palatial buildings for paupers. Architects have been too much trusted and their work has tended to ruin ratepayers by its extravagance.

At the meeting of the Pathological Society on the 2d inst., the changes I mentioned in a former letter were duly adopted. There will be four sectional secretaries for the four departments of pathology, viz., (1) pathological anatomy and histology; (2) bacteriology; (3) experimental pathology; (4) chemical pathology. One general secretary will organize the whole work. There will be also four committees of the council, presided over by four vice-presidents corresponding with the four departments.

Professor Starling made a communication on the pathology of dropsy founded on some experiments on normal animals, as he had not been able so far to apply his views under diseased conditions. He defines dropsy as an abnormal accumulation of normal fluid in the tissues due to a disturbance of the balance between the production and absorption of fluid in the subcutaneous tissues and serous cavities of the body. He limited his remarks to the "mechanical form" of dropsy due to simple obstruction. Diminished absorption is a negligible factor, compared with transudation. It had been supposed that a rise of pressure in the veins and capillaries would explain dropsy, but obstruction to a vein in an animal does not produce œdema unless the vitality of the capillary walls be also lowered, as by the injection of a tissue poison. In cardiac dropsy it is difficult to see how there could be any increase of pressure in the capillaries, and Professor Starling's experiments showed him that there was really a fall of pressure. The prime change must consequently be in the walls of the capillaries. It was easy, too, to produce pleurisy by slight damage to the membrane or capillary walls, but he could not in various experiments do so by a rise in capillary pressure. In ascites pressure had more influence, as in cardiac disease there was a rise of the blood pressure in the liver, and lymph was exuded into the peritoneum. After exposure of intestine, exudation occurred on account of injury to the capillary walls.

Dr. Lazarus-Barlow said that he had raised the blood pressure of a dog's leg for five or six hours without producing the least dropsy. He believed that the two factors in the production of dropsy were starvation of the tissues and their poisoning by waste products. When a tissue was functioning, its vessels di ated and there was an increased flow of lymph. Dr. Barlow thought that in dropsy there was an excess of this normal process. In his view, therefore, the tissues rather than the vessels determined the occurrence of dropsy, though no doubt in most cases the process became complicated. This view he said was the best working hypothesis, for it explained more varieties of dropsy than any and indicated the lines of treatment likely to be of use.

Dr. Ewart thought a nervous factor must be present, especially in local œdema.

Dr. Sherrington said the vessel wall was the one constant element which seemed to justify the inference that it was the chief seat of change.

Dr. Newton Pitt asked why there was no œdema but ascites in mitral stenosis, while in mitral incompetence the reverse was seen. Perhaps Professor Starling's observation on the liability of the liver might be a clew to this. The late Dr. Wooldridge attributed the main cause to blood change.

Dr. Herringham said we could not altogether ignore mechanical forces. In general dropsy the side on which the patient lay was the one to swell.

Dr. H. White said effusion was not rapid when the portal vein was compressed by tumors. Effusion was most rapid in chronic peritonitis when the membrane was damaged.

Dr. Bradford regarded œdema of the legs in ascitic cases as the result of slight constriction of the inferior vena cava.

Professor Starling in reply said ligaturing the portal vein produced intense congestion of the intestines but no ascites. The rise of pressure therefore could not be the essential factor. Urticaria could be produced in the dog by injecting extracts of shell fish. He had repeated the late Dr. Wooldridge's experiments but had come to conclusions opposite to those of the latter.

The branches of the British Medical Association are holding meetings to consider the proposals for reorganization made by the committee appointed last year. You may remember that the growing discontent with the council's procedures led to repeated protests at the annual meetings. These meetings were generally so managed that expressions of opinion which did not accord with those of the council were easily burked, and when that could not be manœuvred were quietly ignored. At last the demands for reform were so determined that something had to be done and this committee was appointed. Their report extends to forty-eight pages the size of the *Journal*, and has given rise to some correspondence in its columns as well as to the criticisms of the branches. The most important proposal perhaps is to introduce the principle of delegation. Meetings of delegates are to be held and would, of course, to some extent, but not altogether, supersede the council. The council had its own supporters on the committee and are not inclined to part with their powers; so it is provided that no financial resolution of the delegates shall take effect without the approval of the council. In fact careful scrutiny of the report seems to suggest that the use of the delegates' meeting will be to take the onus of any act the association disapproves and to propose anything the council would like—a sort of buffer between the council which will retain all its power and those members who are dissatisfied with it. Constitution making on paper is a rather unprofitable employment, though it may serve as an amusement for idle hours. It is quite likely this elaborate attempt will eventuate in nothing. I hear that an attendance of four members in one branch was the result of the summons to consider it, while at another only one man put in an appearance. In other cases four and five per cent. of the members talked the matter over. It would probably be the same with delegates, but it is proposed to pay them and the cost of doing so would be serious. Another proposal is to compel all members to be attached to a branch and pay the extra subscription. Already protests against this are heard, and if carried out the change may cause a great loss of members. A power of referendum is also reserved to the council as against the delegates, as well as the financial disability. It is not easy to say of what use the delegates are intended to be, or to foresee what would be the effect of the change. They could certainly serve to let off some of the talk and to shelter the council from censure at times, but division of responsibility is apt to prove dangerous. The association is registered as a limited liability company. The council are the directors. The members meet only once a year. If they met more frequently and voting papers were introduced, perhaps that would answer all the purposes of delegates and satisfy reformers. There are some other points but they are of minor interest. What seems a strange hope entertained by the committee is, that they will be able by these changes to make the members generally take a real interest in the association and induce them all to vote. Not even in the parliamentary election can all voters be brought to the poll.

Half a dozen doctors are being sent out to the Cape for plague duty—a significant comment on the policy of ignoring the outbreak when first it occurred.

Sir William Church has been re-elected president of the Royal College of Physicians.

Mr. George Scale, who retired from practice in 1872 on account of glaucoma, has left £20,000 to provide annuities for blind persons who are in need.

Among recent deaths are four octogenarians: Dr. Dane, C.B., aged eighty-seven years, Dr. Thomas Morris, aged eighty-three years, Dr. Durrant, J.P., aged eighty-seven years, and Dr. Sykes, J.P., aged eighty-four years.

OPERATION FOR HERNIA IN CHILDREN.

To the Editor of the Medical Record.

Sir: Having my attention called to-day to "Surgical Diagnosis" I happened to see in MacDonald's work of 1898, on page 263, that operation for hernia was contraindicated in children under six years of age. In reply I would say that I have operated upon three boys (all on the left side) of less than four years of age. One hernia had been following the testicle into the scrotum, the others from the external ring. The last boy operated upon is now eleven years old, all perfect. Boiling water was my antiseptic.

George H. Fox, M.D.

Janesville, Wis.

WHY NOT BE FRANK WITH THE PUBLIC?

To the Editor of the Medical Record.

Sir: Much is being said nowadays concerning the relation of the public to the medical profession, and the secret of power in Christian science and kindred delusions. There is one aspect of this question to which I have not as yet seen reference made. It long ago struck me that the medical profession has itself partly to thank that the laity are attracted to these various forms of suggestion therapy as to something new. The profession has not been candid with the public. Doctors know that a vast deal of the medicinal treatment which is asked of them, and which they give for a consideration, is needless. This applies not so much to the surgeon or diagnostician as to the general practitioner. To him come the host of the vaguely suffering; the people who don't know how to live, and resent instruction; the functionally disturbed, the neurotics, and *malades imaginaires*. Experience and tradition have led them to expect medication from medical men. They get it, it fails, and they drift, perhaps bringing up at Christian science or one of its congeners. Persuaded to forget or ignore sensations, their shackles fall off, and they discover that they never needed medicines at all. Then one of three inferences is inevitable: Either the doctors knew the patients did not need drugs, in which case it was fraud to prescribe and receive money for them; or, they did not know it, and were ignoramuses; or, the special form of suggestion by which the patient has found relief is a great and precious discovery, a revelation, outside the ken of a bigoted medical profession.

Now, had physicians when able to make out the character of these cases been absolutely candid with them, had they refrained from medication even by placebos, and frankly explained the nature of the trouble and urged the patient to forget it, and look out and not in, at least the profession would not stand humiliated as it does in the eyes of so many at the present day.

In the face of the good they are doing it is quite useless to call these various types of auto-suggestion delusions. A host of witnesses will rise up and reply: "Whereas once we were invalids while taking drugs, now we take no drugs and are well." To explain the benefit obtained as suggestion does not rescue us from the position of having for years needlessly dosed these patients, neurotic, hypochondriacal, hysterical, call them what you like, when all they really needed was to be taught self-forgetfulness.

Our profession has been wallowing in a slough of excessive drug-giving these many years. A strange and seemingly instinctive wisdom has actuated the popular insurrections against canonical therapeutics. Hahnemann led one. From homœopathy the public (and the regular profession as well) learned not only that nauseous doses and indiscriminate bleedings and purgings were needless, even injurious, perhaps homicidal; but that many ailments subsided of themselves under water drops. That movement was a great eye-opener, but it did not go far enough. And to-day the Christian scientist is telling our public that not even water is needed; that faith, or prayer, or mental attitude suffices. Hahnemann surprised the doctors as much as the laity. The results of Christian science do not surprise physicians of this day at all. They knew all about auto-suggestion before. Indeed the educated medical man is prepared to go much farther than Christian science. For if he spoke fully and candidly he would say: "You need neither drugs nor water drops nor prayer. All you need is to disregard sensations, live right, and forget yourselves." Why, then, does he not do this?

One reason, and usually the first, that I have heard advanced in justification has been that unless we satisfy the patient's craving for medicines, even though not clearly indicated, he would seek satisfaction elsewhere and wander to some less discerning or less conscientious rival. If this reasoning were made public, it might remind an unsympathetic laity of the ancient robber's plea that the traveller is sure to be fleeced farther on, and so may as well give over first as last.

Others say in effect: "The interests of the patient demand that he have a skilled physician. If dissatisfied with myself, the 'skilled physician' of the major premise, he may pass to the care of the unskilful and unscrupulous. Then, if he fall really ill, he will suffer for his folly. Better for his own sake, therefore, that I retain my hold upon him, so that I may be there to help him when he really needs aid." Probably few put the matter thus jesuitically, yet in one form or another I fancy this argument affects many minds that would spurn the idea of doing evil that good may come.

Most men state the case in this way: We are not doing evil. The patient puts himself in our hands. We cannot without giving offence be candid with him or her (especially her); for if there is one thing the laity won't stand it is candor about their ailments. We must take these cases at their own valuation, administer remedies or placebos as our judgment dictates, and if we fail, we have done our best.

The point I am raising is, of course, whether this plan is the best.

No one rejoices more keenly than the writer in the advances all along the line of our great calling. No one sees more clearly the public danger of extending systems of auto-suggestion to ills other than the vaguely nervous or functional; nor agrees more heartily in the need of requiring all practitioners of healing, under whatever guise, to give proof of knowledge, lest faith-cure be applied to diphtheria, for example. Yet the results obtained by systems of self-persuasion, so ingeniously adapted to the needs of the weak-kneed and unstable, may well cause us to examine our own methods carefully, to let no casuistry or veiled self-interest mislead us into virtual dishonesty, and to meet the public candidly and openly as the best means of silencing invidious comment upon medicine as now practised.

However, it is to elicit rather than to express opinions that this letter is written. And to avoid intruding his own personality into the discussion, lest his shortcomings distract attention from its importance; or, worse than all, lest he appear to any of his brethren to say between the lines "I am holier than thou," the writer begs to subscribe himself, Yours,

X.

ON FAITH CURES.

To the Editor of the Medical Record.

Sir: In the Medical Record for April 20, 1901, Dr. Huber deals with the question of faith cure in a concise and comprehensive way, but there are one or two points that seem to me to be of considerable importance that I would like to add. Adult Christian scientists are mostly people with degeneration or disease of the generative organs. If the fact is not generally known, physicians will have little difficulty in corroborating the statement by reference to their notes of cases; and this interesting fact simply falls into line with our previous knowledge on the relation between derangements of the generative organs and the mental habit of the individual. The followers of osteopathy represent a very different class, made up largely of people of quite normal minds. They become impressed by the good results of osteopathic treatment which are patent to all of us, but sooner or later come to recognize the fact that the practice of osteopathy is based upon fraud, and that its practitioners when intelligent men are shrewd charlatans. We can safely depend upon the observant patient soon to classify osteopathy properly, but not so with Christian science, which represents one of the psychopathic epidemics that sweep across the country from time to time. The primitive form of this sort of epidemic is illustrated in the school-room when the teacher yawns and sets half the class to yawning. A more marked demonstration occurs when an hysterical girl laughs uncontrollably and gets so many other girls to laughing in the same way that it becomes necessary to close the school. The most impressive influence of suggestion is seen when an adult hysteric with some fanciful mission engages the interest of so many others who have the same form of nervous derangement, that the movement gains great momentum and causes some fairly well-balanced minds to topple over and fall into it. That is what is now occurring in the sweep of Eddyism.

If we did not have much healing by suggestion in the days of Christ, the conditions were at least most favorable for such healing at that time, and many of the miracles as reported would seem to have been in no way different from the healing miracles of Schlatter and of Carol Norton. Renan tells us that the Greek and Roman savants looked upon the healing miracles of Christ precisely as we look upon those of Norton to-day (Renan, "Vie de Jésus," chap. xvi.). This in no way detracts from the beauty of that perfect life which is the inspiration of all Christian people. The curing by relics in the Catholic Church is one of the most persistent examples of the influence of suggestion. I say this with no feeling of disrespect.

Many members of the Catholic clergy are my personal friends—earnest and sincere men whose lives are devoted to good works and who would be unwilling to deceive, but they are not trained in methods of scientific investigation, and they do not follow up the reports of cures for purposes of accurate record. Most of the cures by relics are symptomatic cures of temporary duration, in hysterics, or in people who are not able to supplant superstition by knowledge. We see much suffering resulting when patients with actual disease, and moved by emotional excitement, throw away crutches and orthopædic apparatus, for instance, which they can ill afford to buy again a few days later. It would seem to be greatly to the credit of the Catholic Church if it could do away with what physicians know to be false cures by faith—the same cures that are made daily by Dowieites, Weltmerites, clairvoyants, esoteric vibrationists, occultists, magnetic healers, phrenopathists, viticulturists, venopathists, psychic scientists, and some twenty other cults that are flourishing in America to-day. It was testified last year in Missouri that Weltmer alone employed sixty-five stenographers to attend to his absent-treatment business. It is not difficult to make use of human credulity for selfish purposes of personal gain, and it is to the glory of the regular medical profession that its younger members who know how to deceive people prefer to starve rather than take up methods like Christian science that would immediately yield a large income.

Mrs. Eddy says: "I healed consumption in its last stages, the lungs being mostly consumed." "I healed carious bones which could be dented with the finger; I healed them while the doctors were preparing their instruments for operation." "I healed in one visit a cancer that had so eaten the flesh of the neck as to expose the jugular vein so that it stood out like a cord." These statements are by no means ordinary falsehoods. They are simply the statements that we might expect from an hysteric, and represent mental derangement—pathological misstatement. Physicians present their cured cases for investigation, but the Christian scientists cannot give us corroboration of their statements. It would be dealing with material things to show a case that had been cured of cancer. When Mrs. Lathrop, with her charming presence of manner, told us at Albany of the things of which she had been cured, every physician who was present at once recognized the typical tale of an hysteric; but it impressed some of the legislators who were not familiar with such cases. Physicians make mistakes with hysterics unless they are constantly on guard. Not long ago I operated upon a supposed case of appendicitis in which the young lady spoke her piece perfectly, and gave me not only a faultless history of subjective symptoms, but presented a rigid abdominal wall. On opening the abdomen I found the appendix and peritoneum perfectly normal and did not remove the appendix. She was cured of appendicitis symptoms at once. She was operated upon at Buffalo about a year later, and the appendix was incidentally found to be still normal. The patient was an hysteric and would undoubtedly have been cured as promptly by faith as she was by operation—to the advertising credit of the healer. I have traced several cases of Christian-science cures and have found all but one to have been in hysterics. This one was another case in which I erred in diagnosis. The case was one of abdominal lesion, and on opening the abdomen I found what appeared to be malignant papilloma of the peritoneum with universal adhesions. I gave a hopeless prognosis. The patient was taken in hand by Christian scientists and in a few months was cured. On hearing of the cure I submitted for pathological examination a specimen that had been preserved in alcohol from the omentum of the patient, and the case was determined to have been apparently one of tuberculosis of the peritoneum. It was cured in the way that is familiar to all of us, by the simple exposure of the peritoneum. The Christian scientists made much capital of this case. This is the only case of actual disease coming under my observation in which a cure was made by faith, but I have seen several curable cases of actual disease that went on to disaster because they were under the care of Christian scientists. This psychopathic epidemic of Christian science would ordinarily have come to its end slowly, but the promoters of the cult have sought legislative protection, and this has caused so much discussion and such a tremendous flocking to the fanciful cause that it will probably fall by its own weight within the next two years, and some other similar epidemic will take its place. One cannot well appreciate the overpowering influence of the present epidemic unless he has been in legislative halls and has seen the frightened legislators hovering between reason and promised votes. The incident will in all probability be very beneficial in its results by causing closer union in the ranks of the medical profession, and the student of sociology will again see the working of the law of compensation which eventuates in good for the public no matter what dangers seem to be impending.

Promoters of various fanciful healing methods are fond of quoting the names of judges and of senators who have become adherents to their doctrines, and this carries great weight with the laity. We need to answer the argument simply by saying that a still larger number of judges and senators are at present being cared for at asylums.

ROBERT T. MORRIS, M.D.

58 WEST FIFTY-SIXTH STREET, NEW YORK,
April 21, 1901.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, April 15, 1901.

PARKER SYMS, M.D., PRESIDENT.

Adenoma Sebaceum.—DR. WILLIAM S. GOTTHEIL presented this specimen. The tumor consisted of an immense hypertrophy of the sebaceous glands. The tumor itself was a rare form of adenoma, occurring as an isolated growth, most often on the scalp.

Nævus Unius Lateris.—Dr. Gottheil also presented a patient with such a growth. This occupied the entire right axilla in a boy of ten years, was black, and had linear excrescences along the posterior margin and down the forearm. The microscope showed this growth to be largely a papillary hypertrophy with increase of blood-vessels—in other words, a true nævus.

Sarcoma Cutis.—Dr. Gottheil presented two patients with this condition. Both were men well advanced in years. Their lower extremities showed particularly well the numerous dark, hard nodules so characteristic of this condition. Microscopical examination showed the growths to consist of a round and spindle cell infiltration of the corium, but without evidence of tuberculosis. In a number of cases reported, excellent results had followed the use of heroic doses of arsenic injected hypodermically. Under proper treatment the prognosis was good; if not so treated, internal metastases and death would result.

The Diagnosis and Surgical Treatment of Prolapsed Kidney, with a Demonstration of a Simple Method of Examination for its Detection.—DR. AUGUSTIN H. GOELET read a paper with this title. He said that his experience had taught him that prolapsed kidney was much more frequent than was generally supposed, and that it was not suspected because it often gave rise to no symptoms directly referable to the kidney. The condition was often overlooked because of defective methods of examination. He had found palliative methods of no avail, and thought lumbar fixation the only proper treatment when the symptoms were such as to demand interference. Prolapsed kidney could be found in about one out of four or five gynæcological cases coming under observation. Of this number about fifty per cent. suffered from this change of position of the kidney, and about half of these experienced a fair degree of relief from the use of a properly fitting bandage. Floating kidney was always congenital; prolapsed kidney was always acquired. The right was more often prolapsed than the left. Both kidneys were depressed nearly half an inch on deep inspiration. The causes of the condition were largely a matter of conjecture. The chief symptoms were persistent intestinal distention, gastric irritability, insomnia, unusual fatigue on exertion, dragging pains in the loins, irritability of the bladder, more pronounced during the day and after standing or walking, acute attacks of pain resembling those of renal colic. In the examination for prolapsed kidney it was best to have the patient standing, and the body slightly forward. The patient should stand firmly against a

wall or table, with no backward inclination of the body. The patient was then directed to take several deep inspirations while the operator grasped the loin just below the ribs with the thumb and fingers of the left hand and made deep and upward pressure in the right iliac fossa with the fingers of the other hand. In this way if the kidney was prolapsed it was pushed forward by the right hand against the left thumb. If the kidney was not felt, the patient should be directed to cough. The thumb should not be relaxed while the right hand was making pressure. To avoid any interference with the sense of touch the skin should be pulled downward before the examination was made. Prolapsed kidney was most often mistaken for a distended gall bladder. The chief distinctions were the mobility of the kidney and the tenderness of the gall bladder. Tumors of the omentum in this situation were nearly always associated with malignant disease elsewhere. Impacted fæces might be mistaken for a prolapsed kidney. The operation for fixation of the kidney was comparatively safe, and was not mutilating; moreover, it yielded very satisfactory results. The operation was best done with the patient in the Sims position. The patient should be confined to bed for three weeks, the sutures being removed at the end of a fortnight. While in bed the patient should be kept in the recumbent position, and if turned on the side it should be on the side operated upon in order to prevent dragging upon the sutures.

Dr. George Tucker Harrison spoke of the difficulties of diagnosis, and declared that many disappointments would be met with, even though the method of Dr. Goelet were used, unless ether narcosis were also called to one's aid. The knee-chest position was also an aid. He warned against too much enthusiasm in the matter of operating upon supposed prolapsed kidneys.

Dr. Heinrich Stern said that since October, 1900, he had examined 854 new cases at his clinics. Of these 351 were in males and 503 in females. Of the males 284 had been examined for disease and displacement of the kidneys, and 17 instances of prolapsed kidney, all on the right side, or 6 per cent., had been detected. Of the 503 women 418 had been examined as to the condition and position of their kidneys. In 76 nephroptosis had been demonstrated, or 16 per cent. In 69 cases the right kidney had been dislocated; in 5 the left kidney alone, and in 2 cases both kidneys had been prolapsed and completely palpable. The discrepancy between his figures for males and those of others seemed to be because he calculated from cases actually examined, while other statistics were based on the total number treated. He was on principle opposed to surgical interference with the kidney, and believed that only when imminent danger demanded it, was an operative procedure justified. In hydronephrosis, for instance, when a ureter was strangulated, an operation was indicated. The best medicine for the fixation of a movable kidney was rest. Rest in bed was the desideratum; bandages accomplished this to some extent. Massage and similar treatment were contraindicated. One should endeavor to stimulate the formation of intra-abdominal fat deposits, and this was best done by rest. In his opinion, the equilibrium of the abdominal organ could be best established by the production of a condition of healthy obesity. He was opposed to operative interference, because he knew that at least thirty-three per cent. of the operated cases were failures. The same percentage of failures might be recorded by the more conservative medical treatment. The operation must be useless, as a prolapsed kidney was only one of the displaced organs of a general enteroptosis, and an operation on one organ certainly did not ameliorate the state of general enteroptosis.

Dr. J. Riddle Goffe said that he had used for some years the method of examination recommended in the paper, having first learned it from Dr. George M. Edebohls. As regarded the method of operating, he said that those who had had the largest experience in these operations were in favor of bringing the substance of the kidney directly in contact with the muscle. To bring the kidney into the wound he found it most satisfactory to make pressure from below with an air cushion.

Dr. Goelet closed the discussion. He said that from conversation with Dr. Edebohls he was under the impression that the method employed by the latter was quite different from that described in the paper. So far as he knew, the method had originated with himself. His results had been just as good in the cases in which he had not opened the capsule.

Officers Elected.—*President*, Dr. Parker Syms; *First Vice-President*, Dr. Alexander Lambert; *Second Vice-President*, Dr. Francis W. Murray; *Secretary*, Dr. Ogden C. Ludlow; *Corresponding Secretary*, Dr. M. L. Maduro; *Treasurer*, Dr. Charles E. Denison; *Member of Executive Committee*, Dr. Charles S. Benedict.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 22, 1901.

George B. Fowler, M.D., President.

Supports for Symptomatic Movable Kidney.—Dr. George M. Edebohls discussed this subject (see page 690).

Dr. A. Rose said that he had made extensive use of adhesive plaster as a mechanical support in cases of gastroptosis, and had usually found that, after it had been worn for a few weeks, not only had the gastroptosis been relieved, but the movable kidney remained in its proper place. He had known the kidney to be in position six months after the plaster had been removed. It was difficult in practice to fit an efficient bandage satisfactorily to lean persons. The adhesive plaster in these cases bore the same relation to the ordinary elastic bandage that plaster of Paris did to ordinary splints in the treatment of fractures and dislocations. He had noted that the patients in whom the kidney had remained in place had been those who had gained in weight while wearing the adhesive plaster. While the operation for fixation was certainly indicated in some cases, he was sure there were many in which great relief would result from the use of the adhesive plaster.

Dr. Edebohls said that he had not made use of adhesive plaster in these cases, yet he thought well of it, especially when there was an associated enteroptosis. According to his observations and those of Glénard, movable kidney often existed without enteroptosis.

A Plea for the Conservation of Breast Milk Either in Whole or in Part.—Dr. Thomas S. Southworth read a paper with this title (see page 686).

Dr. H. Koplik said that it was a common experience for infants to be put on the bottle when only a week or two old, simply because the mother's breast was caked or the supply of milk was rather scanty. It was the duty of every physician to make a conscientious effort to coax the breasts into the secretion of a moderately good supply of milk. He had presented a communication to the American Pediatric Society three years ago, emphasizing the importance of resorting to supplementary feedings. Of course, if the supply of breast milk was sufficient, no such feedings should be allowed. If the breasts would secrete enough for only three or four feedings daily, it was well worth while to try to keep the milk in the breasts.

Dr. E. B. Cragin emphasized the importance of insisting upon regular habits of nursing from the very beginning. A case was cited in which, by massage of the breasts every four hours, and the use of a strong child to suckle them for two or three days, a sufficient supply of milk had been secreted to allow thereafter of the mother nursing her own child at intervals of two hours.

Cleft Palate and its Association with Harelip.—Dr. John H. Branth read this paper. He called attention to the experience at various zoological gardens to the effect that the offspring of lions fed on meat with large bones were apt to have cleft palate, while this was not observed when the animals were fed upon meat with small bones. The author then reviewed at length the anatomy of the parts involved in these operations, and the different varieties of harelip and cleft palate. Infants so deformed could not, of course, suckle at the breast, and must be fed with a spoon. The operation should not be done when the general condition of the patient or any other reason made it improbable that primary union could be secured. When the intermaxillary bone projected forward, he preferred to wait until the incisors had been cut before he operated, yet the operation should not be deferred longer than the age of two years. It had been his experience that in the large majority of patients only a few of the sutures inserted at any one operation held. Two patients were presented to show what could be done by persistently operating, gaining a little each time. The hemorrhage at the operation was usually controlled without difficulty. It was well to give the patient belladonna or atropine to reduce the troublesome flow of saliva. Thumb forceps must not be used in these operations, because the pressure which they exerted caused points of sloughing. The tension on the sutures should be moderate. In the soft palate lateral punctures would reduce this tension and keep it within proper limits. The speaker advised that the palate operation be made the first, although this was contrary to the usual teaching. From four to six weeks should elapse between the operation on the palate and that on the harelip. Dr. Branth said that he took special care in his harelip operations not to have any angles in his incisions, and so to plan them that the lines of union corresponded with the normal facial lines. He made use of chromicized catgut for all sutures in both the harelip and the palate operations. Harelip pins should be relegated to the past. Liquid food should be administered after operations, and the hands should be secured so as to prevent injury to the field of operation. The child should be taken into the open air a few days after the operation.

Dr. W. P. Worster said that the paper presented a number of important and novel points. One of the most novel of these was the removal of the whole vomer. Some of the English surgeons had attempted to make a "V," but the removal of the vomer was much better, as it relaxed the whole palate and greatly aided in securing good coaptation. The author's plan of doing the palate operation first also seemed to him to be an improvement. He had found that the use of a very strong salt solution almost completely checked the hemorrhage attendant upon these operations.

Dr. G. Lenox Curtis accepted the suggestion that the palate operation should be done first, but added that this rule might be deviated from in cases in which life depended upon nursing, or when competent surgical assistance was not at hand. It was surprising how much could be accomplished by the use of a properly fitted obturator. If the muscles were brought early into apposition, they developed instead of undergoing atrophy. When the operation was done in early infancy, there was much less deformity. If the operation was delayed until faulty habits had been formed, the latter were overcome only with difficulty. The author's method of disposing of the vomer simplified the operation and yielded satisfactory results.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, April 25, 1901.

A. Brothers, M.D., Chairman.

Post-Mortem Cæsarean Section, with Specimen.—Dr. S. Marx presented a uterus containing a placenta, which was prævia. It had been taken from a multipara who, up to six weeks ago, had been in perfect health. Then, when about six months pregnant, a slight uterine hemorrhage occurred, and from this time on the bleeding had continued until she had become very much exsanguinated. Nothing had been done for her in the way of treatment. She had suddenly had a rather more profuse bleeding, and had fainted. On visiting the case he had found her in the deepest collapse, and had consequently refused to interfere actively. Preparations had been made to infuse the woman, but before they could be instituted she suddenly expired. Fœtal heart tones being heard, he had at once opened the abdomen and delivered a living child, but it had lived only a few minutes. The uterus had then been extirpated and the placenta found implanted marginally and separated from the lower uterine zone over an area whose diameter was about two inches. The amount of blood lost immediately preceding the death of the patient had been small, certainly not more than two handfuls, but it had been sufficient to cause death in this already very anæmic woman. The lesson which this case taught was evident, *i.e.*, as soon as a diagnosis of placenta prævia was made or even suspected, the uterus should be emptied at once.

Cystic Papilloma of the Ovary.—Dr. H. N. Vineberg presented three rare ovarian tumors. The first was a cystic papilloma of the ovary, removed from a widow, fifty-six years of age, in whom the menopause had been established two years and a half previously. After the cessation of the menses, there had been a slight bloody discharge at intervals for over six months. The woman, who had long been a sufferer from flatulent dyspepsia, had begun to lose weight, but this had become specially noticeable in the last six weeks before coming under observation, during which time she had lost eighteen pounds. A few evenings before coming to Dr. Vineberg she had been seized with severe cramp-like pains in the abdomen. When first seen, she had had a pulse of 120 and a temperature of 101° F., and there had been a semi-elastic, non-sensitive, movable tumor in the abdomen, reaching nearly up to the umbilicus. Vaginal examination had revealed a hard, globular mass and some nodules on the surface of the tumor. There was a strong family history of malignancy. On August 26, 1900, he had done an exploratory laparotomy, and this had revealed a cystic papilloma of the right ovary. The cyst contained puriform fluid. Recovery was uneventful.

Myxosarcoma of the Ovary.—The second specimen was from an unmarried woman twenty-six years of age, who had been in very poor physical condition when first seen. She had been regular in her menstruation up to three years before, when, as a result of mental shock, there had been an interruption for a time. It had subsequently become regular, but nine months before she came under observation the abdomen had be-

gun to enlarge. On examination, the abdomen had been found enormously distended with free ascitic fluid, and in the lower part a mass about the size of a fœtal head. He had made a diagnosis of a solid tumor of the ovary, with a possible metastasis of the peritoneum. On operation, he had found a tumor of the ovary with a twist of the pedicle of 180°. Microscopical examination showed the growth to be a myxosarcoma of the ovary. The patient had made a good recovery.

Papillomatous Cyst of the Ovary.—The third case was one of papillomatous cyst of the ovary, and the specimen had been removed from a woman thirty-six years of age. Two years previously a physician had made out a small cyst of the ovary. At the time of coming under his observation it was growing very rapidly. He had removed the tumor, and the prognosis seemed to be very good.

Tumor with Four Twists in the Pedicle.—Dr. H. J. Boldt said that a woman about seventy years of age had recently come under his care. On account of dyspnœa, extensive bronchitis, and poor heart action the operation had been done under subarachnoidean anæsthesia induced by the injection of ℥ xx. of a two-per-cent. solution of cocaine. The anæsthesia had been perfect. During the endeavor to extirpate the tumor a rent had been made in it, and this had allowed the escape of a quantity of material which, though without odor, resembled fæces. He had found in the pedicle of the tumor four distinct twists from right to left. So far as he knew, this was the only case on record in which there had been four twists observed in a pedicle. The patient had rallied well from the operation, and was now doing well.

Pregnancy Complicated by Fibroids.—Dr. Boldt also exhibited a specimen taken from a woman who had come to him in the fourth month of pregnancy. On operation, he had discovered several fibroids, and one large one with twists in the pedicle. The large tumor he had removed.

Dr. Vineberg said that some years ago he had operated in a case in which there had been three twists and a half of the pedicle, associated with urgent symptoms. When the abdomen was opened, the cyst wall was almost black, and there was some peritonitis. He had removed the tumor under anæsthesia with nitrous oxide and ether, and the patient had made a good recovery.

Dr. E. H. Grandin said that the practical deduction to be drawn from these cases was that any woman who was known to have an ovarian cystoma, and who presented symptoms of great distress in the abdomen, should be operated upon as soon as possible, as these were the symptoms of twisting of the pedicle. If operation was not promptly done, the case was likely to terminate fatally.

Dilatation of the Cervix.—Dr. Henry J. Garrigues read this paper. He said that dilatation of the cervix was most often demanded during labor because of placenta prævia, eclampsia, or threatened death of the fœtus. When dilatation was slow and imperfect in other cases, it was usually because of mechanical obstruction. To favor dilatation of the cervix, one might inject into the cervix gr. $\frac{1}{10}$ of atropine dissolved in sterilized water, or the cervix might be painted with a ten-per-cent. solution of cocaine. Other useful medicinal methods of aiding dilatation consisted in administering gr. xv. of chloral every twenty minutes for three or four doses, or antipyrin gr. x. every half-hour for three doses. Among the mechanical methods of securing dilatation a good one was to insert a strip of iodoform gauze into the cervical canal as far as possible, and to pack the vagina with the same material, or with gauze wrung out in a ten-per-cent. solution of creolin. The next day the packing should be removed, and it would then usually be found that it could be inserted farther into the cervical canal. When rapid dilatation was demanded, manual dilatation could be employed, and would be found exceedingly useful. First one finger, then two, three, and four fingers, and finally the whole hand should be introduced in the shape of a cone. Braun's colpeurynter acted slowly. Barnes' cervical dilators were excellent as far as they went, but the largest dilatation secured by them was an opening two and one-quarter inches in diameter. These instruments had the disadvantage of favoring prolapse of the umbilical cord and of pushing the presenting part away. Lateral pressure was to be preferred to pushing upward of a large conical mass. The making of multiple small incisions in the cervix was an old method of overcoming its rigidity. Three or four deep incisions, which divided the whole vaginal vault as far as the vaginal junction, had become widely known through their advocacy by Dührssen. The cervix should be seized with two pair of bullet forceps, and the cut made between them. It was of service only when the cervix was obliterated but the os was not fully dilated. The danger of infection was, of course, increased by this procedure. The incisions might not heal well afterward, and, in spite of their length, the tear might extend into the parametrium. It was better to close these incisions by suture immediately afterward. These deep incisions might save a child's life that would otherwise be lost, but they exposed the mother to immediate danger and remote suffering.

Axis-Traction Forceps.—Dr. Egbert H. Grandin read a paper on this subject (see page 694).

Version: Indication, Limitation, and Technique.—Dr. S. Marx read this paper (see page 692).

Symphyseotomy.—Dr. Edward A. Ayers was the author of this paper. He said that he had performed symphyseotomy thirteen times on eleven individuals. In a service of about five thousand confinements he estimated that there had been about twenty-five cases which would have been suitable for symphyseotomy from a theoretical standpoint had they been reached at the proper stage to justify this operation. These thirteen operations had been done without infection of the joint and without a death attributable to the operation. Hemorrhage had not amounted to more than three or four ounces in any case. No sutures had been inserted, and no general disability had ensued in any case. A well-defined prejudice seemed to exist against symphyseotomy, partly owing to the fact that most patients had been subjected to severe efforts at forceps delivery before the symphyseotomy, and the operators had had almost no experience with the latter operation. He believed that perfect technique and asepsis could be obtained by his method of subcutaneous section at the symphysis. It was much easier to secure perfect asepsis here than in a Cæsarean section. A separation of more than two inches and a half should not be counted upon. It was very important to secure full antepartum dilatation of the cervix before operation. One reason for this was that in symphyseotomy cases the tendency of the cervix, anterior vaginal wall, and bladder to prolapse was very much greater than under ordinary circumstances. Moreover, the mechanism of delivery of the head was somewhat disturbed by the separation of the symphysis. Injury to the sacro-iliac joint need not occur. The natural tendency was to good union at the symphysis, and this became a certainty under an intelligent and skilful after-treatment. He was convinced that such union could be best secured by slinging the pelvis in a U-shaped hammock. If he believed that sutures were a necessity in symphyseotomy, he would discard the operation in all cases in favor of Cæsarean section. The test for the adaptability of symphyseotomy

to the individual case should be made during labor, and while the patient was anæsthetized, because only a few minutes were required to prepare for this operation. The great majority of cases of pelvic contraction lying beyond the scope of the forceps could be delivered by symphyseotomy.

Cæsarean Section.—Dr. E. B. Cragin read this paper (see page 695).

Dr. Charles Jewett said that, while the local use of atropine seemed rational as a means of aiding dilatation of the cervix, he had never tried it. Instead, he had sometimes made use of a dose of opium, and with very satisfactory results. Manual dilatation should be resorted to only in cases in which rapid delivery was indicated. When it became necessary to deliver the fœtus in the first two or three months of pregnancy, it had been his custom to dilate the cervix only a little, and then to use a forceps and a curette for the removal of the ovum through a small opening. Version was an operation which had been too much neglected; nevertheless, he had not always refrained from the use of the forceps when the head was above the brim, provided he could readily crowd the head into the brim and hold it there during the application of the axis-traction forceps. He felt compelled to differ from Dr. Ayers on his method of performing symphyseotomy as well on his selection of this operation. The open wound for symphyseotomy seemed to him to possess advantages which must be obvious to all surgeons. He had done eight symphyseotomies, and the results had been entirely satisfactory. One patient had died from œdema of the lung, which had not had anything to do with the operation. He had not been able to follow all these cases for any great length of time, and he had felt some misgivings lest the operation of symphyseotomy might subsequently cause trouble with the bladder from the loss of the natural supports. He had not done the operation in any case in which the true conjugate had been less than three inches, because this limit seemed to him to afford a necessary margin to make up for the errors incident to pelvimetry. The field for symphyseotomy was a very small one. The results from Cæsarean section and from symphyseotomy did not differ materially for the mother, but they did for the child, and the results for both mother and child were not so good for symphyseotomy as for Cæsarean section under equally favorable conditions. For this reason it seemed to him that there was no field for symphyseotomy as an elective operation before labor. The operation of symphyseotomy, however, did offer some advantages in the case of a woman who had been long in labor. Here the exhaustion of the mother added greatly to the danger of Cæsarean section.

Dr. G. L. Brodhead thought just as good cervical dilatation could be obtained from the use of the smaller bags as from the large and more clumsy ones. In the application of obstetric forceps he thought as much depended upon the operator as upon the particular style of forceps employed. He had seen wonderfully good results obtained with the common forceps, and very bad results with the axis-traction forceps. He did not believe in the rule of doing version whenever the head was movable above the brim, because the mortality was certainly less from slowly and carefully conducted forceps operations than from versions, and the danger to the child was less. Version was sometimes very useful in cases of flat pelvis. He was thoroughly in accord with what Dr. Cragin had said concerning symphyseotomy and Cæsarean section.

Santonin in doses of one grain every hour or two will usually give prompt relief in urethral irritation accompanying dribbling urine.—J. N. Tyfe.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 27, 1901:

	Cases.	Deaths.
Tuberculosis	287	204
Typhoid fever	20	7
Scarlet fever	669	44
Measles	330	9
Diphtheria and croup	290	58
Smallpox	56	8
Varicella	58	0
Cerebro-spinal meningitis	0	6

Instruments, no matter how carefully cleansed previously, are boiled for five minutes in a one-per-cent. solution of washing-soda, and are then placed in suitable vessels completely immersed in sterilized hot water, to which one-fourth part of five-per-cent. phenol solution may be added, and arranged on a table (preferably a glass one) at a convenient distance from the operating-table—the sponges, ligatures, sutures, and towels having been all carefully sterilized by some approved and reliable process.—Pearsons.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended April 26, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
Delaware, Newcastle	April 1st to 15th	4	
Florida, Jacksonville	April 13th to 20th	6	
Illinois, Chicago	April 13th to 20th	17	
Kentucky, Cynthiana	April 17th	6	
Lexington	April 13th to 20th	4	
Louisiana, New Orleans	April 13th to 20th	10	1
Minnesota, Winona	April 13th to 20th	2	
N. Hampshire, Manchester	April 13th to 20th	7	
New Jersey, Jersey City	April 14th to 21st	4	
Ohio, Cincinnati	April 12th to 19th	7	
Cleveland	April 13th to 20th	46	
Pennsylvania, Pittsburg	April 13th to 20th	1	
Steelton	April 13th to 20th	3	
Tennessee, Nashville	April 13th to 20th	1	
West Virginia, Wheeling	April 13th to 20th	1	
Philippines, Manila	March 2d to 9th	6	
Porto Rico, San Juan	April 6th	13	
Smallpox—Foreign.			
Austria, Prague	March 23d to April 6th	8	
Belgium, Antwerp	April 6th	3	1
China, Hong-Kong	March 2d to 9th	..	6
France, Paris	March 31st to April 6th	..	10
Gibraltar	April 1st to 7th	2	
Great Britain, England, Southampton	April 6th to 13th	3	
Scotland, Glasgow	April 6th to 13th	..	5
Leith	March 31st to April 6th	1	
India, Bombay	March 19th to 26th	..	12
Calcutta	March 16th to 23d	..	144
Karachi	March 9th to 16th	12	8
Madras	March 16th to 22d	..	10
Mexico, Progreso	March 31st to April 6th	4	
Yucatan, Merida	April 11	Prevalent.	
Netherlands, Rotterdam	March 31st to April 6th	1	
Russia, Odessa	March 31st to April 6th	13	1
Spain, Corunna	March 31st to April 6th	..	1
Vigo	March 1st to 31st	..	1
Yellow Fever.			
Colombia, Panama	April 8th to 15th	8	
Haiti, Cape Haitien	March 23d to 30th	1	1
Mexico, Coatzacoalco	April 1st	Prevalent.	
Salvador, San Salvador	March 31st	4	3
Cholera.			
China, Hong-Kong	March 2d to 9th	..	1
India, Bombay	March 19th to 26th	..	4
Calcutta	March 16th to 23d	..	65
Madras	March 16th to 22d	..	1
Straits Settlements, Singapore	February 26th to March 2d	..	5
Plague—Insular.			
Philippines, Manila	March 2d to 9th	..	8
Plague—Foreign.			
China, Hong-Kong	March 2d to 9th	..	16
India, Bombay	March 19th to 26th	..	886
Calcutta	March 16th to 23d	..	1,040
Karachi	March 19th to 26th	239	194
Straits Settlements, Singapore	February 26th to March 9th	..	3

Medical Record

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Original Articles.

THE TOXIC ORIGIN OF NEURASTHENIA AND MELANCHOLIA.[1]

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NEW YORK,

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WHILE the interest of the physician is commonly excited by rare and unusual cases rather than by the common run of disease, it is after all the ordinary light type of case which comes most frequently under his attention and demands his effort. There is no need to affirm the frequency of mild cases of neurasthenia and of melancholia, inasmuch as every practitioner sees such cases constantly. The complaints of a neurasthenic are so numerous and the general frame of mind of these patients is so depressing, that the disease fails to elicit very much interest on the part of the practitioner, or of the neurologist to whom in despair he often refers these cases. Yet it is my experience that a little care in their examination often enables one to classify them into a variety of different types, not only cerebral, spinal, and vasomotor types, but also into different classes according to the origin of the disease. Thus one can recognize clearly cases that are due to anxiety and worry; cases that are due to overexertion, mental and physical; cases that are due to beginning degeneration of the neurons, destined to go on to organic disease; and lastly, cases that are distinctly toxic in their origin. It is to the latter class that I wish to direct attention at the present time.

I do not wish to delay you by any long study of the symptomatology of this variety of neurasthenia. It usually occurs either in poorly nourished women, or in men about the age of forty-five who have lived rather freely, have taken little care of their diet and have indulged in the use of alcohol and tobacco, and who have neglected exercise.

The chief symptoms in this form of neurasthenia are headache, dull pressure in the head and back of the neck, sensations of fulness in the head with inability to concentrate the attention, irritability of temper, manifest irregularities of the circulation shown by cold extremities, and by frequent flushings and burnings in different parts of the body, and general disorders of the digestion, either of the nature of acid dyspepsia, or of considerable evolution of gas in the stomach and intestines, with irregular and very offensive stools. In these cases the urine is irregular in quantity, at times scanty, of high color and of high specific gravity; at other times profuse, light, and of low specific gravity, and at all times it contains large quantities of indican or indoxyl. In this condition a mild state of melancholia is very frequently associated with the neurasthenia, and in almost all cases of mild beginning melancholia the same symptoms are present.

The chief characteristic of this type is the alternation of feelings and symptoms at different times of the day. One can draw a curve representing the intensity of symptoms in these patients with remarkable accuracy, a depression in the curve representing the depression of spirits and intensity of suffering. From noon such a curve rises gradually toward the normal level. At 9 P.M. it begins to descend; during the night it falls to its lowest level, so that at 4 A.M. when these patients commonly awake, they are in the deepest distress of mind and are suffering the greatest discomfort of body. For a period of three or four hours the curve is then at its lowest point, but by breakfast time it begins to rise and continues to rise slowly until the normal level is almost reached at noon. This cycle of misery and well-being is so constant and so uniform that patients themselves readily recognize it. It is perfectly evident that a variable condition of this character must be produced by a varying intensity of cause, and the fact that the maximum of distress occurs in these patients after the sleep of the night, is an indication that it is not the wear and tear of exhaustion which produces their chief symptoms. It must be some toxic agent which accumulates in the blood during the period of sleep, which reaches the point of irritation early in the morning, which is counteracted by the activity of the day, and hence is less intense in its action toward afternoon. That this toxic agent is manufactured either in the intestines or in the stomach seems to be the most natural theory, inasmuch as activity in the digestive process appears to aid in the elimination of the poison. Exactly what this toxic agent is I do not know. As already stated, I find that indican or indoxyl is the one particular thing found in the urine in varying quantities, according to the general condition of these patients, and yet I do not suppose that indican is the active poison. It would be as foolish to affirm this as it would be to judge of the results of heat and power produced in a steam furnace by analyzing the character of the slag in the ash pan. Very much more exhaustive studies in the chemistry of digestion are necessary before we begin to approach any true knowledge of the active agents producing these effects.

But it is not necessary for us always to wait in medicine for scientific facts before attempting treatment. Some of the most valuable remedies that we have at our disposal are purely empirical in their origin. When a patient presents these evidences of toxæmia, he can be materially helped by a certain regimen and treatment, no one particular element of which is necessarily curative, but all of which combine to give relief.

First: Diet. This cannot be laid down in a uniform manner for all patients. The majority of them, I believe, do not digest milk well, and eggs as a rule do not agree with them, though occasionally raw eggs will be digested when cooked eggs will not. Meat of all kinds seems to me to agree very well with this type of patient, but meat soups are not well digested and therefore cream soups are preferable. Fish in all forms and oysters usually agree with such patients, and also certain types of vegetables; but potatoes, turnips, beets, and tomatoes are liable to give more trouble than other vegetables. Rice, macaroni, and hominy are usually well borne, but should not be cooked with cheese, and cheese as a rule is not well digested. Patients differ entirely from each other in their capability to assimi-

[1] Read at the meeting of the Association of American Physicians, Washington, May 1, 1901.

late breads and sweets, and it will not do to lay down any rule for the use of these articles; in fact in these cases various forms of diet and various articles of diet should be tried until the articles which disagree are ascertained.

Fluids: Tea almost uniformly disagrees with these patients, making them nervous and increasing their indigestion. In many of the patients, coffee acts as a desirable and pleasant stimulant, both in the morning for breakfast and after dinner, and does not in any way interfere with sleep. In others it acts as a poison and should be excluded. I believe that in all these cases alcohol should be avoided in every form, especially the sour wines and champagne. In about one-half of the cases whiskey can be taken without ill effects, but the stronger wines, like port and sherry, and all liqueurs are to be avoided. Occasionally a patient can take Rhine wine diluted, or the Austrian Vöslauer, without ill effects. Water should be taken very freely, and a good alkaline or lithia water is often of much benefit.

Drugs: The digestion must be aided in these patients by two classes of remedies: one which stimulates the liver to activity, the other which counteracts the evolution of toxic agents in the intestines. First, it is my habit to give these patients small doses of calomel (gr. $\frac{1}{10}$ every half hour till one grain is taken) every ten days and to give them a dose of podophyllin (gr. $\frac{1}{4}$) every ten days alternately with the calomel. It is also well to stimulate the liver by the use daily in the morning of either Carlsbad salt or a salt made by mixing gr. x. of salicylate of sodium with ʒ i. of phosphate of sodium and ʒ ss. of chloride of sodium. If this mixed salt is put in a large tumbler of sparkling water of any kind, and taken during the act of dressing in the morning, it will usually be beneficial. In this manner the liver is stimulated to action.

The second object—the counteracting of the toxic agent—is attained by one of three different remedies, and it is never possible to determine exactly which of these three in any one case will prove of service. The first is a combination of gr. v. of the sulphocarbolate of sodium with gr. i. of permanganate of potassium put up in a capsule which is coated with shellac so as to be insoluble in the stomach, and hence dissolve only in the intestine. Such capsules are given after each meal and on retiring. The second remedy that I use is a capsule of salol and castor oil—gr. v. of salol and ♏ x. of castor oil. This also is rendered insoluble in the stomach by a coating of shellac. The third remedy is given in the same manner, in capsule after eating, and consists of benzoate of sodium gr. ii., sulphocarbolate of zinc gr. i., and beta-naphthol gr. i. It is my experience that by the administraion of these remedies continuously for a considerable period a steady amelioration in the symptoms of intestinal indigestion will ensue, and, what is much more noticeable, an entire cessation in the periodicity of the alternations of the symptoms; the first evidence of relief being a quieter rest during the night, without any early awakening and a relief from the depression that occurs early in the morning.

Baths: The use of a hot bath on rising, at a temperature of 104° F. for three minutes, followed by cool sponging for one-quarter of a minute, is of importance, as nothing stimulates the general nutrition of the body better than such a measure, but in this type of patient the cold bath in the morning usually produces distress and is followed by a feeling of exhaustion, cold extremities, and discomfort.

Exercise and rest: In all cases an increased amount of exercise should be insisted upon, yet in many cases any long-continued exercise is most exhausting and is followed by a rapid action of the heart; hence it is far better for these patients to swing clubs briskly or to play a game of tennis for twenty minutes, thus getting into a pleasant perspiration, than it is to take an hour's horseback exercise or to play a game of golf which requires tramping two miles, though both of these measures occasionally can be endured and are beneficial. One very important element in the treatment is regularity in the amount of rest. These patients should be urged to lie down and relax all the muscles, the clothing being properly loosened, for one-half hour after each meal, and after any active exercise rest of the same duration should be enforced. One of the essential elements of successful treatment in these patients is a pleasant occupation for the mind, as their depression leads them to intensify their nervousness by introspection and self-observation. A variety of occupation should be sought and every means should be employed to keep them interested and diverted. An outdoor life is far better for them than a life indoors, and therefore if an occupation can be found which involves some activity in the open air it is desirable: the study of botany, the study of forestry, the running of a farm, the care of chickens, the occupation of an engineer or surveyor, the study of landscape gardening—all of these are pleasing occupations for men and women, and it is on this principle that travel and change of scene may be urged upon these patients. But whatever means are employed in their treatment, it seems to me that the essential element in their success is the counteracting of the toxic product within the body and the prevention of its formation.

POTAIN'S SIMPLE AND ACCURATE METHOD OF THE PERCUSSION OF THE HEART (WITH POST-MORTEM VERIFICATIONS).[1]

By GEORGE M. CONVERSE, M.D.,
NEW YORK.

While studying under the late Professor Potain in Paris several years ago, I learned to percuss the heart accurately and to keep records of the tracings obtained. Since then I have had ample opportunity to practise the method, and also to make post-mortem verifications of the same.

The exactness of result to be obtained by the technique of Potain is not generally known. For a proof of this statement open almost any book on physical diagnosis and turn to the subject of percussion of the heart. You will usually find the remark that, while the superficial dulness may be made out, it is not at present possible to obtain an accurate knowledge of the deep dulness or real size of the heart by percussion.

I purpose, therefore, to speak of it and to show by some verified tracings what precise and satisfactory results may be obtained.

It might be objected that this exactitude is not indispensable were it not for the fact that, in a goodly number of cases, the knowledge of the exact location of a murmur, with reference to the position occupied by the heart, furnishes a very important element of diagnosis; I refer to the considerable class of inorganic murmurs and to the errors of therapeutics ensuing from an incorrect diagnosis. The method of percussion is digital; the finger is to be preferred to Sansom's pleximeter, or any other pleximeter, because of its simplicity and because the finger gives a more intelligible measure of the resistance of the subjacent strata.

The percussion stroke must be moderate in force, precise, and single.

This seems elementary; in reality it is not. How many physicians use a single percussion stroke? Most

[1] Read before the section on medicine, New York Academy of Medicine, April 16, 1901.

men percuss twice, many three and four times, some six and more times on the same spot. In mapping out the heart, the single, clean stroke will enable one to judge of differences in pitch much better than the repeated stroke. By observing this rule, much pain may be spared the patient when percussing a painful liver, spleen, or tumor.

Fig. 1.

It ought to be moderate in force, because it takes but a moderate stroke to elicit a difference in pitch between a point lying over deep lung tissue, and another where the resonant layer is but 2 or 3 cm. in thickness.

The percussion must be concentric; that is to say, must proceed from points situated at a little distance from the heart, some 3 or 4 cm., toward its periphery. On reaching the border of the heart, covered as it is by lung tissue, there occurs a slight difference in the intensity of the sound, and, all important, a sudden rise in pitch. It is the instant recognition of this difference in pitch that is difficult, but it constitutes the key to the proper percussion of the heart. There the percussion stops, never proceeding over the organ,

Fig. 2.

where it is useless. Fig. 1 is an example of the tracing obtained on percussion of a normal heart.[1] This projection of the heart on the chest wall is mapped out by means of three lines and three angles.

The first line corresponds to the curved border of the left ventricle and forms the left boundary of the dulness. Normally it extends from the upper part of the sternal border of the second interspace to the fifth interspace, just within the mammary line. The second line forms the right border of the dulness, and corresponds to the right border of the right auricle and to part of the ascending aorta. Usually it merges in the right border of the sternum, from the second to the fourth interspace.

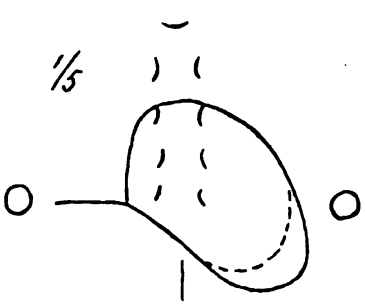

Fig. 3.

The third line should correspond to the curved border of the right ventricle, but as this border lies on and over the antero-superior surface of the liver, and as the two can but rarely be distinguished by digital percussion, a straight line is drawn from the upper border of the liver, at its point of junction with the right border, to the apex.

Of the three angles, the right inferior has already been determined, since it is formed by the junction of the right border with the line of the liver; the left inferior angle is rounded and corresponds to the apex. It may often be found by palpation, but always more surely by percussion; the superior angle, also rounded, corresponds to the point where the aorta leaves the immediate vicinity of the sternum to take its course backward toward the spinal column.

In practice several details must receive additional attention. The line of the liver must correspond, not

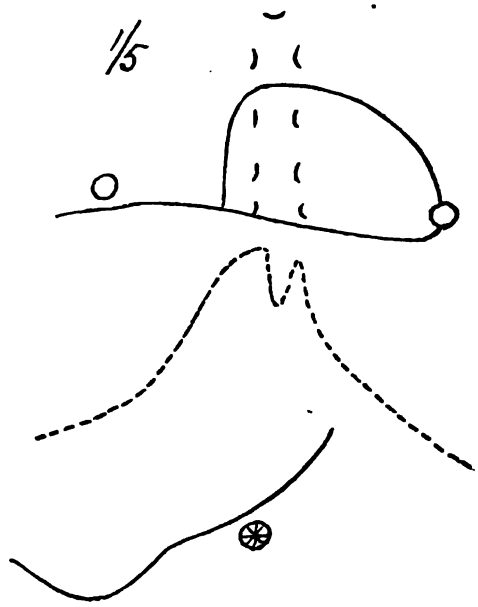

Fig. 4.

to the point where the liver comes in contact with the chest-wall, but to the upper part of its convex surface, which is situated behind a variable thickness of lung tissue. It is obtained by percussing from above downward along the right parasternal line, until a sudden rise in pitch is noticed, and not until flatness is reached.

That with this attention this line is not difficult to obtain is shown by the exactness of the post-mortem findings.

The apex is at times very difficult to locate. In two of the tracings it will be noticed that the apex, as found at the autopsy (dotted line), does not correspond exactly with the result obtained during life (continuous line). In one of these (Fig. 2), that of a woman forty-three years of age, who died of abscess of the liver, and who also had a mitral insufficiency, the apex had been made out by palpation as well as by percussion. Here, then, the difference was probably due to final retraction of the apex, as it was found that the heart had stopped in systole, and that the ventricles were empty.

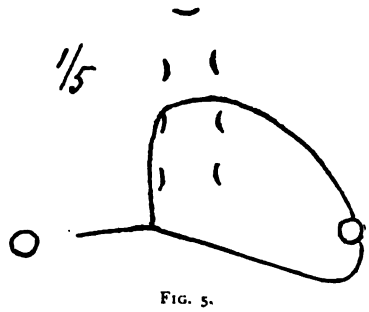

Fig. 5.

In the other case (Fig. 3), that of a man thirty-eight years of age, who died of carcinoma of the œsophagus, my notes do not state that the apex beat had been felt at the place marked on percussion; but as here also the heart had ceased beating in systole, it may be assumed that the difference was due to the same cause. With this exception, both tracings were exact.

The right border, as was said, usually merges in the right border of the sternum. The above tracing (Fig. 3) shows a marked exception, this border being found

[1] This tracing, as well as those that follow, has been reduced one-fifth.

at a distance of 3 cm. to the right of the sternum, and that with a perfectly normal heart.

Again, in the case of this man, aged forty-six (Fig. 4), who died of carcinoma of the liver, and whose

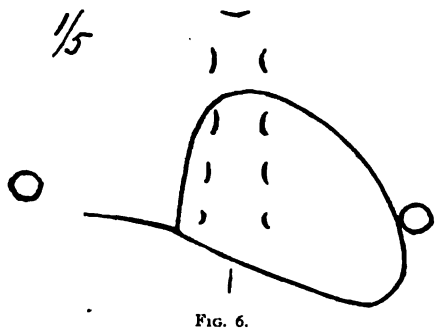

Fig. 6.

heart was normal, the right border was at a distance of 2 cm. from the sternum.

This tracing also shows to advantage the displacement of the lower sterno-costal cartilages on the right side, caused by the pressure of the enormous tumor.

In the two following tracings there is nothing particular to note. Both of these, like the others, were found to be perfectly correct. Tracing No. 5 is that of a man of forty who died of acute alcoholism and typhoid; the other (Fig. 6), that of a man of thirty-two who died of pneumonia. The heart was very pale and flabby.

The manner of taking these tracings for future reference is this: The results of the percussion having been marked on the patient's chest by means of a dermographic pencil, a few fixed points are now added; for example, suprasternal notch, intercostal spaces, and nipples; then a piece of transparent tissue-paper of appropriate size is laid on the chest, and these various markings, which are easily seen, are traced over it with the same soft pencil. The name, date, and such remarks as may be desired are added, and the tracing is complete.

When making a post-mortem verification of such a tracing, I placed it in position by means of the fixed points and then inserted long needles perpendicularly through the chest at five different points, namely, right inferior angle, middle of right border, upper part of left border, middle of the same, and lowest point of the apex. These remained in position during the removal of the sternal plate. The result, with the exception above noted, was always precise, the needles being found sometimes along the very edge of the auricle or ventricle; sometimes piercing the pericardium.

The tracings thus obtained and preserved in many cases give valuable indications for prognosis. Fig. 7 (dotted line) is the tracing of a man twenty-three years of age who came to the hospital for a second attack of acute articular rheumatism, and who, in addition to a slight aortic insufficiency, developed a dry pericarditis. When he left the hospital after a stay of two months, the heart had acquired the size shown by the outer continuous line, its development being observed and tracings made from time to time. Aside from other data available for prognosis, this increase in size, of which a good part was due to dilatation, showed the future disability of the heart to combat infection, or to adapt itself to the exigencies of any other but the most quiet sort of existence.

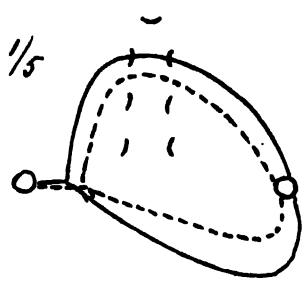

Fig. 7

In conclusion, the positive knowledge of the absolute size of the heart is of much value in the diagnosis and prognosis of disease, and especially of its own diseases.

This knowledge can be obtained by following a correct method. Potain's method is the most correct, since, on post-mortem examination, it gives an absolutely correct result.

The key to the percussion of the heart rests in the recognition of the differences of pitch of the percussion note and not with differences of intensity of the sound. The taking and preserving of tracings on a transparent paper is the simplest, quickest, and only accurate method of describing a heart for future reference.[1]

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THE TREATMENT OF PNEUMONIA, INCLUDING THE HYPODERMIC INJECTION OF SALINE SOLUTION.

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Dependent upon the objects we expect to accomplish by their administration, the remedies employed in the treatment of acute croupous pneumonia are conveniently divided into two groups, (1) specific, and (2) symptomatic.

(1) The remedies of the specific group are supposed to exercise a specific influence over the disease itself, either cutting it short or rendering its course less severe. To this group belong quinine, chloroform or creosote inhalations, the salicylates, and a host of other medicaments which have from time to time been brought forward by zealous therapeutists. Though for the most part the reasoning which prompted the application of these remedies appeared to be logical, and the tabulation of clinical reports which proved their efficacy was convincing, nevertheless, with the exception of their particular champions, no one seems able to obtain any noteworthy results from their use. From present indications, if we are to look for a future specific for pneumonia, our best hope would appear to be in the direction of serum therapy. Thus far, however, though bacteriologists have succeeded in immunizing animals against pneumococcus infection, they have not furnished us with any anti-pneumonic serum of any demonstrable curative value.

This being the sorry plight of our specifics for pneumonia, we must, as heretofore, place our sole reliance in the treatment of that dread disease on the second or symptomatic group of remedies.

(2) The group of symptomatic remedies has never had quite such alluring claims made for it as has the preceding group. The very fact that they are symptomatic precludes the application of these remedies from being routine. This renders their application more troublesome, requiring close observation and careful judgment of the symptoms of each particular case. On the other hand, this also renders the scheme of their employment capable of indefinite variation, improvement, and amplification.

It is the exploitation of a recently suggested and, as I hope to show, a useful adjunct to the symptomatic scheme of the treatment of pneumonia, that prompted the writing of this article. The names by which this adjunct has been variously designated are hypodermoclysis and saline infusion. It consists of the hypodermic injection, every six to twelve hours, of decinormal, *i.e.*, six-tenths of one-per-cent. common-salt solution,

[1] See Potain: "Clinique de la Charité." Musser: "Medical Diagnosis," 1900.

in quantities usually varying from one-half to one pint. No special apparatus is required. All that is needed can be found in every physician's office. Take the ordinary rubber syringe. Replace the hard-rubber tip of it by an antitoxin-syringe needle. Sterilize the whole apparatus by boiling it, or by pumping boiling water through it. Now put ninety-two grains of pure table salt into one quart of clean water, and boil this solution. Let it cool off to about 100° F. Next put the prepared syringe into the solution. Work the bulb of the syringe until the salt solution issues in a steady stream from the needle. Now insert the needle deep under the breast of the patient and again work the bulb slowly until you have infused the desired amount of the solution. The site of the injection must of course have been previously sterilized. The injection is not painful, and when aseptically done is devoid of unpleasant sequelæ.

To illustrate the place which the saline infusion should occupy in relation to the other treatment of pneumonia, I will give a *résumé* of the clinical features of eleven consecutive cases of pneumonia admitted to the medical ward under my charge. These eleven cases include all the cases that were admitted to my ward in the space of thirty days in the midst of the so-called pneumonia season. These cases were on an average of such a degree of severity as are usually to be seen in a hospital ward. The ages of the patients ranged from twenty-one to seventy. The previous health of most of them had been good. Their habits had, as a rule, not been of the best. Many of them were alcoholics, and all used alcoholic liquors to some extent. The care which they had received during their illness prior to their admission had always been very bad. In order to reach the hospital many of them had to travel a considerable distance (one of them eighty miles) at a critical period of their disease.

The plan of treatment of these eleven cases after they reached the hospital was as follows: (1) The application of dietetic and hygienic measures. (2) When required by pain or great restlessness, morphine or heroin was given in necessary doses. (3) When the temperature was high, cold sponging was used; when this did not control the temperature and the latter became very high, small doses (gr. iiss.) of phenacetin were occasionally given. (4) When the pulse began to show signs of failing, strychnine, whiskey, tincture of strophanthus, one or all, were administered, as the condition of the pulse from time to time seemed to indicate. When collapse threatened, or when, in spite of the stimulants above enumerated, the pulse weakened, then we injected hypodermically every twelve to six hours one-half to one pint of the decinormal saline solution. Moreover, camphor and olive oil (1 : 10) were hypodermically administered, ℥ xxx. every twelve or six hours, when the condition of the pulse became very alarming. Oxygen inhalations were not employed, as no appointments for this purpose were at hand. Digitalis was not used at all, as my previous experience with this drug in pneumonia had been disastrous.

Of the eleven cases three were deemed to demand and be suitable for the saline infusion as an adjunct to the other treatment. At the time when I began the infusion treatment in them the condition of these patients was such as in my previous experience had usually terminated fatally. Of the three cases one was fatal, although even in this the saline infusion each time produced temporary improvement.

Besides the one fatal case of these three, one of the other eight patients also died. His death, however, was due to a complicating purulent meningitis, confirmed by autopsy. He was never given hypodermoclysis, as he presented no indications for it. He had passed the crisis of the pneumonia, and for two days his pulse, temperature, and respiration were almost normal, when suddenly symptoms of meningitis supervened. The patient soon became comatose, and the coma rapidly deepened until a fatal termination occurred. The pulse remained bounding up to twelve hours before death.

Of the others in whom the saline was not used, it is unnecessary to give separate clinical histories. They were by no means light cases. Many were delirious. In the majority the temperature touched 104° or 105° F., the respiration 40 to 56, and the pulse 120. The pulse, however, either retained its strength and rhythm or was amenable to the cardiac stimulants enumerated in the plan of treatment outlined above. A few of the patients near the crisis of their illness took ℥ xviii. of whiskey in twenty-four hours, besides gr. $\frac{1}{30}$ of strychnine every three or four hours and ℥ x. of tincture of strophanthus every six hours. Some of them, on the other hand, passed the crisis without taking any medicine except anodynes as needed. When I say medicine, I include all alcoholic drinks in that category.

I give below the clinical histories in detail of those cases in which hypodermoclysis was used:

Case I.—H. M——, single, laborer, aged forty-two years, born in Ireland. The patient became sick February 4, 1901, and was admitted to the hospital February 7th. He was a strong, well-nourished man, and had been a moderate indulger in alcoholic liquors. His present illness began with a chill, fever, pain near the left nipple, and a short, dry cough. When he was admitted his cough was very painful and accompanied by a viscid, rusty-colored sputum, showing pneumococci in pure culture. Temperature, 104.6° F.; pulse, 120, rather weak; respiration, 36. The left lung was consolidated along its whole posterior aspect. The patient's cheeks had a dusky red color. His skin was very hot and dry. During the next three days the symptoms became aggravated. The temperature reached 105.2°, the respiration 56, and the pulse 124. Delirium, at first intermittent, became constant. The treatment thus far had consisted of gr. $\frac{1}{8}$ morphine when the pain was severe, gr. $\frac{1}{30}$ strychnine every four hours, cold spongings, and two doses of phenacetin, gr. iiss. each.

During the following two days the patient's general condition became worse. Though the temperature declined to 102.8°, the respiration still remained 56, and the pulse 126, weak and irregular. Whiskey and tincture of strophanthus had been added to the treatment.

Finally, at 5 P.M., February 12th, the patient's condition was very critical. Temperature, 101.8°; pulse, 150, very weak and intermittent. The tongue and the whole inside of the mouth were parched. I now gave the patient one pint of decinormal saline solution hypodermically. While the saline was being slowly injected, I soon noticed an increased volume of the pulse. An hour afterward the tongue and skin became moist. The patient undoubtedly looked brighter and his intellect was a little clearer. Two hours before the saline was administered, the nurse in my absence had noticed a failing of the pulse and had given ℥ xxv. of a 1 : 10 camphor-and-olive-oil solution, kept on hand for such emergencies. On the morning following the evening on which the saline infusion had been given, the temperature had fallen to 99.8°; respiration, 48, and pulse, 100, weak and intermittent. By this time the strengthening effect of the infusion seemed to have again worn off. Another pint of the saline solution was therefore injected, and again the pulse improved. I now ordered the patient to have one pint of the saline solution every twelve hours. All this time the heart stimulants previously ordered were continued. The camphor and oil were also injected on one other occasion.

On February 16th, the twelfth day of the disease,

the pulse retained a fair strength and the infusion treatment was suspended. On this day the temperature was 98.4°, and the respiration 36. The heart tonics were gradually reduced, and finally stopped. From now on convalescence was uneventful, except that at the site of the camphor injections abscesses appeared, the thick gelatinous pus from which was sterile. The saline injections produced no unpleasant local phenomena.

Case IV.—W. C——, single, laborer, aged forty-five years, born in Indiana. His habits were alcoholic; his previous health was good. The patient was admitted February 16, 1901. He had been sick two weeks with general malaise, fever, and cough, accompanied by the expectoration of mucus. This kept him in bed part of the time. Two days before admission to the hospital he suddenly grew very much worse, developing a very distressing cough with rusty-colored sputum. These symptoms had increased in severity. The patient, on admission, was very nervous and restless. His face and tongue were fiery red. Though rational when awake, he talked constantly in his sleep. The left lung gave dulness, bronchial breathing, and increased vocal resonance over the upper part posteriorly, and in the upper axillary region. There were subcrepitant râles all over the uninvolved portion of the left lung and all over the right lung. Friction sounds could be heard in the left axilla. The temperature in the evening was 104°; pulse, 100; respiration, 32. The sputum showed pneumococci. Diagnosis: Acute croupous pneumonia supervening on a general bronchitis. The treatment thus far consisted of gr. $\frac{1}{8}$ morphine every four hours. February 17th, temperature, 104.8°; pulse, 122; respiration, 38. There was a constant talkative delirium. I now added gr. $\frac{1}{30}$ strychnine every four hours to the medication, and ordered cold spongings, which seemed very grateful.

February 18th. Temperature, 103.4°; pulse, 110; respiration, 38. Whiskey and strophanthus were added to the treatment.

February 19th. The patient's general condition was worse. His cough was very harassing. He was moving his hands about in an aimless manner continually. He chattered incessantly in his delirium. The temperature in the evening was 104.4°; pulse, 120; respiration, 38. No change was made in the treatment except stopping the morphine and increasing the whiskey to ℥ xviii. a day.

February 20th. All symptom were about as yesterday, except that the pulse was evidently getting weaker in spite of all stimulation thus far employed. It beat 140 per minute. Respiration, 38. I now instituted the saline hypodermic treatment, giving one pint every twelve hours. Each infusion strengthened the pulse and lessened somewhat the intensity of the delirium and the restlessness. After the institution of the saline treatment the pulse never went above 126. The temperature fluctuated around 103°. The respiration remained 38.

February 23d. A change for the better was apparent. Pulse, 100; temperature, 99°; respiration, 32. The delirium had disappeared. The saline infusions were now no longer required, and the other heart stimulants were gradually cut off. The patient made a rather slow, though complete recovery.

Case X.—J. O——, sexton, single, aged fifty-eight years, born in Ireland, was admitted to the hospital March 5th. He was emaciated and looked as if he might have been in ill health for some time, though he denied this. His habits had been good, and he never drank alcoholic liquors to excess. He became sick two days ago, and being unable to receive any attention in his boarding-house, he came to the hospital, though to get there, he was compelled to ride seven miles over rough roads on an exceedingly raw and chilly afternoon. When admitted, he was completely chilled through. He looked blue. His feet, hands, and the tip of his nose felt like ice. His pulse was scarcely perceptible, feeble, intermittent, 118 per minute at the wrist. Some of the beats probably did not reach the wrist, being too feeble. Rectal temperature, 102.5°; respiration, 40. Cough occurred in severe paroxysms. The sputum was very viscid, orange yellow in color. The whole right lung in front as well as behind gave physical signs of hepatization. There were, moreover, coarse subcrepitant râles heard over both lungs. I immediately ordered all customary stimulants—strychnine, strophanthus, and whiskey; heat was applied to the lower extremities, but all seemed to no purpose. The patient would not rally.

March 6th. The patient was still worse. Temperature, 103°; pulse, too weak to be counted; respiration, 40. Delirium was present at times. Prune-juice expectoration was noted. The tongue was dry, the skin hot and dry. I then ordered camphor and oil in ♏ xxv. doses hypodermically every six hours. Also a saline infusion of one pint was given. After this the pulse became a little stronger, but the effect seemed to be very evanescent. I therefore repeated the saline infusion every six hours, giving ℥ viii. at a dose. The camphor was also repeated every six hours, being given in the intervals between the infusions.

March 8th. Temperature, 103.4°; pulse, 150, irregular; respiration, 60. Each breath was accompanied by an audible rattling in the trachea. The patient was partly unconscious.

March 9th, 4 A.M., death ensued.

While in this case the saline infusion did not avert the fatal issue, it had a well-marked though evanescent strengthening effect on the pulse. It no doubt prolonged life somewhat, and thus gave additional time in which a favorable crisis might have occurred had the case been not quite so unfavorable.

I draw the following conclusions as to the status of the saline-infusion treatment in acute croupous pneumonia:

It is a useful adjunct to other treatment in selected cases.

It acts as a powerful heart stimulant when other heart remedies can no longer sustain the flagging circulation.

It increases the secretions, and moistens the tongue and throat as well as the skin. It lessens the delirium. Other observers have noticed that it also improves the respiration, but of this I could not convince myself.

It is contraindicated in pulmonary œdema.

Some pneumonia patients apparently die of collateral pulmonary œdema not consequent on a failing heart. In these cases saline infusions are not applicable. Other pneumonia patients apparently die from heart failure, or a pulmonary œdema caused by heart failure. In this latter class of cases the saline infusion averts the tendency to death by sustaining the heart when nothing else can, and thus it gives additional time for a favorable turn to occur in the disease.

On a Form of Chorea Met with during the Course of Erysipelas.—Fornaca Luigi reports the case of a girl of fourteen years suffering from facial erysipelas. On the third day of the disease choreic movements of hands, feet, and face appeared. Spinal fluid was withdrawn by lumbar puncture, and the presence of the streptococcus was demonstrated. The patient recovered perfectly from both erysipelas and chorea. The streptococcus has been found in other cases of chorea, and further researches in this direction would be of value.—*La Riforma Medica*, April 1, 1901.

SYPHILIS IN THE WELL-TO-DO.

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When the victorious troops of Charles VIII. spread syphilis all over the southern part of Europe, there began an epidemic which was frightful, not only on account of the numbers afflicted, but because of the disastrously destructive character of the disease. History records that a monarch of France died of syphilis, and, if popular opinion may be trusted, royal families of the present day are not exempt from its taint.

Nobleman or common soldier, the picture in the sixteenth century was the same. Faces were mutilated by the destruction of the nose, the nervous system was shattered, the skin was covered with loathsome sores. From this picture, and from the frightful traditions which have been handed down to us by our panic-stricken predecessors, I submit that we have derived an altogether erroneous idea of the nature of the disease as it occurs in our own day and generation.

Many of us have had difficulty, as has the writer, in getting away from the conception, formed during our undergraduate life from some miserable old hospital case, which went on from bad to worse in spite of treatment, finally to pass into the grave uncured.

That the disease is a most formidable one, potentially destructive as it is to almost every organ in the body, is a fact readily admitted by all. The neurologists, basing their statistics very largely on hospital cases, point at it as the cause of some of the most hopeless forms of paralysis. The madhouses of the land are recruited annually with no inconsiderable number of its victims. The surgeons of every hospital are no strangers to its destructive power. Dermatologists recognize and are powerless to remove the tell-tale scars produced by its ravages. The very name of syphilis produces consternation in the breast of its victim, and many a suicide has resulted from dread of the consequences of the disease.

For some years the writer held a most melancholy view of syphilis, wheresoever and in whomsoever it might occur. But gradually there has crept in, first the suspicion, later the belief, and now the conviction, that the disease, when it occurs in private practice, is not only, in the average case, a mild affection, but that it subjects its victims to less pain, mutilation, and loss of time than many a trivial complaint.

To show that this opinion is justifiable there is adduced an analysis of one hundred and fifty consecutive cases of syphilis occurring in the private practice of the writer, and almost exclusively belonging to the well-to-do classes. Of the one hundred and fifty, eighty-nine were in males and sixty-one in females. The ages ranged from five weeks to seventy-nine years. There were five cases of hereditary syphilis, of which two patients died from the disease.

The one hundred and forty-five adults with acquired syphilis were divided into the following classes:

First. Those having mild, transitory lesions which left no trace when they disappeared. These included pharyngitis, inconspicuous loss of hair, macular and papular eruptions, or mucous patches. Some had several of these lesions, others only one or two. To this class sixty-five per cent. of all the cases belonged.

Second. Those showing destructive lesions of any sort whatever, from the pustular eruption which left scars, to the necrosis of bones. This class included twenty-six per cent. of the cases.

Third. Those cases which exhibited considerable severity for a time, but which finally cleared up completely, leaving no trace. This class included cases in which the hair fell out very conspicuously, in which laryngitis was troublesome, and in which there were transitory internal complications believed to be syphilitic. This class numbered six per cent. of the cases.

Now let us examine a little more closely the make-up of class two—the destructive class. This made up twenty-six per cent. of all the cases. There were twenty-seven cases of ulcerating cutaneous and subcutaneous gummata, three destructive bone lesions, one phagedenic chancre, three pustular syphilides resulting in scars like pock-marks, one permanent case of ulceration involving the vocal cords, and four cases resulting in loss of substance of the tongue—gummata, to be accurate.

Twenty per cent. of all the cases, therefore, showed destruction of tissue of one particular type, from the breaking down of cutaneous, subcutaneous, or lingual gummata. Now if there is one form of destructive ulceration which is more amenable to treatment than another, which is less painful and more readily healed, that form is ulceration from the broken-down gummata of syphilis. As a matter of fact, most of such patients in the preceding collection were readily cured. There were only four cases altogether which were severe enough to cause the patient temporarily to give up his usual occupation, and in no single instance was the individual confined to his bed by the disease. Six per cent. of the destructive cases are left for comment. Of these, three cases involved loss of bone substance, requiring surgical treatment to arrest the disease. One case resulted in a permanent impairment of the voice.

We may summarize, then, by saying that in the series of one hundred and fifty cases of syphilis there were three per cent. of hereditary cases, and ninety-seven per cent. of acquired. The mortality of hereditary syphilis was forty per cent. Of the acquired cases, sixty-five per cent. had from beginning to end nothing but mild, trivial, transitory lesions, which left no trace when they disappeared. Six per cent. suffered pretty severely from laryngitis, alopecia, and the like, but recovered completely, without perceptible impairment of any organ. Twenty per cent. suffered from gummata, which left scars, but which were readily amenable to treatment, and healed up satisfactorily. Six per cent. only were in any sense formidable, and not a single case was by any means appalling.

Now is this a disease to be especially alarmed about? If the above statistics represent average cases, certainly not. But do they represent average cases? As has been said, the list is made up almost entirely of well-to-do people. They applied for treatment, not to a general practitioner, but to one who confines his practice to skin and venereal diseases. Therefore, nerve lesions were not found in a single instance. The brain, spinal cord, and arteries were not mentioned in what precedes. The neurologists will very likely assert that these identical cases will later exhibit central lesions. But this is probably not so. For many of the cases cited were not instances of freshly acquired syphilis, but chronic cases, in which many years had elapsed since the disease began, and in which nerve lesions had abundant opportunity to appear. And that the cases which were treated for two years, as most of them were, by the intermittent administration of mercury in the largest tolerated doses, will not later suffer relapse, we have the authority of the most eminent syphilographers for believing.

That the difference between the syphilis of the well-to-do people and that of the poorer classes might be clearly shown, one hundred and fifty consecutive cases occurring in the dermatological clinic of the New Haven Free Dispensary during about the same period

were tabulated according to the scheme above, with the following results:

Of one hundred and fifty cases ten were hereditary and one hundred and forty acquired. Of the acquired cases, the mild, transitory lesions, like macular and papular syphilides, mucous patches and mild alopecia, made up thirty-three per cent., as contrasted with sixty-five per cent. in private practice. Of the destructive lesions there were fifty-one per cent., compared with twenty-eight per cent. in the foregoing series. Of bad cases not included in the two preceding classes, there were two of extensive syphilitic paralysis, two of iritis, three of onychia, and three of severe periostitis.

When it is remembered that many of these dispensary cases were seen but a few times, and that only a small proportion of them underwent a truly thorough course of treatment, it will have to be conceded that, in all probability, it is from this class, and not from the other, that the distressing hospital cases, the paralytics and the insane, are mostly recruited.

Syphilis in the well-to-do, then, is a totally different disease from syphilis in the poor. What makes the difference? Crops and diseases are alike, in that both flourish best when the seeds from which they spring are themselves the product of active growth, when the soil is favorable for their culture, and when the external conditions are propitious. Now is it the seed, the soil, or the environment which makes the difference in the syphilis of the rich and the poor? No obscure or far-fetched theory need be invoked. I opine that all three elements are involved.

In certain years epidemics of scarlet fever have been characterized by exceeding mildness. In other years the fatality has been alarming. Rich children and poor conform (generally speaking) to the type of the cases from which they themselves have contracted the disease. The common source of supply is most often the public school. But syphilis is contracted in no such way. The poor man contracts syphilis from an equally poor woman. The chances are that she has been only meagrely treated. The disease is therefore more severe.

The rich man, on the average, is more choice in his amours. Cleanliness, wholesomeness, and neatness appeal to him. Therefore the fashionable prostitute takes care of herself—her health and her person—or she knows she will sink even in her own social scale. In other words, her syphilis is better treated and therefore less severe. Of course we all know that malignant syphilis may spring from mild cases, but this is not the rule. So much for the source of supply.

The soil is also different. Not every man of means is the scion of a robust stock. But the very qualities which have made his ancestors able in the race of life to outstrip their competitors and gather in the prizes are handed down to him, though, forsooth, in many instances greatly diluted. The soil, indeed, is probably the least potent factor in determining the type of the disease. Other things being equal, the brawny laborer should make a better fight against the disease than the less rugged banker. But other things are not equal. The poor man cannot take the same care of his health as the rich man, and in this particular is decidedly handicapped in fighting the disease in question. He must often work beyond his strength, breathe impure air, expose himself to inclement weather, and eat unwholesome food. He cannot afford to have medical attendance, even the free clinic necessitating his absence from work. Acquaintance with the privations of poverty makes him callous to his own condition, and, in a word, he neglects his treatment.

Optimism, then, not pessimism, concerning syphilis as it occurs in private practice, is the keynote of this paper. But no physician who is called upon to treat this disease should fail to make it perfectly plain to his patient that a failure to submit to a thorough course of treatment for the full period of two years will, in all probability, result in disaster.

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SUBARACHNOID SPINAL COCAINIZATION AS A MEANS OF INDUCING SURGICAL ANÆSTHESIA.[1]

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As chairman of your section on gynæcology and obstetrics, I shall endeavor to merit your approbation and enlist your interest in presenting to you the results of my personal work and also my observations in a field of surgical anæsthesia new to all of us.

A recent advance in surgery is the method of inducing anæsthesia by injection of a solution of cocaine into the subarachnoid space of the lower portion of the spinal canal. By this procedure complete insensibility to pain usually results from the umbilicus, and even from the axilla, to the toes, causing the sharpest steel to lose its sting and robbing pain of victory, while patients retain their full mental faculties.

The innovation is almost revolutionary in technique. It is within a generation that surgery has made a radical and triumphant departure from former methods through asepsis. Here, because of the latter, we have a production which is brilliant! It excites admiration and impresses one; and this because of its apparent simplicity as much as because of the results attained. Operations upon the lower extremities, the genito-urinary tract, the abdominal and pelvic organs, the kidneys and bladder, all seem specially well adapted to this procedure.

True anæsthesia is not produced, but complete analgesia only, lasting for a sufficient length of time to admit of the performance of any operation below the regions stated. In this connection, an editorial in the *Medical News*, October 13th, humorously referred to a vivid imagination conceiving of the analogues of the engravings of the old Vesalian and Albinian anatomies, in which delicate ladies daintily held up the lacework of their own omenta for the inspection of the beholder, in the possible illustrations of the surgeries of the future, which might portray the interested patient as assisting the surgeon by holding a retractor or clamping his own arteries. Yet from personal observation in the numerous instances observed at the New York Polyclinic and the Post-Graduate hospitals, in October last, as also at the Methodist Episcopal Hospital in Brooklyn, I can assert, and could readily demonstrate, that this humorous picture is but little overdrawn.

The essentials of technique include a thorough asepsis. The needle and syringe should be thoroughly sterilized and the skin over the local area of injection thoroughly cleansed, as also the hands of the operator. To avoid the introduction of any possible infection in the spinal canal by puncturing the skin with the needle, I make a small incision through the skin first with the point of a scalpel, after anæsthetization of the area of puncture by subcutaneous cocainization. I use a gold needle of fine calibre, from three to three and a half inches in length, having a short bevelled point, in order to avoid penetrating the membranes too far. The piston or barrel of the syringe is graduated to thirty minims or more.

Regarding the preparation and sterilization of the cocaine solution, I prefer that of Dr. George B. Fowler, of

[1] Read at the twenty-eighth annual meeting of the Florida Medical Association, held at Jacksonville, April 10 and 11, 1901.

Brooklyn, using sterilized water and boiling about one minute; to boil it a longer time renders it liable to become inactive and thus unreliable. Yet by whatever manner of means the cocaine solution may be made, failures in anæsthesia will occasionally be met with.

In the introduction of the needle the position to be assumed by the patient is important. Seated on a table, the body should be inclined slightly forward, the distance between the vertebræ being thus somewhat increased, the needle entering more readily.

The point of puncture is one of election as to interspinous space, the second, third, or fourth space commending itself, although there seems to be a predilection for the third and fourth. As a guide to the seat of puncture, a point midway between the spinous processes and about one-half inch to the right or left of the median line can be taken; or a horizontal line drawn, connecting the iliac crests, crosses the lower border of the fourth lumbar vertebra. I introduce the needle at a slight angle from below upward and without inward, because of the position of the spinous processes. Gently but firmly pressed in, the escape of the cerebro-spinal fluid, drop by drop, marks its entrance into the subarachnoid space or spinal canal. The finger being placed over the needle opening, the syringe containing the requisite quantity of cocaine solution is then attached and the contents are slowly injected, about two minutes being taken to complete the injection. I then withdraw the needle and close the point of puncture with collodion. Anæsthesia, or rather analgesia, is present usually within ten minutes. When complete, it is sufficiently prolonged to accomplish the operator's purpose. If no evidence be present after a wait of fifteen minutes, a second injection can be given. Some patients are readily influenced by small doses, others require considerably more, the hyperæsthetic and nervous person being a type of the latter. Anæsthesia is often absolute, leaving nothing to be desired; yet the fact is equally certain that, despite a thorough technique, there have been many disappointments, either partial anæsthesia or absolute failure necessitating a resort to general anæsthesia. The area of anæsthesia varies considerably, being from the umbilicus down in some cases, while in others it reaches as high as the breasts, and even to the collarbone in rare cases, an instance of which I saw personally.

From our present knowledge, we may glean failures to be the result of:

1. Inert cocaine solution, the result of prolonged boiling or repeated sterilization.

2. Idiosyncrasy to the drug, with which may or may not be associated intensely neurotic temperaments.

3. Faulty technique—too short needle, imperfect syringe, non-entrance of needle or fluid into the spinal canal.

4. Too small a quantity of drug employed.

The disagreeable features of the post-operative symptoms usually associated with this procedure—not necessarily due to the drug, since several of these have appeared when puncture was made and a small quantity of cerebro-spinal fluid withdrawn, and before any injection was given—are:

1. Nausea and vomiting, the latter being rather projectile in character, of short duration usually in the majority of cases.

2. Headache, at times intense, is of frequent occurrence; its severity and duration are variable.

3. Increased temperature in almost every instance, not infrequently as high as 103°, disappearing within twenty-four to thirty-six hours.

4. Increase in pulse rate, appearing shortly after anæsthesia is present.

5. Added to these may appear vertigo, pallor, coldness of surface, and prostration. Abstinence from food for several hours previous to the injection tends to minimize attacks of vomiting. To counteract any seeming dangers from this method, the preliminary use of strychnine may be made hypodermically, or of whiskey by the mouth. For the intense headache, gr. $\frac{1}{100}$ hyoscine hydrobromate has acted favorably, while to lessen post-operative nervous shock gr. $\frac{1}{100}$ nitroglycerin has been given with good result. Symptoms of cocaine toxicity are thought to be due to spinal shock or to a disturbance of the equilibrium in the spinal canal, as a result of the sudden increase of pressure in the subarachnoid space; to too rapid diffusion toward the brain, or to the quantity of cocaine injected.

When ether and chloroform are objectionable or are contraindicated, as in cardiac disease, nephritis, bronchial and pulmonary conditions, this method of inducing anæsthesia has its legitimate field in exploratory and necessary operations below the diaphragm.

In a paper read by Dr. Goldan before the New York State Medical Association, in October last, which meeting I attended, he gave a history of twenty-seven cases in which the method has been used by him, with two failures, his first two cases. The only absolute failure I personally noted was one at the Post-Graduate Hospital, in the gynæcological clinic of Professor Boldt. Twenty minims of a freshly prepared two-per-cent. solution of cocaine hydrochlorate were injected by Dr. Goldan. There being no analgesia after a wait of twenty minutes, a second injection of ℥ xv. was given. At the end of three-quarters of an hour the method was in this case declared an absolute failure, and it became necessary to resort to a general anæsthetic. The technique throughout was perfect, and no cause could be ascribed for such failure.

A rare and instructive case was one in the clinic of Dr. Chetwood, at the New York Polyclinic, it being one for suprapubic cystotomy and perineal section. Twenty minims of a two-per-cent. solution of cocaine were injected by Dr. Goldan between the fourth and fifth lumbar vertebræ, followed in twenty minutes by ℥ x. more, between the third and fourth vertebræ, without any analgesia. Through the interest taken by Dr. Chetwood in the method, with the acquiescence of the patient, the operations were postponed, a second trial being given four days later, this time with complete success after but one injection of ℥ xx. Both operations were performed at one sitting, the anæsthesia lasting fully one and one-half hours. No explanation could be given as to the cause of failure one day and its complete success several days thereafter, the conditions being apparently the same each time.

I desire here to record two cases in which I have made use of subarachnoid cocainization. The first was one in which I performed curettage of the uterus, injecting ℥ xx. of a two-per-cent. solution of cocaine hydrochlorate. Anæsthesia was complete in twelve minutes, being of one hour and ten minutes' duration. There was complete absence of discomfort or pain.

Upon the second patient I performed three operations—curettage, trachelorrhaphy, and perineorrhaphy, all at one sitting. Anæsthesia was complete in this case also from a ℥ xx. injection of a two-per-cent. solution, and lasted fully one and one-half hours. Vomiting and headache were present in both instances, but not to a decided degree. In each case there was an increase in the pulse rate and temperature, the former rising in the second patient to 116 and the temperature to 100.5°, but falling to normal within twenty-four hours.

Dr. Marx, in recording one hundred and twenty-five spinal punctures, labor and operative cases included, states that he had two absolute failures occur in succession, both in intensely neurotic women. By repeated injections, he has carried through a labor case

lasting eight hours, with practically no pain. In his opinion, the injection is best indicated in multiparæ when the os is more than half dilated; in a primipara, when it is fully dilated.

Prof. Geo. R. Fowler, of the New York Polyclinic, recently recorded his experience with spinal anæsthesia, embracing eighty-one cases, with five failures. He classified them as follows: Twenty-six operations involving the peritoneum, thirty-four operations in the pelvic region not involving the peritoneum, five amputations, thirteen operations upon the lower extremities, three operations unclassified. From the results obtained, he concludes that the extent of the analgesia, as well as its duration, depends in a measure upon the amount of the cerebro-spinal fluid present; that progressive dilution of the cocaine solution, from the point of introduction, lessened the effect of the drug upon the nerve structures with which it came in contact, until finally, if the amount of cerebro-spinal fluid be much larger, the effect was practically nil at points high up in the canal. In a series of twenty-one cases reported by Drs. Hawley and Taussig, of St. Louis, they observed the fact that the duration of anæsthesia was dependent, as a rule, on the quantity of cocaine injected; gr. $\frac{1}{8}$ causing anæsthesia on an average for one hour and twenty-one minutes; gr. $\frac{1}{4}$ for one hour and twenty-six minutes; gr. $\frac{1}{2}$ for one hour and fifty-nine minutes. Cocaine, when pasteurized, gave an average of one hour and fifty minutes' duration, while boiling gave but thirty-five minutes. Dr. J. B. Murphy, of Chicago, at the recent meeting of the Western Surgical and Gynæcological Association, stated he had been able to collect five hundred and ninety-two cases of subarachnoid cocaine injection, of which number twenty-five were complete failures, and but four partial failures, with one death attributable to the drug, in Tuffier's clinic.

Dr. Robert F. Weir states that, out of three hundred and sixty-two cases collected by him, rather alarming symptoms occurred in about one in thirty. Of those who were frank enough to record complete failures, he mentions Fowler, five in eighty-one cases; Goldan, three in thirty-one; Marx, two in one hundred and twenty-five; Murphy, one in twenty-five. In this connection I might state that, like ether, chloroform, and nitrous oxide, in many instances there were absolutely no immediate sequelæ attending.

The cases recorded by various operators were usually unselected, the ages ranging from two and one-half to sixty-nine years. Renal, cardiac, and pulmonary lesions were in many instances disregarded in order to give the method an absolutely fair trial. Yet but one death is recorded. As compared with ether and chloroform, this is by no means a bad record when we stop to consider that the method is still in its infancy. Face to face with its importance in surgery, gynæcology, and obstetrics, it should, however, by no means be approached in anything but a serious manner. The ever-present danger of meningitis, through a faulty aseptic technique, is not to be lightly considered.

From the foregoing, it can be seen that the injection of cocaine into the subarachnoid space in the lumbar portion of the spinal canal, for the production of analgesia and anæsthesia below the point of application, has passed the experimental stage. We are justified in entertaining the hope that this method will have its field of practical usefulness in the near future along with ether, chloroform, and nitrous oxide. It not only dispenses with the services of the assistant, but complicating inhalation or aspiration and hypostatic pneumonias are averted.

Specific for Dysentery.—In its acute form sulphate of magnesium, properly administered, acts as a specific.—CRUIKSHANK.

Clinical Department.

KELOID FORMED UPON A VACCINATION SCAR.

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AN observer in an Indian medical journal reports from Hong-Kong two cases of keloid after vaccination in women, presumably English. Glycerin virus was used and in each instance "took."

The history of a case of my own was as follows:

M——, female, white, aged nine years, had been vaccinated, under compulsion, by one of the medical school inspectors five months before I saw her. The scar following had been displaced by a keloid of marked similarity in size and shape to a large lima bean. Enlarged capillaries extended throughout the fibrous formation. The keloid had ceased growing, it was not inflamed or painful, and was freely movable.

The mother sought advice, fearing "future trouble." Under the circumstances I proposed removal under cocaine anæsthesia, going wide of the growth. At the time appointed, however, operation was refused, and the case thus passed from my notice.

Two other younger children of the household, vaccinated at the same time, presented well-marked scars, but no appearance of hypertrophy.

A SUCCESSFUL PYLORECTOMY ON A MAN IN HIS SEVENTY-FIRST YEAR.

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THIS case of pylorectomy is reported as interesting on account of the advanced age of the patient, who was seventy years six months and fourteen days old on the day of the operation.

Mr. A. B—— was first seen in consultation with Dr. E. J. McDonough on July 7, 1900. He was born December 27, 1829. By occupation he was a mason and contractor. He never weighed over one hundred and thirty-five pounds, but was always well and rugged until two years ago. He then began to have trouble with his stomach, which had slowly grown worse. The symptoms had gradually become those of pyloric obstruction and gastric dilatation. There had been no vomiting of blood or evidence of internal hemorrhage. Recently vomiting of small quantities had become quite frequent, but on every second or third day he threw up several pints. He had been able to attend to his business until within a few weeks, when he had been rapidly losing flesh and strength. Physical examination showed a dilated stomach and a movable, non-adherent tumor, the size of a goose egg, just above the umbilicus. He was informed that his trouble was due to a tumor which obstructed the passage of food, that medicine could not remedy it, and that the only thing that could relieve him was an operation to remove the tumor or make a passage for his food. After consulting with his family he decided to take the chances of an operation rather than live as he was. He according. entered the Maine General Hospital July 9, 1900.

On admission to the hospital his pulse ranged from 70–80, his temperature from 98°–99.8°. His urine was scanty, reaction acid, specific gravity 1.028; it contained no albumin or sugar but a large number of hyaline and granular casts.

There were ordered to be given every four hours a hypodermic injection of gr. $\frac{1}{30}$ of sulphate of strychnine and a high enema consisting of two tablespoonfuls of beef peptonoids, one ounce of whiskey, and warm water to make six ounces.

His stomach was washed out at night with hot decinormal salt solution. Long-continued washing was necessary, and even then the returned fluid was quite turbid. It was curious to observe that the tumor, so easily felt but a short time before, just above the umbilicus, was found, immediately after the washing, to be half-way up to the sternum, and that on the following morning, even after the abdominal muscles were completely relaxed by ether, it could not be palpated. On the next morning, July 10th, just before the operation, the stomach was again washed out with hot decinormal salt solution until it returned clear. The operation was performed with the assistance of Dr. John F. Thompson and members of the house staff of the hospital. After the incision was made, careful examination showed that the growth was confined to the pyloric end of the stomach, there being no observable involvement of the lymph nodes or adjacent parts. The case seemed especially suited for Kocher's operation for pylorectomy. This was accordingly done. The gastro-hepatic and gastro-colic omenta were divided between two rows of ligatures on each side well beyond the growth. The non-involved portion of the stomach and the duodenum were clamped off, and the tumor with half an inch beyond on either side was removed. The severed end of the stomach was then closed by three rows of fine silk continuous sutures, one each for the mucous membrane, muscular coat, and peritoneum. The duodenum was then anastomosed by three rows of sutures similarly applied to the lower part of the posterior wall of the stomach, about an inch from the end. The parts were carefully kept clean during the operation by means of packing off pieces and of hot decinormal salt solution. The abdominal wound was closed.

The operation lasted a little over three hours. In spite of the length of the operation and the advanced age of the patient there was but little constitutional disturbance. The pulse ranged from 96–112 and at the close was 104. The respiration varied from 36–44. The amount of ether used during the operation was thirty-three ounces. No stimulant was given during the operation, but at its close, just before the patient was removed from the operating-room, he received hypodermically gr. $\frac{1}{30}$ of sulphate of strychnine, and on reaching his room he received a high enema of two ounces of beef peptonoids, one ounce of whiskey, and warm water to make a pint.

His temperature was taken every two hours for two weeks. It was above 100° but once, and then it was 100.4°. For the first forty-eight hours it was between 98.6° and 100°, but after the second day it did not change from normal.

His respiration was short and accelerated for two days on account of the soreness in the epigastric region, but after that time it was from 22–25.

The pulse gradually dropped from 100 to between 80 and 90 on the second day, but did not reach 72 for ten days.

The amount of urine for the first twenty-four hours after the operation was thirteen ounces. After that the amount was about thirty ounces daily. The kidneys showed no unusual disturbance from the long-continued administration of ether.

There was some vomiting after the operation, but it was never very painful. For two days the vomit was a bloody fluid. On the second day it had an offensive odor from the decomposition of blood. On the second day bile appeared in the vomit. There were occasional nausea and infrequent vomiting for five days, after which time this disturbance was slight and of no consequence.

Nutrition was maintained by enemata containing two tablespoonfuls of beef peptonoids, one ounce of whiskey, and three ounces of warm water every four hours. A little laudanum was added when the bowel seemed irritated. These enemata were employed for three weeks, at the end of which time the patient's stomach could take care of all the nourishment he needed. The use of liquids was started two hours after the operation. One teaspoonful of very hot water was given every half-hour. This quantity was doubled each morning. The lips and mouth were moistened with cold water as occasion required. On the second day a teaspoonful of brandy was given every three hours. On the third day one-half ounce of Eskay's food, prepared without milk, was given every two hours. This amount was also doubled each morning until he had all he wanted. Beef juice was given on the sixth day. On the seventh day an egg beaten up in a malted food was given in the morning and afternoon, and with it a toasted cracker. After the tenth day broths, soups, soft-boiled eggs, and any nourishing foods were allowed, which could not scratch or coagulate or form lumps in the stomach. In the course of a month he was eating any food that could be finely reduced by mastication, that would not scratch, and did not cause any disturbance of the stomach.

The constipated condition of the bowels, which had existed so long from so little food having passed the pylorus, did not continue very long or give much trouble. The nutritive enemata were occasionally expelled. A saline enema on the fourth day produced a good movement. For the first two weeks salts and glycerin enemata, occasionally given, were all that was necessary.

Not very much medication was required. Gr. $\frac{1}{30}$ of strychnine was given every four hours. Gtt. i. of carbolic acid in a teaspoonful of equal parts of cinnamon and lime water every two hours relieved the nausea and checked the gastric fermentation. As he began to take more food, pepsin and hydrochloric acid in glycerin and peppermint water proved beneficial and have since been found useful.

He did not suffer much from pain, but a little morphine or codeine for a few days after the operation relieved restlessness and promoted sleep. Frequent warm alcohol baths also relieved and refreshed the patient.

The condition of the patient to-day, though over seventy-one years of age, and nine months after the operation, is one of comfort, enjoyment, and health. He has good color and is a vigorous man for his age. He has no pain or distress, is able to eat heartily, and do what little work there is about the house. During the last few months he has gained fourteen pounds in weight.

In regard to the portion of the stomach and duodenum removed, it was four inches in length. As there was half an inch of the non-involved portion of the stomach and as much of the healthy duodenum removed, the tumor measured three inches. The entire circumference of the pyloric end was involved. The passage through it was very crooked and less than a quarter of an inch in diameter. The walls measured, after hardening, three-eighths of an inch in thickness. In the recent state they were very hard and unyielding. All peristaltic action was lost.

Excellent microscopic sections from various parts were made by Dr. Walter E. Tobie. The mucous membrane is not much thickened. In the central portion of the tumor the glandular structure is almost entirely destroyed. It has been replaced by a fibrous tissue containing here and there small portions of

glands, small clusters of cancer cells, and chronic inflammatory changes. Its surface is granulation tissue. The mucous membrane at the border of the growth shows hypertrophy of gland structure, superficial necrosis, a few cancer cells, and chronic inflammation. The great thickening is in the muscular portion of the wall. Here the muscular fibres are very widely separated by interstitial connective tissue. In the connective tissue are to be seen a few, but very scattering, groups of cancer cells and chronic inflammatory changes. The peritoneum is not involved. The diagnosis is chronic scirrhus carcinoma of the pyloric end of the stomach.

I have no time to look up statistics, if there are any, on pylorectomies in persons over seventy years of age, but this case, as well as the numerous ovariotomies on women of advanced years, shows that age does not interfere with successful abdominal operations. Nor should age stand in the way of our relieving suffering, promoting happiness, and prolonging human life.

POSTURAL TREATMENT IN THREATENED MISCARRIAGE.

By ALICE M. SMITH, M.D.,

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The patient, Mrs. M——, primipara, twenty-two years of age and eight months pregnant, on January 10, 1901, at 8 o'clock A.M., began to have labor pains. These continued all day at increasingly short intervals. About 5 P.M. she had a slight "show," and sent for me.

I found her to be a normally developed woman of fairly good physique. She was suffering greatly, and begged for relief. Upon external palpation, I found the head of the fœtus low down in the left iliac fossa, and the buttocks well up in the right flank. Internal palpation discovered that the os uteri pointed directly backward toward the rectum, and it was with much difficulty that I finally determined that the os uteri was dilated to fully 2.5 cm., with the right shoulder presenting.

External and internal manipulations failed to better the position, and after three hours the patient began to show decided symptoms of exhaustion, and, despite the pain, the os uteri did not continue to dilate. The pulse increased from 88 to 124 and to lose force. I gave gr. $\frac{1}{40}$ of strychnine, with satisfactory results. The labor made no progress, and the patient still continued to suffer greatly. I began to fear that I had a serious case to manage. I decided to try what the simple law of gravitation, reinforced by mechanical assistance, would do. Accordingly, I caused the patient to assume the knee-chest position by means of pillows and my personal support, it being under these conditions a most difficult position for her to place herself in. Through the rectum and vagina I now applied digital force. With the examining finger of one hand introduced into the rectum, I reached up behind the displaced cervix and gently but firmly pushed it forward, while, with the index finger of the other hand in the vagina, I endeavored to push the presenting part upward, forward, and to the right (or rather in this position, downward, forward, and to the right), and during the pains I would strive to hold any advantage gained by these measures.

The relief experienced by the patient was almost immediate. The pains became more infrequent and of shorter duration, and would probably have ceased altogether within an hour could she have remained longer in the knee-chest position. When she assumed the recumbent position for rest, the pains began again, but they were of a less agonizing character. Again she assumed the other position, and for an hour we alternated between the two. During nearly all of this time I continued the mechanical assistance as described above. The patient then became so comfortable that I decided it would be safe to leave her in the care of the family for the remainder of the night. Before leaving her, I gave strict orders that the postural treatment be continued until she should be entirely relieved, or until labor should set in with renewed vigor.

The next morning, when I called, I found the patient up, dressed, happy, and as comfortable as the average woman is at that stage of pregnancy. The relief proved permanent. The patient went to full term, and her labor, which occurred February 1st, and the convalescence were normal. The baby, a girl, weighed eight and a half pounds, and has been a sturdy, healthy infant from birth to the present time.

I do not know whether the measures are new or not, but I have never seen them used, nor have I seen them described in any of the medical literature to which I have access.

Uterine Tumors in Infancy, Childhood, and Early Life.—W. Roger Williams says that there are few parts of the body so little liable to tumor formation in early life as the uterus. Myoma: Of the fifty-six cases on his list, only one was under the age of twenty years at the onset. Cancer: This is unknown prior to puberty. Of five hundred consecutive cases the earliest age at onset was twenty-two and a quarter years. Sarcoma: This form of tumor is less rare than the others, but still is exceptional. Holländer reports a case at seven months, and others at one year and a half, two, three, ten, eleven years, etc. A congenital form of mucosal uterine polypus has been met with by Friedländer, Mandach, and Spencer in new-born children. Mandach found it thirty-five times in eighty necropsies. —*Medical Times and Hospital Gazette*, March 23 and 30, 1901.

On the Question of the Advisability of Ligaturing the Jugular Vein in the Treatment of Sigmoid-Sinus Thrombosis.—J. Lacy Firth believes that ligature of the jugular vein in sigmoid-sinus thrombosis need not, in many cases, be regarded as an essential part of the operation, and that it will usually be better practice not to ligate the vein in cases operated upon before embolic abscesses have formed, if a free flow of blood can be established from both ends of the sinus by removal of the thrombi, or if firm, healthy-looking clot is found plugging the sinus at both ends, or at the lower end.—*Bristol Medico-Chirurgical Journal*, March, 1901.

Craniotomy, with the Implantation of Egg-Shell Membrane, for Jacksonian Epilepsy.—William Jones Greer reports a case of this nature of which the salient features were traumatic epilepsy due to a compound fracture of the skull, and the subsequent formation of dense adhesions between brain, membrane, and scalp. The treatment adopted was opening of the dura, which has a curative effect *per se*, possibly by lowering tension, the removal of the diseased motor area in the manner of von Bergmann, and the prevention of adhesions by the insertion of egg-membrane. Four months later, in consequence of a slight injury, the old cicatrix broke down and left a small opening in the scalp, nearly a quarter of an inch in extent, through which could easily be seen a second portion of egg-shell membrane, white and glistening; as it was feared that, by the time this portion would be surrounded by granulations, the old scar might have entirely given way, as it would have very little vascular support until these granulations carried an abundance of life to it,

with fine forceps this second piece of membrane was removed; it came out in its entirety; it was still tough, and stood well the strain of being dragged out, its edges being, apparently, held by granulation tissue. Macroscopically there was no alteration in its structure. Underneath it was a layer of granulations; nothing of the first piece of egg-membrane was to be seen. The small scalp opening soon filled up. Thus the construction of the breach is that next to the brain is the first piece of egg-shell membrane, after that dense fibrous tissue, then scalp.—*Bristol Medico-Chirurgical Journal*, March, 1901.

Resorcin as a Preservative for Suprarenal Extract Solution.—S. Oppenheimer advises the addition of gr. lx. of desiccated suprarenal extract to one ounce of a one-per-cent. solution of resorcin in sterile water. This prevents all putrefactive changes, is non-toxic, and does not in any way impair the full efficiency of the gland.—*Laryngoscope*, March, 1901.

Practical Observations on Infantile Diarrhœa.—F. H. Pirnat divides the treatment into: (1) Hygienic; fresh air, sunlight, bathing, etc. (2) Feeding; lacto-somatose is non-irritating, readily absorbed and assimilated, and does not tax the stomach to the slightest extent. (3) Therapeutic indications are to empty the bowels of all irritating particles of food by calomel gr. $\frac{1}{8}$–$\frac{1}{10}$ doses, or a teaspoonful of castor oil, repeated if necessary every hour. Colonic flushings, stimulants, and opiates are ordered to meet indications.—*The Medical Examiner and Practitioner*, April, 1901.

The Origin of Bile Stones.—F. E. Italia states that attenuated colon and typhoid bacilli are capable of causing a change of the bile in the gall bladder, whereby there is precipitation of the cholesterin, which, cemented by means of mucus secreted by the inflamed mucous membrane, takes on the macroscopic and microscopic appearances of a calculus, with which it is shown to be chemically identical. Chemical action alone does not cause the formation of calculus, neither do dead bacilli, acting as foreign bodies. The path of entrance of the bacilli must be through the bile ducts. It is evident that an infective catarrhal inflammation of the biliary mucous membrane determines the formation of calculi.—*Il Policlinico*, March, 1901.

A Case of Cardiac Suture.—Francesco Lastaria reports the case of a young man who had been wounded in the anterior surface of the right ventricle toward the margin. The author sutured the wound with a continuous suture of about five stitches. Hæmostasis was completely assured. The thorax was explored, and the pleural cavity emptied of all clots and of about a litre of blood. The lung was not wounded. The patient came out of the anæsthetic in good condition, was perfectly conscious, and able to make his deposition to the judge. Intense pain in the thorax developed in the night following the operation, and death occurred at nine o'clock in the morning.—*La Riforma Medica*, March 22, 23, and 25, 1901.

Hyperæsthesia of the Uterus during Pregnancy.—Helga Rüüd reports the case of a pregnant woman who suffered intense pain from abdominal palpation, vaginal examination, and fœtal movements. The patient was obliged to remain in bed, as the upright or sitting position made the pain intolerable. A vasomotor disturbance, consisting of flushing of the face, dilatation of the pupils, and redness of the body, continued throughout pregnancy. Strychnine nitrate was given continuously with a bitter tonic, and various nerve sedatives were tried, but did not relieve the pain, so that morphine had to be given occasionally. There was less pain in the last month of pregnancy. The first stage of labor was intensely painful, some relief being afforded by hot rectal injections. After-pains were unusually severe and called for morphine the first two days after delivery. Ichthyol tampons were applied to the cervix twice a week, from the second week, with intrauterine applications of tincture of iodine, and hot douches were given. The patient was discharged well in three months' time.—*The Woman's Medical Journal*, March, 1901.

Isotonia.—Depierris calls attention to the importance of the theory of isotonia (equality of tension of the blood) in its relation to certain problems in the therapeutics of rhinology. Thus all solutions used in the nose should in a general way have a specific gravity similar to that of the blood; otherwise osmosis is apt to occur. It is well known that the use of solutions of pure water in the nose for any length of time will provoke inflammatory changes which may become permanent. It is, therefore, necessary to estimate carefully the specific gravity of solutions used in conditions of hypertrophic rhinitis, otherwise the efflux of the watery elements of the blood along with certain salts to the nasal mucosa may aggravate the very conditions we wish to remove. In atrophic rhinitis, however, in which there is a lack of moisture, we may purposely make the solutions weak in strength, so that there will be an equalization between their saline percentage and that of the blood. In this way the mucosa will become more freely bathed with moisture and the crust formation be prevented.—*Revue Hebdomadaire de Laryngologie*, March 21, 1901.

Pernicious Anæmia.—William Hunter, as a result of fifteen years' investigations—histological, experimental, clinical, chemical, and etiological—holds that pernicious anæmia is a chronic infective disease of septic origin. In their order of importance the following are the lines of treatment to be followed out: 1. Oral antisepsis, complete in its character, both with regard to diseased teeth, irrespective of absence of pain or discomfort, and to the special lesions of the tongue. 2. Gastric and intestinal antisepsis, in which oral antisepsis is one of the most important measures. 3. Arsenical treatment. Should these measures fail to avert the disease permanently, then four injections of antistreptococcic serum should be given, beginning with small doses (5 c.c.) and taking the precaution, of (1) seeing that the temperature is not in an erratic condition at the time the injection is made, and (2) strengthening the heart's action by means of ammonia and digitalis.—*Medical Press and Circular*, April 3, 1901.

The Pathology and Surgical Treatment of Uterine Tumors in the Nineteenth Century.—W. Roger Williams reviews the history of the pathology and treatment of uterine tumors, too detailed to be satisfactorily abstracted. At the commencement of the twentieth century, he says, the origin of uterine tumors appears to be more closely associated with embryology than with bacteriology. Surgical treatment, by the introduction of anæsthesia, received an extension beyond the dreams of the most visionary. In cases of myomata, the vaginal route and the abdominal both had their advocates. In cases of cancer extirpation was done in France as early as 1801. At the present time the conviction seems to be gaining ground that inasmuch as the disease is seldom limited solely to the uterus, it cannot be eradicated per vaginam, for the object of modern operations is total extirpation of the disease, rather than of the uterus itself. Hence the revival of abdominal total extirpation, in regard to which the author believes that the time has come for giving it serious consideration.—*Medical Press and Circular*, April 3, 1901.

MEDICAL RECORD:

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THE CARE OF THE FOUNDLINGS IN NEW YORK STATE.

THE report published in 1897 by the New York county visiting committee of the State Charities Aid Association, in which it was stated that an annual rate of mortality of about eighty per cent. prevailed among the hapless infants admitted to the institution on Randall's Island, thoroughly aroused public attention to the calamitous state of affairs.

Of course the fact is well known that babies, bereft of their mothers and massed together in large numbers under one roof, are particularly difficult to rear—indeed, in the large majority of instances, die with marvellous rapidity. Consequently the problem set the commissioner of charities seemed almost impossible to solve successfully.

The State Charities Aid Association suggested that the placing-out system, as followed with most encouraging results in Massachusetts and Pennsylvania, should be adopted.

The Association for Improving the Condition of the Poor is also taking up the matter. A joint committee of the two associations was formed and submitted to Mr. Keller, the commissioner of public charities for the boroughs of Manhattan and the Bronx, a proposal that a number of the foundlings should be transferred to boarding-houses in the country. The commissioner immediately fell in with the plan, which has been carried out now since April, 1898.

In the twenty-eighth annual report of the New York county visiting committee the system is referred to as follows:

"The plan of boarding, in carefully selected families, in the country, certain of the foundlings who do not thrive in the infants' hospital either on bottle-feeding or by wet-nursing, was continued during the year though the co-operation of the joint committee of the State Charities Aid Association and the Association for Improving the Condition of the Poor, with most satisfactory results. The death rate among the foundlings boarded in families under the care of this committee during the year, notwithstanding the fact that they were selected in many instances from among the most hopeless of the children in the institution, was $19\frac{7}{8}$ per cent."

So satisfactory has this method of rearing these infants proved that the commissioner of public charities for the boroughs of Brooklyn and Queens asked the committee in the summer of 1900 to take charge of the foundlings coming under his supervision. The committee was not able to accede wholly to this request on account of the additional expense, but an arrangement was arrived at by which the Kings County committee took upon itself to supply the necessary funds, and since October 1st the foundlings received in the borough of Brooklyn and Queens have been boarded in families under the care of the committee.

A Catholic society, under the name of the Guild of the Infant Saviour, has recently been formed, which will follow the plan with the foundlings of their faith, already pursued with such beneficial results by the Protestants.

In January, 1901, says the *New York Tribune*, April 28th, the commissioner of charities arranged that hereafter the foundlings should be baptized alternately at the reception ward of Bellevue Hospital, and might be removed directly thence to boarding-houses instead of being first transferred to the infants' hospital, remaining there a longer or shorter period, and then being taken to the country. "The effect of this arrangement has been that the foundlings who since January have been taken directly to their permanent homes are all alive at present."

The boarding-out system is, without doubt, the most humane and rational mode of dealing with foundlings, and should wherever possible be followed. The large institutions, like the one at Randall's Island, might be classed in the same category as Sing Sing Prison, relics of the dark ages.

VICE AND THE CHURCH.

Leslie's Weekly, April 6th, contains a forcible letter from Dr. William Lee Howard, of Baltimore, with regard to the attitude of ministers of all denominations upon the subject of vice. Dr. Howard takes as the text for his remarks a contribution of Bishop Doane's to the same journal of March 9th, in which he deals with the question as to how vice in our cities can be suppressed, and urges that the only means of attaining this object is religion and the consequent moral rehabilitation of the vicious. Dr. Howard asserts that ministers misconceive the real cause of vice, and that behind the ignorance or indifference of the church arises much of the vice seen in our midst, and that it is owing to their want of knowledge of biological and physiological laws that they unite couples who communicate, transmit, and perpetuate physical and mental unhealthy conditions. Dr. Howard seems to be of the opinion that clergymen should refuse to marry such persons. While it is undoubtedly true that clergymen are too apt to consider the matter entirely from their own point of view, and to ignore physiological facts and problems, yet the fact must be borne in mind that their teaching and training tend to make them regard the situation from a spiritual and moral rather than a mental or physical aspect, and further, that they are not qualified to judge with regard to the fitness or otherwise of those wishing to marry. If laws are to

be made to restrict marriage, they must be made with the concurrence of a majority of the population, of which the clergy, as well as the medical profession, are, after all, but a small part. The people at large must be educated to appreciate the evils resulting to the race from the union of the obviously unfit. When this comes to pass, laws restricting marriage will be enacted without opposition. It is within the physician's province thus to educate both the clergy and the general public.

THE CAUSATIVE AGENT OF VARIOLA AND VACCINIA.

THAT smallpox is a specific infectious disease has long been recognized, although doubt has prevailed as to its relation to cowpox and as to that of both to vaccinia. Now, it may be safely reasoned that the development of vaccinia in human beings as a result of inoculation with cowpox, accidentally or intentionally, is proof of the identity of the causative factors of both conditions, while the protection from smallpox conferred by vaccinia is at least circumstantial evidence of close relationship, if not actual identity, between cowpox and smallpox, the former being probably an attenuated or modified variety of the latter. Further, calves have been successfully inoculated with smallpox, with the development of conditions identical with those of cowpox.

Efforts have for a long time been directed to the isolation of the hypothetical exciting agent of variola and its modifications. Sacco, in 1809, found granules in vaccine lymph; Beale, in 1863, minute transparent or hyaline particles; Hallier and Zurn, in 1867, and Keber, in 1868, micrococci; Chauveau and Burdon-Sanderson, in 1868, minute granular bodies; Cohn, in 1872, again micrococci; and since then numerous observers have found different organisms. L. Pfeiffer, in 1887, although he noted the presence of both fungi and bacteria, expressed the belief that the specific agent was a sporozoon. Renault, in 1881, had already described, in the epithelial cells of the vesicles in cases of vaccinia and variola, peculiar bodies that he regarded as parasitic; and subsequent observers, including also Pfeiffer, have made further studies that strengthen the probability that the cause of these disorders is really a protozoon. It is not unlikely that many of the bodies described are merely accidental, and experience has amply shown that if they be removed—as occurs in the present methods of preparing glycerinated lymph—the usual unpleasant complications of vaccinia are generally avoided.

In a recent communication Funck (*British Medical Journal*, February 23, 1901, p. 448) adds further evidence in support of the view that the protozoon described by Pfeiffer is the actual cause of variola and vaccinia. He found that, after permitting autosterilization of glycerinated lymph, he was still able to excite characteristic pustules, whose contents likewise were sterile. Microscopical examination of fresh vaccine disclosed the presence of clear spaces, and of dry and stained preparations of vaccine and of the contents of variolous pustules, the presence of ovoid transparent vacuoles resisting the action of aniline stains. The parasite appeared in three forms, representing different stages in its evolution. The designation sporidium vaccinale is proposed for the organism, which can be studied conveniently only in fresh preparations in emulsions made with bouillon or physiological salt solution. By fishing out the bodies with a platinum spatula, making an emulsion with a drop of bouillon, and inoculating a calf, it was possible to develop characteristic pustules. The animal thus treated further was found to be insusceptible to subsequent inoculation with vaccine.

Copeman (*British Medical Journal*, February 23d, p. 450) has detailed an ingenious method for cultivating the supposed microbe of variola and vaccinia. Having concluded that the culture medium must be a living one, he was led to introduce into the peritoneal cavity of rabbits and dogs collodion capsules containing a small amount of beef broth inoculated with a trace of glycerinated lymph free from microbes. On staining with methylene blue and examining microscopically film preparations of such capsules as remained unruptured, numerous zoöglœa masses were visible, made up of bodies resembling spores, and only the periphery of which took the stain. The fluid contents of the capsule were found also capable of inducing the typical eruption of vaccinia in calves, although the contents of control capsules, placed in test tubes partly filled with beef broth and exposed to body temperature, yielded no result. Apparently similar microorganisms, often in extraordinary numbers, were found also in the epithelium of vesicles in vaccinia in the calf, and also in the contents of the vesicles of human smallpox.

TWENTY-EIGHTH ANNUAL REPORT OF THE NEW YORK COUNTY VISITING COMMITTEE UPON BELLEVUE HOSPITAL.

THIS report for Bellevue Hospital for the year 1900 is of more than ordinary interest because of the bright light which has been recently thrown upon the management of the institution, owing to the scandals which arose in connection with the alleged ill-treatment of the insane within its walls. The report of the visiting committee, proceeding as it does from an independent source, should be at the present juncture of especial value, it being likely neither to gloss over nor to exaggerate defects. It is somewhat reassuring consequently to observe that in the opinion of the committee decided progress seems to have been made in many important respects with regard to the general conduct of the institution.

For example, since 1899 the unpaid or convalescent helpers have been reduced in number from one hundred and eighty-seven to sixty-one, while workhouse help has been abolished entirely. In 1870, when the capacity of the institution was but seven hundred and fifty beds, it contained seven hundred and seventy-nine patients, the nursing was carried on by workhouse women, and the condition of the place is said to have been such that it was considered a degradation for any

decent woman to undertake the duties. The wards, too, are kept as clean as is possible in so antiquated a building.

The fact, however, remains as obtrusive as ever, that the conglomeration of, for the most part, out-of-date erections known as Bellevue Hospital is neither adequate nor adapted to the purposes for which it is used.

The following statement of the committeee should be alone sufficient to demonstrate the need for root-and-branch reform:

"The most serious and urgent need at Bellevue Hospital is that of proper quarters for the employees. The employee should be of a class that will care for patients as they should be cared for, and if the quarters are miserable the class of employee is apt to be the same. . . . Some of the employees sleep in the basement of the hospital, some in the wards, others are scattered here, there, or anywhere. There is not a single sitting-room for any of them in any part of the building. How can proper persons be content to live in this forlorn manner?"

It is undoubtedly of the first importance, if a hospital is to do good work, that both patients and employees should be housed decently. Therefore, the first step to be taken to render Bellevue Hospital beneficial to the sick and injured, and efficient as a training-school for nurses, would appear to be to raze the existing incongruous structures, and to erect in their stead a well built and equipped modern hospital.

SURGICAL TREATMENT OF MIGRAINE.

CERTAIN analogies are apparent between epilepsy and migraine, both being considered nerve-storms, the one involving especially the motor, the other especially the sensory, sphere. Further, both may be inherited, both occur in paroxysms, both may be preceded by an aura, both may exhibit a hemiplegiform, a paraplegiform, or a monoplegiform character, and, finally, the one disease may alternate with the other, in the same family, between parent and child, between brother and sister, and even in the same individual. From the practical point of view it may be added that both are at times most resistant to treatment, although palliation can usually be afforded by means of bromide. In view of this last fact a statement made recently by Whitehead (*British Medical Journal*, February 9, 1901, p. 335), to the effect that during the last twenty-five years he had never failed to treat successfully the most inveterate and severe cases of migraine by introducing an ordinary tape seton through the skin at the back of the neck, is worthy of respectful attention. Some of the cases have been of excessive intensity, and all had been previously under medicinal treatment without relief. In one, it is related, the attacks had recurred every few weeks for six years, and were attended with complete prostration, violent headache, and nausea and vomiting for periods of from twelve to twenty-four hours. The introduction of a seton was followed by cessation of the attacks.

In performing the slight operation the skin at the back of the neck is grasped between the fingers and the thumb of the left hand, and the tissues are transfixed behind the fingers with a long-bladed scalpel. Before the knife is removed a long probe provided with a suitable eye is passed through the wound, following the knife as a guide, and the scalpel is withdrawn. A piece of ordinary household tape, one-half inch wide, is then attached by a ligature to the eye of the probe, which is pulled through the wound, bringing the tape with it. Four inches of tape are left free at either side, and the ends are tied together to prevent the tape from being accidentally withdrawn. Each day the tape should be moved from side to side. If performed with moderate dexterity, the operation need occupy only half a minute, and nitrous oxide will suffice as an anæsthetic. The seton should be worn uninterruptedly for three months at least in the first instance, and a second seton should be introduced if the symptoms recur. Continuing the analogy spoken of at the beginning of these remarks, the application of the same measure to the treatment of epilepsy naturally suggests itself; and although the procedure is one that does not inherently commend itself, nevertheless its trial in the conditions under consideration would be wholly justifiable.

News of the Week.

Dr. A. O. J. Kelly has been elected professor of the theory and practice of medicine in the University of Vermont.

Dr. Clarence A. Veasey has been elected ophthalmic surgeon to the Methodist Episcopal Hospital of Philadelphia.

Philadelphia Hospital.—An active movement is on foot to separate the almshouse from the Philadelphia Hospital, extensive improvements to which are in contemplation.

Private Hospital for Contagious Disease.—The movement for the erection in Philadelphia of a hospital for contagious diseases for private patients has received additional impetus. Encouraging reports have been received from various sources, and it is said a site for the buildings has been secured in the suburbs, convenient of access.

American Proctologic Society.—The third annual meeting of this society will be held at the Hotel Aberdeen, St. Paul, Minn., on June 4 and 5, 1901, under the presidency of Dr. James P. Tuttle, of New York. The secretary is Dr. William M. Beach, of Pittsburg, Pa.

Dinner of the Harlem Medical Association.—This society gave its annual reception and dinner at the Hotel Majestic on Wednesday evening, April 17th. Covers were laid for two hundred and fifty guests. The dinner, which was at 8:30, was preceded by a reception in the parlors of the hotel and was followed by an entertainment, speaking, and an informal dance. Speeches were made by Drs. John A. Wyeth, A. G.

Gerster, M. R. Richard, and Emil Mayer, the Rev. George R. Van De Water, and Dr. L. J. Ladinski, chairman of the dinner committee. The officers of the association are: *President*, Dr. M. R. Richard; *Vice-President*, Dr. J. B. Lumbard; *Secretary*, Dr. W. K. Luckett; *Treasurer*, Dr. W. H. Stewart.

Cecil County (Md.) Medical Society.—Dr. Joseph W. Wallace, of Chesapeake City, has been elected *President*, Dr. John H. Jamar, of Elkton, *Treasurer*, and Dr. H. P. Hinchcliffe, *Secretary*.

Philadelphia Polyclinic and College for Graduates in Medicine.—Dr. Samuel D. Risley has resigned from the chair of ophthalmology and has been elected emeritus professor. Dr. William Campbell Posey has been elected his successor.

The New York Academy of Medicine.—At the meeting to be held on Thursday evening, May 16th, there will be a memorial address on the late Dr. S. S. Purple, formerly president of the Academy, by Dr. Stephen Smith; papers on "Sitophobia of Enteric Origin and on Syphilis of the Liver," by Dr. Max Einhorn; on "The Intestinal Intoxication Occurring in Mucous Colitis in Young Children," by Dr. Henry Koplik. Discussions by Drs. Jacobi, Chapin, Northrup, Southworth, and others.

The New York State Hospital for the Care of Crippled and Deformed Children, at Tarrytown, N. Y., will be opened on Friday, May 17th, from 3 to 5 P.M. The Right Rev. Henry C. Potter, D.D., president of the hospital, will preside. Short addresses will be made by Prof. Robert F. Weir, M.D., of Columbia University, Prof. A. Alexander Smith, M.D., of the University of the City of New York, and Prof. William M. Polk, M.D., of Cornell University.

The Edward N. Gibbs Memorial Prize Fund.—The New York Academy of Medicine has received $10,000 from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of the Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing in the medical profession of the United States of America who shall present the best original essay upon the etiology, pathology, and treatment of the diseases of the kidney.

An International Sanitary Treaty.—Two South American states, Argentina and Uruguay, have made a treaty of sanitary alliance and protection as regards infectious diseases, especially bubonic plague. It provides for mutual inspection and quarantine arrangements sufficient to protect either country from invasion of disease from the other, without any undue interference with communications or commerce. It would be well if the example thus set were imitated by other nations.—*British Medical Journal.*

An Insane Doctor Stabs His Fellow Patients.—A despatch to *The Sun* from Stockholm says that Dr. Nehrman, a patient in a small private hospital at Grenna, suddenly became mad recently and stabbed a widow and three girls who were inmates of the place, killing one of the latter. He ran about the streets throughout the night and stabbed five persons, three of whom were dangerously wounded. He was ultimately captured and imprisoned. One of the women killed was a nurse in the institution, a Miss Von Deuben, who is said to have served some years ago in a hospital in this city.

Nurses' Home of the Presbyterian Hospital.—Work on the Home for Nurses to be erected by the Presbyterian Hospital on East Seventy-first Street, between Park and Madison avenues, is delayed owing to a temporary injunction granted in the supreme court last month. Application has been made to have the injunction made permanent. A resident of Seventy-second Street, directly in the rear of the new building, objected to it, and he was joined by neighbors who declared that the erection of the home was in violation of restrictions placed in the deeds of property in the block. In the application for the injunction it is declared that the home will be "noxious and offensive."

Medical Society of the State of New York.—At the ninety-fifth annual meeting of the State Society in Albany last winter, it was decided to hold a semi-annual meeting in the city of New York early in October. Final arrangements have been made for this meeting, which will be held at the New York Academy of Medicine on Tuesday and Wednesday, October 15 and 16, 1901. There will be a morning and an afternoon session on Tuesday, and Tuesday evening the society will tender its members and guests a reception to be held at Delmonico's. There will be a morning and afternoon and an evening session on Wednesday. These sessions will be devoted entirely to scientific work. Members wishing to read papers are requested to communicate with Dr. Nathan Jacobson, 430 South Salina Street, Syracuse, N. Y., and information of any other nature can be obtained from Dr. Frederick C. Curtis, secretary, 17 Washington Avenue, Albany, N. Y., or from Dr. Frank Van Fleet, associate secretary, 63 East Seventy-ninth Street, New York City. In order to increase the facilities for the admission of permanent members of the society, it was voted at the last annual meeting that each county society should be allowed to send five times the number of delegates it had formerly sent to the State society. These delegates are elected for a term of three years, and are eligible for permanent membership if they register twice during that time. This will make the number of delegates from the county society to the State society seven hundred and fifty in all, or one delegate for every eight or nine members of county societies, without increase of expense to the county societies.

The Plague.—A Japanese woman died of the bubonic plague in Honolulu on March 28th, but no other cases have occurred so far as the authorities have ascertained. An increase of both plague and smallpox is reported from Manila. Most of the Manila cases are among the Chinese. Consul McWade at Canton reports that in the village of Chan-Tsin, twelve miles

west of that city, there are from twenty to thirty deaths daily from plague. The population of the place is only about four thousand. Plague riots have occurred at Sialkote, where the military has been summoned to suppress the mob. The people have risen against the authorities, and in a struggle between the plague officer and his assistants on the one side and rioters on the other twenty villagers were killed. Twenty-five villages are in revolt in the district, and several hospital assistants have been killed or wounded.

Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases.—Governor Stone has appointed Dr. L. Webster Fox a trustee on behalf of the State.

Typhus Fever is reported to be prevailing extensively in Mexico City and Vera Cruz, and quarantine has been declared at the Texas border against passengers from Mexico, and at Havana against those coming from Vera Cruz.

Cottage Hospitals in Canada.—Countess Minto, wife of Canada's governor-general, has written a letter to the mayor of Ottawa stating her willingness to become the head of a movement to establish cottage hospitals throughout Canada.

Emergency Hospital at Union Hill, N. J.—An emergency hospital was opened on Sunday last in the old Gardner mansion, at Union Hill, N. J. The house was purchased by a society of women with money realized from entertainments, fairs, and subscription lists. It has twenty-five beds, a well-equipped operating-room, a staff of trained nurses, and a resident physician and surgeon.

The Infectiousness of Cancer.—We regret to learn that Dr. Joseph Eisen, of San Francisco, with whose excellent work in the study of the supposed micro-organism of carcinoma our readers are familiar, has been operated upon in St. Luke's Hospital in that city for cancer. The operation was successful and the patient is recovering. Dr. Eisen believes that he became inoculated with the cancer microbe while studying the germs through the microscope.

The Health of New York State.—According to the report of the State board of health, there were during March 11,913 deaths in the State from all causes and a death rate of 19.2; a decrease from a daily rate of 394 in February to one of 384. During the first three months of the year there have been 35,529 deaths, including delayed returns, a daily rate of 395, which exceeds that of the same months in 1900 by 12 deaths daily. Grippe is estimated to have caused during March about 1,500 deaths, the same as in February.

Resignation of Dr. Tracy from the Health Department.—Dr. Roger Sherman Tracy, the registrar of the Bureau of Vital Statistics of the New York health department, tendered his resignation to the health board May 1st. It was accepted. No successor was appointed. The board granted Dr. Tracy a pension of $1,200 a year. His salary was $4,000. Resolutions of regret at his retirement and praising him for his services were passed. Dr. Tracy had served thirty years in the department, having been appointed an inspector of the health department on October 7, 1870.

Philadelphia Polyclinic.—Dr. Ralph W. Seiss has resigned as professor of diseases of the ear, and Dr. Francis R. Packard has been elected to fill the vacancy. Dr. B. M. Randolph, at present in charge of the department of pathology at the Richmond Medical College, has been elected dean in succession to Dr. Packard and also director of the laboratories.

An Inspection of the State Institutions.—Governor Odell is arranging to visit the fourteen State hospitals for the insane, the sixteen State charitable institutions, the three State prisons, and the State reformatories. The purpose of these visits is to enable the governor to familiarize himself with the work and needs of the State institutions, the number of employees needed, and the extent of their compensation.

War on Mosquitos.—The South Orange (N. J.) Village Improvement Society will try to rid that community of mosquitos during the coming season, and has appointed a committee which will seek to carry its resolutions into effect. It is the intention of the society to advocate the abandonment of rain barrels, the screening of water tanks in houses, and the placing of a thin layer of crude oil in cesspools and in pools of stagnant water which it is not practicable to drain. A free lecture on mosquitos will be delivered in the village shortly by Prof. L. O. Howard, of the Department of Agriculture, Washington.

Ambulance Races.—The young men in charge of the hospital ambulances in this city decidedly need looking after, if the accounts of their varied performances which the daily papers give are not grossly exaggerated. About once a week an ambulance surgeon diagnoses a case of fracture of the skull or of apoplexy as "a drunk," and refuses to take the patient, who subsequently dies—not from alcoholism. Not long since an ambulance surgeon refused to enter an apartment house where there had been a fire, to see a person who had been injured, alleging that the place was wet, and he might catch cold. But, not content with simple neglect of duty, the ambulance surgeons have of late taken to the sport of racing on the city streets. The papers of Sunday last contained an account of a race between the auto-ambulances of Roosevelt and the Presbyterian hospitals, in which the lives of two patients in the ambulances and of hundreds of persons in the streets were placed in peril. Accord ing to *The Times*: "There has been heated rivalry between the two hospitals over these auto-ambulances. Each vehicle is of the best pattern and can be run at a terrific rate of speed, as was shown last night. Other automobiles that tried to keep up with them were easily distanced. The last time a race occurred between the auto-ambulances of these hospitals the chauffeurs fought over the race and the merits of their machines, and got arrested. The race last night began at Fifty-seventh Street and Fifth Avenue, when the ambulances met. Dr. Linden had a destitute patient

from the Presbyterian Hospital, William Burden, seventy years old, whom he was transferring to Bellevue. Dr. Royce had Fanny Johnson, a colored woman, ill with grippe. She was a transfer patient. As soon as the chauffeurs saw each other's vehicles, they let their levers out to the fullest extent and the auto-ambulances, with bells a-clang, shot out past all the rest of the vehicles on the avenue. They fairly leaped along, and other chauffeurs and drivers and pedestrians got out of the way as quickly as possible. At Twenty-sixth Street and First Avenue the ambulances shot over the car tracks dashboard even with dashboard. Neither could gain, but the Roosevelt Hospital ambulance was on the inside. This gave the right of way. There is only room for one vehicle to pass through the gate at a time, and this gave the race to Roosevelt Hospital."

Philadelphia Neurological Society.—At a stated meeting held April 22d, Dr. Alfred Gordon exhibited "A Case of Tea Intoxication with Spinal Symptoms." The patient was a woman who for many years had drunk tea in excessive amounts, sometimes in the form of an infusion, at other times in that of a decoction, at one time in the enormous amount of forty-five cups daily. At such times she of course took little other nourishment, and she was consequently quite anæmic. She presented among other things ataxia of gait and station, with exaggeration of knee jerks and other reflexes, together with areas of anæsthesia and other symptoms suggestive of hysteria. Distinct improvement followed upon abstinence from tea, but the patient was unable to resist temptation, and a return to her previous excesses was attended with an exacerbation of the symptoms. The question was raised whether the symptoms of spinal disease could be attributed to tea intoxication, to the secondary anæmia, possibly to lead intoxication, or some other obscure form of metallic poisoning. Dr. J. Chalmers Da Costa exhibited "A Case of Trichiniasis" in a young man who had apparently been well until after being struck on the calf of the leg by the pedal of a bicycle in the course of a long ride, without the development of any external laceration. Subsequently he took up his residence with a milkman, and he indulged largely in fried pork. He presented himself on account of swelling of the muscles of the leg, which stood out with marked distinctness. After a time the thigh of the corresponding side also became enlarged. The enlarged muscles were extremely hard and suggestive of pseudo-hypertrophic paralysis, and as there had been no premonitory symptoms referable to the gastro-intestinal tract or in other muscular situations than the one calf, trichiniasis was tentatively excluded. Examination, however, of a bit of excised muscle disclosed the presence of encapsulated trichina spiralis in large number. Examination of the blood disclosed at first an absence of leucocytosis, although this subsequently developed in moderate degree, but without increase in the eosinophile cells. Dr. Max H. Bochroch exhibited "A Case of Rhizomelic Spondylosis." The patient was a young medical man who had had several attacks of rheumatism and also an attack of gonorrhœa. He exhibited marked rigidity of the spinal column, with pain on attempts at active or passive motion, impaired mobility at the shoulder-joints and the hip-joints, with exaggerated knee jerks, girdle sense, and other paræsthesiæ. Drs. William E. Hughes and William G. Spiller reported "A Case of Severe Anæmia with Changes in the Spinal Cord." During life the existence of spinal lesions was not suspected, but post-mortem examination disclosed diffuse sclerosis of the cord, particularly in the upper portion, with thickening of the coats of the blood-vessels. Dr. W. W. Keen read a paper entitled "Report of a Case of Secondary Suture of the Posterior Interosseous Nerve, with Complete Re-establishment of Function." The nerve had been divided accidentally through an incised wound inflicted by an axe, and the most conspicuous symptom was weakness of the extensors of the fingers, particularly the central ones. After an interval of three months the ends of the nerves were exposed, freshened, and united, and re-establishment of function was noted within little more than a week, progressing until almost perfect. Injuries of this nerve are extremely rare. Dr. David Riesman reported "A Case of Intermittent Claudication." The patient was a man addicted to excess in the use of tobacco both by smoking and by chewing, who for a number of years suffered from pain and paræsthesia in one leg, with interference in locomotion after walking even a short distance. In the attacks pulsation could not be detected in the peripheral vessels of the affected member. The urine contained albumin, but no tube casts could be found. Some relief followed treatment with massage, mercury, and iodide, although no history of syphilis could be elicited. The disorder is dependent upon obliterative endarteritis, intensified perhaps by arterial spasm. It has been observed also in lower animals and was first described by veterinarians in horses. Its characteristic symptom is the intermittent limping, with loss of pulsation in the peripheral vessels.

The Minnesota Marriage Law.—The so-called "Chilton marriage law," as finally passed by the Minnesota State legislature, provides that "no woman under the age of forty-five (45) years or man of any age, except he marry a woman over the age of forty-five (45) years, either of whom is epileptic, imbecile, feeble-minded, or afflicted with insanity, shall hereafter intermarry or marry any other person within this State. It is also hereby made unlawful for any person to marry any such feeble-minded, imbecile, or epileptic person or any one afflicted with insanity." State officials are forbidden to issue marriage licenses, and clergymen and others are forbidden to solemnize marriages in cases in which either of the parties is afflicted with any of the diseases mentioned. Violation of any of the provisions of the act is punishable by a fine of not more than $1,000, or by imprisonment in the State prison for not more than three years, or by both such fine and imprisonment.

A School for Backward Children, with provision for classes not exceeding seventy-five pupils, has been established in Philadelphia by the Civic Club and the

Public Education Association, and whose support the city is being asked to undertake. Only children that do not get along in the regular classes are received, while those sufficiently defective to be worthy of admission to institutions are not accepted. The results of the operation of the school have thus far been most satisfactory, some of the pupils having been returned to the public schools. The system of instruction comprises individual training, and includes, in addition to instruction in the ordinary elementary school branches, manual and physical exercises.

The Connecticut Medical Society.—The next annual meeting of this society will be held at Hartford on May 22d and 23d, and not on May 15th and 16th as had been announced.

Smallpox in Sydney.—Sydney, New South Wales, is again the unfortunate victim of an epidemic. This time it is suffering from smallpox, which is a disease that Australia has taken great pains to keep at bay.—*The Hospital.*

The Salem County (N. J.) Medical Society has elected the following officers for the ensuing year: *President*, Dr. E. E. De Grofft; *Vice-President*, Dr. B. A. Waddington; *Secretary and Treasurer*, Dr. H. Chavanne; *Reporter*, Dr. W. H. Carpenter; *Censor*, Dr. N. S. Hires.

Dr. Adami at the Brooklyn Medical Club.—Prof. J. George Adami, of McGill University, Montreal, will deliver an address under the auspices of the Brooklyn Medical Club, on Friday, May 17th, at 8:30 P.M., in the Medical Library Building, 1313 Bedford Avenue. His subject will be "The Medical Aspect of Heredity."

The Medical Society of the State of North Carolina.—The forty-eighth annual meeting of this society will be held at Durham on May 21, 22, and 23, 1901, under the presidency of Dr. Julian M. Baker, of Tarboro. The secretary is Dr. George W. Pressly, of Charlotte, and the committee of arrangements is composed of Drs. A. G. Carr, N. P. Boddie, and N. M. Johnson, of Durham.

The Indiana State Medical Society will meet in its fifty-second annual session at South Bend, on May 15, 16, and 17, 1901, under the presidency of Dr. G. W. McCaskey, of Fort Wayne. The secretary is Dr. F. C. Heath, of Indianapolis. Dr. John A. Wyeth, of this city, will deliver an address on the evening of May 16th.

Births, Deaths, and Marriages in Great Britain.—In Great Britain in 1899 the marriages reached the highest number recorded since 1876, aggregating 262,834, or 16.5 per 1,000. The births numbered 928,646, equal to 29.3 per 1,000. There were 37,124 illegitimate children born; the deaths numbered 581,799, equal to 18.3 per 1,000, and there were 2,844 suicides.

The American Medico-Psychological Association.—The fifty-seventh annual meeting of this association will be held in Milwaukee, Wis., on June 11, 12, 13, and 14, 1901, under the presidency of Dr. P. M. Wise. The annual address will be delivered by Warren P. Lombard, professor of physiology in the University of Michigan. The subject will be "Re-enforcement and Inhibition of Nervous Processes." The committee of arrangements of the American Medico-Psychological Association hopes to obtain from the railroads the privilege of a stop-over at Milwaukee on the return trip from St. Paul by those who first attend the meeting of the American Medical Association at that point and who desire to attend the Milwaukee meeting later.

Austrian Census.—Preliminary reports of the Austrian census, taken on December 31st last, give the population of Austria as 26,107,304 and that of Hungary as 19,203,531. The total population of the empire, including Bosnia and Herzegovina, is probably about 47,000,000, an increase of a little over nine per cent. since 1890. The population of Vienna is 1,635,647, and that of Budapest 729,383.

Physiologists' Congress.—The International Congress of Physiologists will hold its fifth meeting next autumn at Turin, Italy. Prof. Angelo Mosso is the president and in addition to three general secretaries for each of the three official languages, French, German, and English, Prof. Frederic S. Lee, of Columbia University, secretary of the American Physiological Society, will act as secretary in America. Any one who wishes to become a member of the congress—the membership of which is open to any member of a physiological or purely scientific society—or any person proposed by a national committee should communicate with Dr. Z. Treves, Corso Raffaelo 30, Turin, before the beginning of August, at the same time forwarding a fee of ten francs, which is to go toward the expenses of the congress.

Immigration to Cuba.—The division of the insular affairs of the United States War Department has just published the following facts with regard to immigration to Cuba for the calendar year 1900: The total number of immigrants arriving at Havana during 1900 was 14,578. The Chinese immigrants numbered 226; 17 from the United States, 18 from the United Kingdom, 106 from China, 16 from British North America, 62 from Mexico, and 7 from South America. The Filipino contribution numbered 7. Six Japanese and 3 Koreans came from the United States. Most of the immigrants were Spanish, the total number being 12,935, of whom 12,094 were from Spain, 396 from Mexico, and 346 from the United States. The immigration from other nations was: English, 148; French, 195; Italian, 304; Mexican, 225; German, 99.

Census of India.—According to the Bombay correspondent of the London *Lancet*, contrary to expectation, many places in India show an actual diminution in population as compared with the census of 1891. On the other hand, there are several instances of extraordinary urban increase. Howrah, on the opposite bank to Calcutta, shows an increase of 34 per cent.; Rangoon, an increase of 29 per cent.; and Naina Tal,

an increase of 45 per cent. Delhi, Cawnpore, Jubbulpore, and Lahore also show increases, but in Lucknow, Benares, Bangalore, and Bombay there have been small declines.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending May 4, 1901. Assistant Surgeon B. L. Wright ordered to the *Massachusetts*, May 1st. Assistant Surgeon S. S. Rodman detached from the *Adams* and ordered to the *Alert*, May 11th. Surgeon H. L. Law, retired, detached from the recruiting rendezvous, Buffalo, N. Y., and ordered home.

Philadelphia County Medical Society.—At a stated meeting held April 24th, Dr. John B. Roberts demonstrated "A Case of Insertion of an Artificial Vitreous after Evisceration of the Eyeball," illustrating the mobility of the globe and avoidance of the characteristic appearance of an artificial eye. Dr. Roberts demonstrated also "A Case of Rhinoplasty after Loss of the End of the Nose." The nose had been almost entirely destroyed by the application, on the advice of an irresponsible practitioner, of some actively caustic agent, and the parts were restored and a satisfactory nose was formed by means of flaps obtained from the adjacent cheek. Dr. J. Dutton Steele read a paper entitled "The Present Aspect of the Antitoxin Treatment of Diphtheria," in which he rehearsed statistics showing the marked reduction that has steadily taken place as a result of the constantly increasing employment of the antitoxin. Dr. Steele laid particular stress upon the importance of immunizing injections for those exposed to infection and in the presence of epidemics that persist in spite of all of the usual precautions. Emphasis was placed also on the demonstrated possibility of infection from diphtheria bacilli in the healthy throats of apparently uninfected individuals. Dr. F. A. Packard read a paper on "The Clinical Manifestations of Diphtheria," in which he pointed out the atypical character of the symptoms and their deviation from the clinical picture described by earlier writers. The differential diagnosis can be made only by bacteriological examination, as any and all of the clinical phenomena may be present quantitatively and qualitatively in any of the disorders resembling diphtheria. Dr. J. P. Crozer Griffith read a paper on "The General Treatment of Diphtheria," in which he discussed, apart from the use of antitoxin, the employment of local applications and the administration of such remedies as calomel and tincture of iron chloride. Dr. A. C. Abbott spoke of "The Bacteriology of Diphtheria," pointing out that the so-called pseudo-diphtheria bacilli are probably in all instances true diphtheria bacilli of attenuated virulence, but which may nevertheless become a source of danger by a return of their virulence or their reception into the bodies of susceptible individuals. Dr. Richard M. Pearce discussed "The Pathology of Diphtheria," and illustrated his remarks with lantern slides. He exhibited especially sections of the myocardium and of the kidneys, showing the profound changes that take place in both of these organs even at a comparatively early date. Dr. Joseph McFarland spoke of "The Mode of Action of the Antitoxin," in which he assented to the view that this is largely if not wholly of a chemical nature. Dr. M. Howard Fussell spoke of the importance of early treatment and the employment of adequate doses in order to secure the desired result.

The Late William H. Draper, M.D.—At a special meeting of the medical board of St. Luke's Hospital the following memorial notice of the death of Dr. William H. Draper was adopted:

"The medical board of St. Luke's Hospital desires to express its deep sense of loss in the death of their beloved associate, Dr. William H. Draper. His services began with the opening of the hospital in 1857, when he was appointed attending physician, the other members of the medical staff being Dr. Alonzo Clark, Dr. T. G. Thomas, and Dr. C. F. Heywood. In 1867 he resigned, and was appointed consulting physician, and held this position up to the time of his death, having retained an intimate connection with the interests of the hospital for the long period of forty-four years. Dr. Draper possessed intellectual, social, and moral qualities that made him in many ways an ideal physician. He was a careful and thorough diagnostician. His sound judgment gave him the confidence of his patients and his professional brethren, while his kindliness of heart and a peculiar charm of manner won him hosts of friends. His distinguished career will be remembered with pride by the profession which he adorned, but those who enjoyed the pleasure of a long friendship with him will always feel that the man himself was the chief attraction. The sterling principles of his character, his uprightness, his loyalty, and his lovableness were the qualities which made his friends love him even more than they admired his great ability as a scientific physician. Farewell for a time, dear friend. We mourn for you but for a short time only. The old friendships will be renewed surely. V. H. Norrie, M.D., *Secretary*."

Obituary Notes.—Dr. Irving C. Rosse, of Washington, died in that city on May 3d, at the age of fifty-four years. He was a native of Maryland and was a graduate of the medical department of the University of Maryland in the class of 1866. He served in the medical corps of the United States army from 1863 to 1874, and was surgeon of the United States steamer *Corwin* on two polar expeditions. He was a member of the American Medical Association, of the Medical Society of the District of Columbia, of the American Anthropometric Society, of the American Neurological Association, and of the New York Medico-Legal Society. He was a ready writer and was a frequent contributor to encyclopædic and periodical literature.

Dr. Abraham Deyo died at Gardiner, Ulster County, N. Y., on May 4th, at the age of seventy-one years. He was a graduate of the College of Physicians and Surgeons, Columbia College, N. Y.

Dr. Samuel K. Lyon, of this city, died on Friday of last week very suddenly of hæmoptysis, at the age of sixty-three years. He was a graduate of the College of Physicians and Surgeons, Columbia University, New York, in the class of 1866. He was surgeon to

the police department for over thirty years. He was a member of the County Medical Association, the County Medical Society, the Academy of Medicine, and the Physicians' Mutual Aid Association.

Dr. Harold Snowden, editor of the Alexandria, Va., *Gazette*, and a veteran of the Civil War, died at his home in that city on May 4th at the age of sixty-five years.

Dr. J. J. Ross, who was Premier of the Province of Quebec from 1884 to 1887, died in Montreal recently at the age of sixty-eight years. He was appointed to the Canadian senate in 1887, and in 1891 became speaker of that body, a position he held until 1896, when he joined the administration of Sir Charles Tupper, which was defeated a few months later. He was a graduate in medicine of McGill University.

Dr. David H. Bartine died at Merchantville, N. J., on May 3d, at the age of sixty years. He was graduated from the medical department of the University of Pennsylvania in 1862, and in the same year entered the army as assistant surgeon of the 114th regiment Pennsylvania volunteers. Subsequently he was assigned to General Meade's headquarters as surgeon and promoted to the rank of major. He was honorably discharged in 1866 and took up his residence at Merchantville.

Dr. M. Albert Rhoads died at Reading, Pa., on May 4th, at the age of fifty-three years. He was secretary of the Reading Society of Natural Sciences, ex-president of the Reading board of health, at one time a pension examiner, and for twenty-five years chief of staff of St. Joseph's Hospital.

Dr. Percy M. Graham died at Philadelphia on April 23d, at the age of forty years. He was graduated from Jefferson Medical College in 1888, but soon thereafter symptoms of meningitis following a blow upon the head in earlier life by a base-ball bat developed and eventuated in blindness, and this together with general ill-health cut short his career.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

VITAL STATISTICS—BIRMINGHAM CONSULTING SCHEME—HOSPITAL MANAGEMENT; EXAMPLES, NATIONAL, OPHTHALMIC, ORTHOPÆDIC—PRINCE'S FUND—LETTSOMIAN LECTURES—MILROY LECTURES.

London, April 19, 1901.

The sixty-second annual report of the registrar-general has just been issued. It gives the various statistics for the year 1899. If this seem a little late you will remember that quarterly returns have been published in the mean time, and that the mass of figures requires time for setting forth in due order. The population on which the various rates are reckoned is of course only an estimate—so far as concerns the changes that have taken place since the last census. The figures of the census just taken will in due time be available for our vital statistics. Meantime I may note a few as to the year 1899. The marriage rate was higher than in any year since 1876. This rate has been increasing each year from 1895. The birth rate has, however, fallen instead of rising—a fact which many regard as ominous. The previous year was the lowest recorded since the registration system began, in 1837. Now the record has been passed by a slight additional decrease. The deaths are calculated to be at the rate of 18.3 per 1,000—not far off the average for the decade, which was 18.4.

The promoters of the Birmingham Consultative Institute seem determined to carry out their scheme. Dr. Irvine's resignation, which they declared would not be proffered, has been sent in as I reported, and advertisements are now issued for a physician and surgeon to carry on the plan. The committee have come to the conclusion that there is no hope of an agreement with the profession—so I read in the local papers. Mr. Arthur Chamberlain and his few supporters continue to tilt against the Birmingham doctors, but without effect. These gentlemen have been insulted by the supporters of the Institute, and cannot see why they should provide charity for Mr. Chamberlain's workmen. Let them only hold together and ostracise any man who accepts office at the Institute. Then his doing so may bring him before the Medical Council, notwithstanding Mr. Chamberlain's threat to seek legal interference.

The editor of *The Nineteenth Century and After* has admitted an article by Mr. Burford Rawlings, the "secretary-director" of the National Hospital for the Paralyzed and Epileptic. The anger of Mr. Rawlings at his defeat is obvious throughout his labored attempt to show that the medical officers of hospitals ought not to be represented on the managing boards. He does not cite the National as a case in point or go into his own quarrel on the question, but tries to convince the reader that doctors are only servants of the committee and must be denied a voice in the management. To be honest he should have added that secretaries, being paid servants, should manage everything—for that is the crux of the whole matter. He is obliged to admit that doctors are a necessity to a hospital, but says the medical mind is arbitrary "to a degree undreamed of by the uninformed." I suppose he considers himself well informed and capable of instructing the world on the matter. But he may find that the world will not take him at his own valuation, and even the apathetic subscribers to the National will prefer the service of a staff that cannot be matched to a secretary who does not see that he is the subordinate. He sneers at the honorary staff as servants—what is he whose services are by no means honorary?

There are other hospital troubles besides this. I mentioned formerly how Moorfields, the Mecca of ophthalmologists, had sold its renowned building and erected another. The result is an enormous debt, and, as I stated, an increase in the annual rent and taxes which is crippling the charity. Truly, medical managers could not have done worse than this non-medical board.

Another case is that of the Royal Orthopædic Hospital. There has been some discussion about this for two years or more. One committee was dismissed, as it was alleged to be about to sell the site for less than its value. Those who prevented this folly are now alleged to have acted just as absurdly. They have spent about a couple of thousand pounds on repairs, and now, it is said, have offered to take less than the valuation by some £7,000 or more. Surely a lot of doctors would not be more unbusinesslike.

At one time the Prince of Wales' Hospital Fund recommended the sale of the site, but I hear that this unfortunate step has been rescinded. It was quite outside the duty of that fund and caused many misgivings as to its management. The present deadlock seems to be largely due to the change of mind of the chairman, who seems desirous of imposing his will on the hospital. As he is no authority on hospital matters, he would be wiser to follow the example of the Fund and withdraw from a false position.

Mentioning the Prince's Fund reminds me that its name will be retained; the King becomes its patron and the Duke of Cornwall and York succeeds His Majesty as president.

Senile changes must always be of interest to every practitioner, so that Dr. Mitchell Bruce had a good subject for his Lettsomian lectures at the Medical Society, where he discoursed on the affections of the heart and arteries in middle life and advanced age. He dealt in a practical manner with such disorders of the circulatory system as are most apt to occur after about forty years of age, and he brought to bear on the subject a considerable amount of clinical experience. There was indeed a good deal of the clinical lecture about the three discourses, with their successive discussions of the etiology, pathology, diagnosis, prognosis, and treatment. On all these points, however, Dr. Bruce had facts to state and their applications to consider, and few men could have listened to the course without instruction or at any rate without gaining some useful suggestions. He reminded his audience that with advancing life vascular changes normally occur which are not pathological and should not be hastily put down as degeneration. And yet these changes may render other influences more potent for injury and render it desirable for the individual to take more care of himself. Physical and nervous strain, disturbances of metabolism, and predisposition to certain diseases are to be reckoned with. The dietary may require to be readjusted to the changed demands of the system. Exercise should have careful consideration

in relation to the past and present clinical history, and those diseases which usually occur at the late period of life should not be forgotten as likely to show early manifestations. Very often, when cardiac disturbances are complained of, there is no evidence of pathological change, and we must look for the exciting cause outside the circulatory system. Even in senile heart, or in chronic valvular disease, the patient's trouble for which relief is sought often depends on the addition to the morbid change, of indigestion, worry, catarrh, improper food, violent exertion, or indulgence in alcohol, tobacco, or some other article of diet which disagrees. Moreover, in younger men with some degree of cardiac mischief it is not uncommon for the symptoms to be out of all proportion to the physical signs, and for the explanation to be found in such causes and relief to follow their removal.

With regard to alcohol and tobacco, Dr. Bruce had some excellent advice to give. As to the latter we seldom have to do more than confirm the patient's suspicions and recommend temporary abstinence. With the former it is different. "Alcoholism grows by what it feeds on, and our best efforts are often vain." This phrase of Dr. Bruce's well sums up much experience, and the terrible fact fully justifies his suggestion that we should exercise more fully than heretofore our personal influence to discourage habitual drinking. Many persons will pay more attention to the dangers described by their physician than to abstract or moral arguments. They are more likely to be frightened than persuaded to sobriety.

In connection with Dr. Bruce's observations on alcohol I may mention a speech made at the Temperance Hospital the other day by the Archbishop of Canterbury. His Grace has for many years been one of the most prominent teetotallers in the kingdom, and has consistently advocated the abstinence from alcohol which he practises. At a hospital it was natural to mention the position of patient and doctor in this respect. He said that if under a trusted adviser he was ordered alcohol as a medicine he did not go so far as to say he would refuse it. If he could not trust his physician, he would go to another; but the profession now does not say health cannot be restored without alcohol, and does not object to total abstinence. Most people will be ready to acknowledge that the Primate is right. Alcohol as a medicine has no more to do with its habitual consumption as a beverage than chloroform, ether, or other drug. Only on account of its insidious effects as described by Dr. Bruce the doctor who prescribes it should do so in definite doses, and best perhaps in mixtures.

The Milroy Lectures at the College of Physicians were this year delivered by Dr. John F. J. Sykes, lecturer on public health at Guy's Hospital. He devoted them to the influence of the dwelling upon health in relation to the changing style of habitation. Thus, the "housing question," which has demanded attention from sociologists and forced its way into politics, was treated in its many phases from the point of view of the adviser on public health, especially as regards great cities like London. A distinction was made between the pressure of urban population, which compresses the requirements of dwellings into the smallest limits, and the dilapidation of dwellings and general deterioration of localities which bring about insanitary areas. The relief of the pressure is to be met by improved means of transport between centres and suburbs; building more dwellings; attracting to outlying districts, etc. The remedy for dilapidation and deterioration is to be looked for, Dr. Sykes considers, in the reconstruction of the worst areas in healthy flats and the adaptation of better streets and houses of the unhealthy "floor type" to a healthy "flat form," together with improved sanitary laws and by-laws, taking the dwelling as the basic unit.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE TREATMENT OF SYPHILIS—OFFICIAL EXAMINATION OF ACCIDENT CASES—SODIUM SALICYLATE IN EXOPHTHALMIC GOITRE—MOSQUITOS IN PARIS—TREATMENT OF INTESTINAL HEMORRHAGE IN TYPHOID FEVER—SPINAL COCAINIZATION.

PARIS, April 16, 1901.

THE Paris school of dermatology, as opposed to the Vienna school, has no better representative of its principles and practice than Dr. Brocq, physician of the Broca Hospital. Dr. Brocq is perfectly willing to admit the parasitic origin of certain forms of eczema; he is continually mentioning in his clinical lectures the opinions of different members of the Vienna school, but he upholds to a great extent the traditions of the French school, and, though a relatively young man, he does not allow himself to be carried away by any new wind of doctrine or to grow too enthusiastic over any novel method of treatment.

A good example of this is furnished by a recent article he has published in the *Presse Médicale*, in which he shows how he habitually employs mercury in the treatment of syphilis. It has become a common practice to use subcutaneous injections of mercurial compounds, whether they be insoluble, like calomel, or soluble, like biniodide or benzoate or other compounds. The administration by means of pills or draughts has almost completely fallen into disfavor, and yet, according to Dr. Brocq, there are certain advantages attached to this method.

To examine the defects offered by the latter, one should admit that pills do not always dissolve readily, that their action is therefore uncertain, and that, moreover, they may exert a pernicious influence on the mucous membrane of the intestine. Dr. Brocq is a staunch believer in the principle, which most French physicians adhere to, that it is always infinitely better to give drugs in a liquid form, as one is much more sure of their producing their entire effect. Of course given at one dose any soluble salt of mercury may cause colic, so Dr. Brocq has made it a practice with a great many of his patients to give the quantity administered daily in small doses, about four to six doses being given. The advantages offered by this mode of treatment are that the dose given is accurately gauged, the patient is not obliged to visit the physician to submit to the injections, and he does not run any risk of having abscesses or pains caused by the injection. Dr. Brocq has found that giving mercury in small doses four to six times daily proves to be much more efficacious, and it is only when he was treating certain forms of psoriasiform syphilides of the hands and feet that he has experienced failure. In such cases the best procedure is to use immediately injections of calomel. Van Swieten's solution is the preparation used by Dr. Brocq, and he recommends taking it in milk. In case of colic paregoric would be the best preparation to relieve the pain. Some two thousand patients have been treated in this manner at the Broca Hospital during the last three years and a half, and with the best results.

The chamber of deputies passed a law recently which has excited a good deal of comment, not only among laymen, but also among the members of the medical profession. It is a measure providing for the indemnity that is to be given to a workman by his employer in case of accident, and there is one aspect of the working-out of the regulations connected therewith which is of considerable interest to the ordinary practitioner. A medical certificate must be made out as soon as possible after the accident, and it is supposed to be the physician of the insurance company who is obliged to examine the patient. In case the latter has been already examined and treated by another physician immediately after the accident, it would seem to be a moot question whether the second physician has a right to undo the bandages or remove the apparatus that the first has already applied. In an article by the editor of the *Presse Médicale*, Dr. de Lavarenne, various cases are brought up, and it would seem to be better for the physician of the insurance company to trust to the judgment and opinion of his colleague and not make out his report without consulting him. In this manner the patient is not disturbed by the changing of his apparatus, and the physician cannot be accused of having caused any harm to his patient.

Dr. Babinski, the well-known neurologist of the Salpêtrière, has been treating some of his patients suffering from exophthalmic goitre with salicylate of sodium, and he is rather satisfied with the results he has obtained. One young woman, aged twenty-eight years, had begun showing the symptoms of this disease in 1898, and in January of 1899 all the important symptoms were clearly defined: goitre with pulsations, pulse at 140, tremulousness of the arms, bilateral exophthalmia, and loss of flesh. Salicylate of sodium was given, and ten months afterward there was complete transformation. The cure has persisted since.

A man aged forty-one years had the different symptoms of Graves' disease with the exception of the goitre. The pulse was 120 a minute. After having taken salicylate of sodium for a month the pulse had gone down very noticeably. The patient did not continue the treatment steadily, but there was much improvement when he was last seen. In a third case, in which the only symptom was a goitre, the use of salicylate of sodium removed it in less than two months.

Last year, during the Exhibition, much complaint was made about the mosquitos, which were much more numerous than usual. It might be asked if the influx of visitors did not have something to do with it. There was at that time some question as to their effect on the general health of the community, and the question was taken up again at a recent meeting of the Academy of Medicine, and Professor Debove spoke of the means that might be used to suppress them. A number of public parks in Paris are furnished with small ponds where the water remains stagnant, and Dr. Debove said that in case the city could not afford to have running water in such places an easy means

of suppressing the larvæ of mosquitos was to pour kerosene on the water every now and then.

Dr. Mathieu described recently at the Society of Therapeutics the treatment he uses in case of intestinal hemorrhage in typhoid fever. It consists in suppressing the baths and replacing them by the cold pack so as to move the patient as little as possible, giving small doses of opium to quiet the intestine, reducing the quantity of ingesta to a minimum, and lastly administering an enema of from one to one and one-fourth quarts every morning at a temperature of 115° F., containing about one drachm of chloride of calcium. Fifteen to forty-five grains may be given by the mouth. Mathieu does not believe in giving more than this, as the coagulability of the blood is diminished by giving too large doses. In eight cases in which Mathieu employed this method the results were quite satisfactory.

Intrarachidian injections of cocaine are as much talked about as ever, and the discussion is waxing fiercer and fiercer between Dr. Tuffier and his partisans on the one hand and Professor Reclus on the other. Professor Reclus, who is looked upon not only in France but also in Germany as an ardent advocate and propagator of the use of cocaine, does not favor the new method, and he has spoken quite severely against it at the Academy of Medicine. He said he considered it would be advisable to wait until the question had been more thoroughly examined before applying it indiscriminately, and he sent to the *Presse Médicale* a letter written to him by Bier in which the latter speaks disparagingly of the methods used with so much enthusiasm. He also speaks of the trial he made of it on himself, and advised the promoters of the method to do likewise before using it on others. Dr. Tuffier sent a reply to the same paper, in which he took up the German physician's statements and ardently defended his own process, declaring that it was not necessary to wait until the opening of the German Medical Congress on April 11th to be told what constituted a safe method for performing these injections.

THE URIC-ACID PROBLEM.

AN OPEN LETTER TO ALEXANDER HAIG, M.A., M.D. OXON., F.R.C.P.

MY DEAR DOCTOR: I have read your work entitled "Uric Acid as a Factor in the Causation of Disease," also your recent article on "The Causation, Prevention, and Treatment of Gout" (MEDICAL RECORD, January 26, 1901), and have just finished the perusal of your "Diet and Food," third edition, Philadelphia, 1901.

The subject of which you treat is of unquestioned importance, but the propositions you defend are in many instances so extraordinary and so contrary to my experience of over thirty-five years as a practitioner, and so different from the teachings of others, that I must beg your indulgence if I seek a little more light on some points that appear to be slightly obscure. Possibly my failure fully to understand you is due to my lack of familiarity with the English language, which I am aware differs in many respects from the American, the language of my birth and of my education, such as it is. Possibly an English dictionary would have helped me, but unfortunately the only dictionaries at my command are American; namely, the "Century," the "Standard," and "Foster's Medical," which I hasten to assure you are held in high repute in this country.

On page 2 of your "Diet and Food" you say: "To substitute a certain amount of scientific precision for the rule of thumb methods is the object of this little book." By this, then, you should be judged.

On page 6 you say: "Most physiologists have agreed that good strength and nutrition in adult life can be maintained on about 3½ grains of urea per pound of body weight per day." I question very much if any physiologists will agree with that statement. I am an adult and weigh about two hundred pounds, but I must certainly decline to make any attempt to maintain my "strength and nutrition" on 700 grains of urea per day.

On page 57 you say: "We have already seen in Chapter I. that the body weight in pounds, multiplied by 9, gives the minimum amount of albumens required for a sedentary life, and by 10 or 10.5 those required for an active life, such as that of an out-door labourer." Taking again my body weight at two hundred pounds, must I ingest eighteen hundred pounds of "albumens" per day, or over what period must this allowance be spread? Tell me, further, where I am to obtain these "albumens." This word, which you may possibly use as a plural form of albumen, is not to be found in either of the dictionaries above referred to. Albumen, however, is defined as "the white of an egg; 2, the nutritive material that fills the space in a seed between the embryo and the seed-coats" (Standard). "The white of an egg; also formerly applied to the principle contained in the white of an egg or albumin (*q.v.*)" (Foster). Pursuing our search we find albumin defined as "the transparent viscous nitrogenous substance ($C_{72}H_{112}N_{18}SO_{22}$) which forms the chief and characteristic constituent of the white of an egg. Albumin is also found in the blood and in all serous fluids, also in many animal and vegetable juices and solids" (Standard). Foster defines substantially as above, and adds, "In its chemical behavior albumin is a weak acid, apparently dibasic (or perhaps tetrabasic), forming both acid and neutral salts (albuminates) with bases."

Albumen: "The white of an egg; an animal or vegetable principle which occurs in the purest natural form in the white of an egg; in the latter sense more correctly called albumin. The white of egg (albumen) contains about fourteen per cent. of albumin. The blood of five oxen yields about two pounds of albumin" (Century Dictionary).

In view of the foregoing I can hardly believe, dear doctor, that you intend to recommend a daily diet of 3½ grains of urea per pound of body weight with a view to maintaining "good strength and nutrition." It would be a little monotonous, to say the least; as would also be the diet of nine times the body weight of "albumens" (whether white of eggs or albumen from plants) to be consumed within a period not definitely stated.

On page 8 you say, "The albumen in 2¼ pints of milk = 590 grains." The composition of milk varies within very wide limits, but so far as I am aware the milk of American cows does not contain any "albumen," though it does contain a minute quantity, say about three-tenths of one per cent., of albumin, a rather negligible quantity from a dietetic standpoint, but it does contain a very considerable quantity of casein, say twenty-five or thirty per cent. of the total solids. Why, may I ask, do you apparently overlook this exceedingly nutritious substance? Can it be possible that you regard albumen and casein as identical? They certainly cannot be, unless my American dictionary is at fault. Casein is defined as "the chief nitrogenous ingredient of milk. It does not coagulate spontaneously like fibrin, nor by heat like albumin, but by the action of acids and rennet. It is closely allied to, if not identical with, legumin" (Century Dictionary). Does it not occur to you that in speaking of albumen and "albumens" you have been using these terms in a very loose manner, and not in accord with the "scientific precision" that you claim to be the keynote of your book? Would it not have been better to substitute the word albuminoids for the word "albumens," and still better employ the expression proteids, and thus bring yourself more in line with the results of modern scientific investigations?

Turning from this, which I trust you will not consider a frivolous play on words, to some of your theoretical propositions, I find the following (page 28): "The first requisite for strength and power of endurance is a satisfactory and sufficient supply of albumens" (proteids?); (page 29) "Force is thus in all directions proportional to urea, whether gauged from hour to hour or from day to day." These passages, and others in your book, would indicate that in your opinion the maintenance of energy, that is, power to do work, is to be secured mainly by the ingestion of "albumens," or, more properly speaking, by the use of a diet consisting of organic compounds that contain nitrogen (proteids) in contradistinction to those that do not contain this element, to wit, the carbohydrates and hydrocarbons. On this point I must certainly join issue with you. By general consent of physicists and other scientific investigators, energy, force, power to do work, or whatever you may choose to call it is measurable in terms of heat, the accepted unit of which is in the calory (the heat required to raise one kilogram of water one degree centigrade).

If we liken the body to a machine, a steam engine, for instance, we find that the latter is a structure of iron, steel, brass, etc., put together so as to enable it to perform certain functions when the requisite energy is supplied from without. If any part becomes worn or broken, new metal is used to replace it. So the body is a structure composed of bone, muscle, tendon, etc., and certain secondary organs, heart, lungs, liver, kidneys, etc. This structure with its several organs is during life subject to constant wear and requires renewal of parts. This renewal is not, however, as in an engine, accomplished by the replacement of gross parts, but rather by constant substitutional changes of an almost infinitesimal character. The new material required to replace the old is introduced as food, and consists in the main of proteids (carbon, hydrogen, oxygen, nitrogen) and in but slight degree of combinations consisting of carbon, hydrogen, and oxygen alone. As steel is the backbone, so to speak, of the engine, so nitrogen is that of the (soft) tissues.

If, now, we desire to utilize the engine, we must arrange for the development of energy by supplying fuel and heat (carbon and hydrogen), whose oxidation develops heat measured in calories. In like manner the development of

energy in the body is brought about by the combustion, that is, oxidation, of these two elements supplied as food in carbohydrates (starches) and hydrocarbons (fats), and to a less extent in proteids, which contain the C and H supplemented by N.

Should you desire any further evidence that energy is to be measured in terms of carbon and hydrogen, rather than in terms of "albumens" kindly consult "A Digest of Metabolism Experiments," by Professor Atwater and Dr. Langworthy, published by the United States Department of Agriculture.

Despite your statement that energy is mainly derived from the "albumens" you say, page 37:

"Hence the records we are now getting from all sides show that the less animal flesh people take the better do they come out in trials of force production, and especially in endurance. . . . Now, so far as I know, the vegetarians of this country are pretty decidedly superior in endurance to those who feed on animal tissues." Surely in the ordinary vegetarian dietary there is less "albumens" than in the daily food of the meat eater. How, then, do you reconcile your two apparently conflicting statements, especially in view of the fact that you would exclude leguminous seeds, peas, beans, lentils, termed by you "pulses," which are well known to contain a notable quantity of nitrogen?[1]

On several pages of your books you speak of "the xanthins," but what they are, or how many of them there are, you do not say. Turning to the Standard Dictionary I find xanthin to be "a gaseous decomposition product of certain xanthates, probably carbon disulphid," also "the insoluble yellow coloring matter contained in flowers;" also "a white crystallizable compound ($C_5H_4N_4O_2$) contained in blood, urine, and other animal secretions." You need not remind me that there is a substance named heteroxanthin, another paraxanthin, and still another hypoxanthin, as none of these is xanthin, and collectively should not be called "xanthins." Call them leucomains, if you will, or preferably katabolic products, and we will then be one step nearer to an understanding of your writings, and possibly also a step nearer to a solution of the uric-acid problem. These are all the xanthins that I can get on the track of. If you know of any more xanthins, kindly define them with sufficient precision to enable them to be identified, as I desire in a later letter to go into this matter a little more fully.

HENRY G. PIFFARD, A.B., A.M., M.D., LL.D.; *Professor (Emeritus) New York University.*

THE USE OF "THE HOT-BED" IN KOREA IN THE RECOVERY ROOM AND FOR TREATMENT OF SURGICAL AND OTHER SHOCK, AND SIMILAR CONDITIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

PYENGYANG, KOREA.

SIR: There are not many things out here in Asia which, as a means of securing human happiness and comfort, we find superior to what "modern civilization" has produced or perfected, but we occasionally come across something which we have to admit is an improvement on anything we have so far made. The method of heating houses in Korea consists of making flues under thin stones which are covered with clay mud, and over that either mats or oil paper. The fire heats the floor, and less fuel, which consists of brushwood, millet stalks, dried grass, etc., is used than at first thought would seem necessary. This calorific arrangement is not to be commended as a fine thing to those in health, though as a matter of fact it has far fewer objections to those who have closely observed its effects than those who merely "travel through," and look on it as a "roasting process," would have their readers believe.

But the benefits I have obtained from it after severe surgical operations, and the beautiful reaction got in other conditions of shock or temporarily lowered vitality, in giving an even heat to the entire body, are what prompt me to make this report of it. It is true, of course, that it is the practice of certain surgeons in St. Louis, and perhaps elsewhere (I have not been in America since 1895), to have hot-water or steam-heated operating-tables, and I have read the good reports of the benefits they derive from it. The prompt reactions and quick recoveries I have had in cases like thigh amputations are the special reasons I write this, and I feel sure that if the "recovery room" in hospitals was provided with a hot-bed, it would soon yield such good and marked results that once instituted it would thereafter be deemed a necessity.

I could recite many instances in which most marked effects have followed the hot-bed, and they are not confined to surgical cases. Of the latter, however, a distinct one comes to mind. A man aged sixty-five or seventy years after an amputation of his arm had the misfortune to let the ligature around the main artery slip (the doctor tied it all right, of course!), and before it was discovered he lost considerable blood. Saline solution was injected, but it seemed to me that the recovery from the quite considerable shock which resulted was due as much to the hot floor as to the saline solution. Both together certainly tided over a very serious condition.

The heat from a hot-bed, ranging evenly as it does all along the backbone, secures a quietness to the nervous system, which I believe prevents the vomiting after anæsthetics, almost unknown with me. It tones up the blood, warming the big arteries, and in all ways secures those conditions, mentally and physically, so much desired after surgical work and which those who witness them best describe as "happy."

I commend the hot-bed, made as suggested by the skill and genius of those whose business it is to provide surgical appliances, to secure prompt reaction, and consequently shortened recovery after surgical operations and for all conditions in which the cumbersome, inconvenient, and often ineffective "hot-water bottles" and bags have heretofore been applied. Typhoid fever is one condition in which I think I have seen excellent benefits from the hot-bed; but of that more when I have more cases to report.

J. HUNTER WELLS.

[1] Since the foregoing was written I find (*Philadelphia Medical Journal*, March 30, 1901) the following by Benedict: "Most exhaustive experiments (see Gamgee and other authorities) have shown that muscular exercise does not actually destroy much albumin, either of the muscles themselves, or of the circulating plasma. Exercise, and, in fact, all bodily work involves a comparatively slight wear and tear of tissue, and an enormous (relative) combustion of carbohydrates and fats to produce needed energy."

WOUNDS OF THE HEART.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My attention has been called to an article in your journal of December 15, 1900, by Dr. L. L. Hill, of Montgomery, Ala., on "Wounds of the Heart." Dr. Hill had evidently not seen my article in the *Annals of Surgery*, February, 1895, in which I reported "A case of stab-wound of the pericardium, terminating in recovery after resection of a rib and suture of the pericardium." My operation was done in September, 1891, while I was in charge of the St. Louis City Hospital. Dr. Hill states that the first operation upon the heart was done in 1896 by Farrina and Cappelen. My operation upon the pericardium antedates this by five years.

H. C. DALTON, M.D.

ST. LOUIS, MO.

Progress of Medical Science.

Journal of the American Medical Ass'n, May 4, 1901.

A Case of Transient Motor Aphasia, Complete Anomia, Nearly Complete Agraphia and Word Blindness, Occurring in a Left-Handed Man; with Especial Reference to the Existence of a Naming Centre.—By C. S. Potts. The essential features of the case are suggested by the title. The patient was a man aged forty-two years, a coal miner, in previous good health. He suddenly became dizzy and weak on the left side, but power was not completely lost. There was no loss of consciousness, but he found that he was unable to talk, although he knew what he wanted to say. He also noticed that he was unable to write anything excepting his name and address. In the course of a day or two he regained the power of speech, excepting that he could name neither objects nor people. He says that he knew the name but could not express it. The muscular weakness of the left side improved rapidly, excepting the muscles of the face and tongue. The writer advances the following theory to account for the inability to name objects presented by this patient: that there is a naming centre, probably somewhere in the temporal lobe, possibly part of the superior temporal gyrus, and that a tract leading from this centre to the centre for the preservation of the motor memories of speech was damaged. Such a tract would likely run through the insula and thus would be in a location easily reached by a lesion that had, judging from the word blindness and motor paralysis present involved the angular gyrus and extended subcortically in a direction to impair the function of the fibres running from the centres for the lower part of the face and tongue to the internal capsule.

Ocean Climates; their Effects and the Cases they Benefit.—By J. A. Robison. The following are the peculiarities of ocean climates: (1) They are more equable on account of the temperature being tempered by ocean currents instead of by winds as on land. (2) They are warmer. (3) The air is more nearly aseptic, is free from dust, and

contains more ozone than land air except in the highest altitudes. (4) It contains more moisture than land air and the moisture is laden with the volatile elements of sea water. Sea air has a sedative effect on the nervous system, increases metabolism, weight, appetite, and inclination to sleep, and so to those with whom it agrees it is a sedative. Sea air is a specific for hay fever, whooping-cough, purulent and chronic bronchitis, and of benefit in incipient tuberculosis and in tuberculosis when cavities and empyema exist. Asthma is frequently benefited, scrofulous affections are frequently cured, debility is often removed, and chorea is frequently benefited. The patients helped most are the overworked and melancholics, the brain-goaded sufferers, the women who are harassed by domestic cares or society dissipations, the children who are nervous and weakly, and, in short, the army of neurasthenics. In this class of cases it is a question whether the improvement almost invariably following an ocean voyage is due so much to the change of climate as to the change of scene and entire change of life.

Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation.—By J. B. Murphy. The mode of application of the plaster is thus described: The field of operation is prepared in the usual way. It is then thoroughly dried, washed with ether, and the rubber applied, the latter being put slightly on the stretch as it is brought in contact with the skin. The small quantity of ether retained by the skin increases the adhesive power of the dam. After it is applied, it is washed with alcohol or with any other sterilizing solution. The incision is now made through the dam, simultaneously with that in the skin, and to the same extent, as it stretches even more readily than the latter and there is no trouble in retracting it. The dam remains in position until the sutures are inserted and tied, after which it is lifted at one end, put a little on the stretch, and divided at the points of suture in a manner similar to that of dentists in removing the dam from teeth. Its second practical application is in all suppurating and draining wounds. In these cases it should be left on until suppuration and discharge have ceased, so that it may protect the skin and prevent the erosion and eczema which are so frequently caused by the irritation of a purulent discharge. For this purpose it is particularly applicable in cases of artificial anus, cholecystostomy, gastrostomy, nephrotomy, suprapubic cystotomy, and a draining, suppurative, circumscribed, or general peritonitis.

Absolute Increase of Measurement from the Anterior Superior Spine to the Malleolus as a Sign of Hysteric Hip Disease.—By J. J. Putnam. The writer calls attention to the fact that sometimes the differential diagnosis between tuberculous and hysterical disease is exceedingly difficult. The shortening of the measurement between the anatomical points named in the title is a matter of common knowledge, but it is not so well known that a lengthening between the same two points occurs in hysteria. Lengthening may also occur in the early stages of tuberculous disease when pain induces the muscular contraction which leads to the tilting of the pelvis when no erosion of the joint has yet taken place. In hysteria, on the other hand, the lengthening comes on with the contracture and does not pass away, no matter how long the morbid conditions may last. An illustrative case is given in detail.

Limitations of the Laryngologist in the General Treatment of Nose and Throat Diseases.—By H. W. Loeb. The writer enumerates the general systemic conditions which may complicate nose and throat affections, and ventures the following as the limitations of the laryngologist's efforts under the conditions stated: (1) Acute conditions of the nose and throat, influenced by remedies which have an immediate local effect. (2) Rheumatic nose and throat conditions which exhibit a positive and early relief under appropriate treatment. (3) Syphilis of the nose and throat in which general treatment may be best observed by watching its effect upon the local lesion, and in which the local process is rapidly destructive. Even under these conditions, the patient's chances might be improved by assistance from one whose attention is less directed to localism.

A New Operative Method to Expose the Seminal Vesicles and Prostate for Purposes of Extirpation and Drainage; a Preliminary Report.—By Eugene Fuller.

Myasthenia Gravis Pseudoparalytica (Asthenic Bulbar Paralysis).—By J. T. Buist and E. G. Wood.

The Gyromele in the Diagnosis of Stomach and Intestinal Diseases.—By F. B. Turck.

The Classical Cæsarean versus Porro Cæsarean.—By G. M. Boyd.

The Present Status of Spinal Surgery.—By Samuel Lloyd.

The Pharmacology of the Nitro-Sugars.—By C. R. Marshall.

Medical News, May 4, 1901.

A Report of Twenty-Four Operations Performed during Spinal Analgesia.—William Seaman Bainbridge draws the following conclusions from fifty cases, among which are the twenty-four which he reports in this article: (1) Cocaine is far more satisfactory than eucaine. The latter is less potent, more evanescent; the areas of analgesia are frequently "patchy," having the pain sense retained all around them and not being so complete below definite levels. The cocaine produces no more unpleasant after-effects than eucaine, and is decidedly more reliable. (2) Analgesia to the level of the diaphragm can be depended upon in all cases in which a moderate dose of a potent solution of cocaine has been introduced by lumbar puncture. In some the analgesia is sufficient for operation on the upper extremities. (3) Complete analgesia, including the eyes, mouth, and throat, has occurred. It does not entail more severe after-effects than when the lower extremities only are involved. (4) The preparation of the patient as for a general anæsthetic diminishes all the unpleasant effects of cocaine and eucaine, and often prevents them altogether. (5) By moderate doses of bromides before the injection the initial vomiting is frequently avoided and the liability of headache lessened. (6) In neurotic patients there are often hysterical symptoms directly following the completion of the injection, but, as a rule, in a few moments a calm follows and the patient lies perfectly still. (7) Initial nausea and vomiting often occur soon after the puncture, but last only for a moment or two, and usually do not recur during the operation. As consciousness, as well as the muscular power, is preserved, the danger of the introduction of the vomitus into the lungs is practically *nil*. (8) Analgesia lasts from thirty minutes to four hours. (9) Depression after the puncture is inconsiderable. The use of ethyl chloride (Bengue) largely prevents pain when the needle is introduced. (10) The preparation of the patient, the use of nitroglycerin by hypodermic injection, or the employment of coal-tar products with caffeine, control the headache, which is in many instances an after-effect of spinal puncture. (11) In a few cases there may be motor paraplegia or vertigo. Both are temporary. (12) Spinal puncture has not affected normal or diseased kidneys. (13) Usually the tactile power, muscular sense, and the ability to detect heat and cold are retained. The cautery at a dull-red heat causes no pain, while hot water produces marked discomfort. (14) Usually the patient sleeps the first night. (15) There is often a rise of temperature of a few degrees within eight or ten hours of the operation. Whether this is the direct result of the puncture or the effect of psychic disturbances is not determined. The circulation and respiration are not seriously embarrassed.

Some Sources of Error in Laboratory Clinical Diagnosis.—Theodore C. Janeway declares that only the clinician is in a position to balance all the facts in a given case and to determine their relation to one another. The diagnostician's first requisite is not technical skill but a judicial mind capable of weighing the value of evidence. The sources of possible error in the application of laboratory methods to diagnosis are twofold: those due to the methods themselves or faulty technique in their use, and those due to inaccurate reasoning from accurate results. In the examination of urine the most conspicuous technical error is a failure to filter the urine. The presence of albumin in the urine is not normal, but no conclusions can be drawn from it, and a further investigation by other methods must be instituted to determine its source. The microscope gives the most evidence on this point, but the whole examination furnishes subsidiary information. Moreover, the absence of albumin at one or even repeated examinations does not at all preclude the existence of kidney disease. In Fehling's test for sugar the value lies only in its negative evidence. A reduction merely indicates the necessity for applying further tests. The tests which do give positive indications of the presence of sugar are the polariscope, fermentation, and the phenylhydrazin reaction. The persistence of sugar in the urine does not constitute diabetes; only its persistence after the reduction of the carbohydrates in the diet to a small amount can warrant that diagnosis. A representative specimen of urine for any examination should consist of the mixed urines passed on at least three different occasions during at least twelve hours. The only common source of error in the use of the urinometer is a neglect to make the correction necessary for changes in temperature. It should not be concluded that a urine does not contain sugar if it is below some arbitrary point. Another error in diagnosis is to mistake glycosuria for diabetes. A few casts may be thought to indicate renal disease, whereas the more important lesion may be in the pelvis of the kidney or bladder as shown by the presence of blood or pus cells. It requires a trained microscopist to examine the blood. In any test which requires the matching of shades of color, the error may be considerable and varies with the personal equation. The

most common errors are in connection with the study of the malarial organism. In staining for the tubercle bacillus in the sputum the most frequent faults are insufficient staining and incomplete decolorization. The most that can be obtained by analysis of gastric contents is a functional diagnosis. The most critical examination of the physical and psychical condition of the patient can alone guard against serious errors in diagnosis of stomach disorders.

Medical Department of the University of Pennsylvania.—By Charles W. Dulles.

Philadelphia Medical Journal, May 4, 1901.

Localization of Sound and its Bearing on Hearing, Especially in Unilateral Deafness.—B. Alex. Randall speaks of the attempt which has been made to map the field of hearing in a manner analogous to that of vision, and calls attention to the essential difference—that sound-waves are not, like light-waves, propagated only in straight lines. The absolute field of hearing is hardly definable. When both ears are good, there should be little difficulty in localizing many, at least, of the sounds that come to us. Not only are they lateralized, but the other factors as to the indirection can generally be subconsciously determined. This is a matter of differential impression and analysis, for which an appreciable time is requisite. One ear is often given to the sounds which interest us, while the other merely keeps guard-hearing. When one ear has to act alone, the condition is very different. The physical problem is little changed, but the psychic task is far more complex. One side of the brain, to a much greater extent than usual, has to receive and analyze all the impressions, and these lack that element of double, yet diverse, character which in vision we call stereoscopic. Rotation and other movements of the head can, as in binocular vision, furnish some localizing factors; yet the problem remains too largely a mental one, and the "fatigue of the deaf" is by no means absent in those who, with one perfectly good ear, are often unrecognized by their companions as having any lack. It is time for the importance of "binaural hearing" to be more fully recognized, and for care to be taken to retain or secure it in those who are suffering for the lack of it.

Deaths from Anæsthetics.—D. H. Galloway states that three deaths from anæsthetics have occurred recently in Chicago, all within a period of ten days. The majority of surgeons seem perfectly willing that medical students or recent graduates without skill or instruction should administer anæsthetics to their patients. The ideal anæsthesia should be one in which the patient should have enough anæsthetic to allow the operation to proceed without his consciousness or interference with the surgeon's work, all this with the use of the smallest possible amount of the anæsthetic and not one drop more. Many operations are practically devoid of danger, but no anæsthetic is ever administered without jeopardizing the life of the patient. Students should be carefully instructed in the subject of anæsthetics, and be made to realize its responsibilities. The number of times a man has administered anæsthetics is no criterion of his skill.

Ammonium Persulphate Solution; a New Decolorizing Fluid for Staining Spores and Sputum.—By Robert L. Pitfield.

Volvulus and Intussusception of Meckel's Diverticulum.—By Joseph McFarland.

Puerperal Polyneuritis and Poliomyelitis.—By James Stewart.

The German Clinics of To-day.—By John C. Hemmeter.

Esophoria, or Latent Squint.—By Francis Valk.

Strangulated Hernia.—By Walter Lathrop.

Boston Medical and Surgical Journal, May 2, 1901.

Observations on the Use of Antistreptococcus Serum in the Treatment of Puerperal Sepsis, with a Report of Five Cases.—Frank A. Higgins, from his experience, comes to the conclusion that serum treatment has no place in the routine treatment of puerperal sepsis, that it should be used only in desperate cases after failure to obtain improvement by other and usually more efficient methods, and that if no improvement is shown after use for two or at most three days, and the injection of 40 to 50 c.c., it should be discontinued. He believes that its use is not free from danger; that it usually lowers the pulse and temperature, but at the same time has a correspondingly depressing effect upon the patient, and that it has not apparently lowered the mortality of the disease.

Exophthalmic Goitre and Fright.—E. W. Taylor reports three cases in which there was the association of a definite violent emotional disturbance with symptoms of exophthalmic goitre which came on immediately subsequently. The fact of mere coincidence, he says, is of course never to be dogmatically denied, but it is no straining of a point to maintain the decided probability of cause and effect. Some unknown predisposition, as in all other diseases, must be assumed; but the exciting cause may be regarded as the fright.

A Case of Cæsarean Section in a Face Presentation, Complicated by Uterine Fibroid.—By Emma S. Call.

Contusions of the Abdomen.—By Charles L. Scudder.

New York Medical Journal, May 4, 1901.

Abdominal Pain in Typhoid Fever.—From an analysis of five hundred cases treated in Dr. Osler's service at the Johns Hopkins Hospital, J. McCrae draws the following conclusions: (1) About two-fifths of the patients are free from pain or tenderness, rather less than one-fifth have tenderness only, and pain is present at some time in about two-fifths of the cases, but during the course only in about one-third. (2) Pain due to some condition other than the specific bowel lesions was present in about fourteen per cent. of all cases, and in about two-fifths of the patients having pain during the course. (3) Pain occurred with hemorrhage or perforation in about five per cent. of all cases, and in about fifteen per cent. of the cases in which there was pain during the course. (4) Pain was most constantly present with perforation, when it was usually sudden in onset, severe in character, and paroxysmal in occurrence. The pain of perforation was most closely simulated by that occurring in some cases of hemorrhage, that from phlebitis, and that of unknown origin. (5) In about two-fifths of all cases with pain during the course no cause could be found. Should this occur with other abdominal symptoms the condition may much resemble perforation.

Spinal Anæsthesia by Cataphoresis.—By J. Leonard Corning. The author has devised an apparatus whereby it is possible to inject cocaine through the ligamenta subflava against the spinal dura, making the penetration of the anæsthetic through the latter by means of cataphoresis. He has tried the apparatus in one actual clinical case. Physiologically, the undertaking was successful, but practically he does not think it was, as a very long time was necessary for the induction of the anæsthesia, and the paraphernalia required were formidable. Yet subsequent endeavors along this line may yield more satisfactory results.

The Use of the Suprarenal Capsule in Diseases of the Heart.—By S. Floersheim.

The Law and the Inebriate; with Remarks on the Treatment of Inebriety.—By Joseph Collins.

The Pathology and Bacteriology of Uretero-Intestinal Anastomosis.—By F. R. Zeit.

American Medicine, May 4, 1901.

Some Remarks on the Cumulative Action of Digitalis, with an Illustrative Case.—Edwin Zugsmith believes from his experience in the following case that the symptoms of cumulative digitalis poisoning may be of grave omen. A female child aged twenty-three months had bronchopneumonia secondary to whooping-cough. The pulse becoming weak and irregular, a digitalis mixture was begun. Within a few days the temperature fell rapidly; the pulse fell to 60, and was somewhat irregular and hard. Nitroglycerin was given with a slight improvement. Compound jalap powder was then given and was followed by several watery movements, but this was apparently the only effect. Later morphine, then tincture of aconite, caused a little improvement in the pulse tension. At last the child's bed was drawn to the register, while a tent was constructed to cover the body and let in the heat, while the child's head was free. Almost at once the good effects were felt. The pulse improved, the mental faculties cleared, and the child began to drink considerable water. The hot-air bath was given at intervals at least a score of times, and always with the result of increasing the pulse rate and relieving the symptoms.

Vaginal False Membrane due to Bacterium Coli.—J. N. Hall reports this case of a healthy girl aged fourteen years. She began to complain of headache and general malaise, and the temperature was 101.8°. The case appeared like one of incipient typhoid fever. On the fifth day the temperature was higher, and on the sixth a false membrane was discovered by the mother. On the seventh day the temperature was 104° and the smarting and burning of the vagina continued. A dark patch, 2 cm. across, covered the inner surface of the right labium majus, a smaller one covering the opposing surface. An examination of a piece of the membrane showed a pure culture of bacillus coli. The urine contained neither albumin nor sugar. There was absence of colon bacilli. Under the application of a 1:5,000 bichloride solution the membrane was detached on the sixth day, the temperature became normal, and the girl has remained well ever since.

An Analysis of my Vaginal Ablations in One Hundred and Eighty-One Cases of Pelvic Inflammation and Uterine Fibroid Degeneration.—By W. R. Pryor.

The Food Value of Alcohol, and Professor Atwater's Experiments and Teaching.—By John Madden.

Conclusions from Personal Observations of Compound Fractures.—By Douglas C. Moriarta.

A New Series of Anaerobic Bacteria.—By Louis Leroy.

Prolonged Intubation.—By Edwin Rosenthal.

Inguinal Hernia.—By Merrill Ricketts.

The Lancet, April 27, 1901.

Reversed Pulsus Paradoxus due to Aneurism of the Aortic Arch.—By John Hay. Respiratory variations in the radial pulse, due to aneurism, are comparatively rare. In this particular instance the patient, a man aged thirty years, presented the interesting feature of a rhythmical variation in the right radial and right carotid pulses coincident with respiration, which was due to the innominate artery being compressed between the aneurism behind and the sternum and costal cartilages in front, the lumen of the artery being almost occluded toward the end of expiration. At the autopsy it was found that the aneurismal dilatation extended upward rather irregularly, one rounded projection having crept up and become tightly adherent to the anterior surface of the trachea. In the production of the dilatation it was chiefly the posterior portion of the aorta in the region of the transverse arch which had distended, the result being that the innominate and left carotid arteries, instead of arising from the convexity of the arch, as is usually the case, sprang from its anterior surface, and consequently as the sternum and bony thoracic wall descended with expiration these two arteries were caught and compressed between the thoracic wall in front and the aneurism behind. The result of this pressure on the left carotid artery had flattened it down on to the aneurism and had obliterated its lumen. When the patient leaned to the right his heart and aorta would be slightly displaced in that direction, and so the innominate artery was freed from compression. Thus was caused the increasing and decreasing obstruction in the innominate artery which gave rise to the rhythmical variation in the pulse. The aorta was much dilated as far as the lower border of the seventh dorsal vertebra, the bodies of the fifth, sixth, and seventh vertebræ being deeply eroded. The œsophagus was compressed by the dilated aorta. The valves of the heart were normal with the exception of the aortic cusps, which were somewhat fibroid and allowed of free regurgitation. The heart itself was considerably hypertrophied and dilated.

Tetanus Puerperalis.—By Kedarnath Das. The patient was a Hindu woman, who became infected in some way with the bacillus of tetanus and exhibited the characteristic tetanus symptoms, though finally recovering under the use of intra-uterine injections of bichloride, purgation, and sedative enemata. Intracellular injections of saline solution seemed to assist in the elimination of the toxins. The mortality in this affection is enormous, from eighty to ninety per cent. Indications for treatment are: (1) To destroy the bacteria at the seat of infection by thoroughly antisepticizing the parturient canal and by subsequently keeping it aseptic; (2) to eliminate the toxins already absorbed by brisk purgation and intracellular injection (under the breasts) of decinormal saline solution; (3) to overcome the symptoms induced by the action of toxins—viz., the increased reflex irritability of the higher nerve centres—and this is best accomplished by keeping the patient absolutely quiet in an isolated place and by chloral in very big doses, given either per os if possible, per anum, or hypodermic injection of apomorphia, hyoscine hydrobromate, or morphine; and (4) to neutralize the poison already absorbed and to immunize the body after local infection has taken place.

The Sometimes Successful Treatment of Cases of Apparently Incurable Blindness.—Clinical lecture by C. B. Taylor. The author outlines a few clinical histories of cases in which a hopeless prognosis had generally been given, and in which procedures rather infrequently used in ophthalmic practice led to remarkable and sometimes brilliant results. These measures comprised electricity, static, faradic, and galvanic; mercury in large doses, either alone or in combination with other drugs; derivatives, vascular, nervous, or both; and lastly persevering treatment along the foregoing lines with such operative procedures as were indicated in each individual case. The author adds that these agencies are merely plain, common-sense principles which all can understand, which have the sanction of experience, and which have yielded important results.

Dermatitis from Arsenic in Stockings.—By F. W. Tunnicliffe. Two cases are cited in both of which it was possible to determine by accurate chemical analysis the presence in stockings of an amount of arsenic above that allowed by law for manufacturing purposes in the matter of dyes. The arsenic used for the purpose named is generally in the form of "fuchsin red." Of the cases quoted one patient absorbed enough arsenic through the skin to give severe constitutional symptoms; in the other only intense local pain was produced when the patient stood on the feet, although no gross local inflammation was evident and systemic symptoms were wanting.

Mercury and Iodide of Potassium Given Internally with Pilocarpine Hypodermatically in Diseases of the Eyes.—By G. H. Burnhamby. Cases are reported of sclero-keratitis and of cyclo-irido-keratitis. The results were good, though the cases were still under treatment when reported. The author attributes the good effects of the drug combination named in the title to its power of arousing to excessive activity, in a vigorous and sustained manner, the normal physiological processes in diseased tissues, and thus acting so in accord with the efforts of nature as to bring about a restoration to a normal condition.

On Hour-Glass Stomach; with List of Six Cases Operated on by the Writer, and a Tabulated List of All Cases in which Operations Have Been Performed.—By B. A. G. Moynihan.

Case of a Parasite—Argas (or Ornithodorus) Mégnini Dugès—in Each Ear.—By C. Simpson and E. G. Wheler.

Two Cases Bearing upon the Question of the Limitations of Enterectomy.—By A. E. Barker.

A Case of Belladonna Poisoning; Morphine Used as an Antidote.—By P. G. Strachan.

British Medical Journal, April 27, 1901.

The Dietetic Value of Sugar.—H. Willoughby Gardner gives the following as the chief points about sugar as a food: It is easily digested and absorbed. It is readily stored up as glycogen, forming a reserve of force-producing material. It is in this form readily available when required. It becomes completely oxidized without any waste and leaving no residue. Under certain circumstances it can be converted into fat and so produce heat and force. It can be called a proteid-sparing food. It is pleasant to take, acts as a relish, and stimulates the activity of the digestive processes. So it should be an admirable food for producing heat and energy. It is necessary for growing boys and girls, and their nutrition often suffers owing to a popular prejudice against it. It is valuable in cases of anæmia and for the aged. Sometimes sweets harm the teeth, but on account of impurities. Cane sugar is apt to cause an undue secretion of mucus. Those who are gouty and fat must avoid sugar as they would poison. Thin gouty patients may use it.

On Certain Practical Applications of Extract of Suprarenal Medulla.—E. A. Schafer states that this extract has a far greater power in causing contraction of the muscular tissue of the uterus, whether pregnant or non-pregnant, than any other drug having the same reputed action, and whether the extract be applied directly to the muscular tissue or be introduced into the circulation. The active principle is unaffected by the gastric juice. In post-partum cases it is better to inject it directly into the uterine cavity. The solution suitable for this injection is an infusion of dry medullary substance, gr. xxx. to the pint of water. This should be sterilized by boiling and injected while fairly hot. The extract is of great value in sudden cardiac failure, whether the result of shock or hemorrhage or of an overdose of anæsthetics. The sterilized solution may be of the strength of gr. v. to a fluidounce, and must be filtered and injected with a hypodermic syringe into a superficial vein, or in apparently hopeless cases into the heart itself.

A Preliminary Note on the Hibernation of Mosquitos.—H. E. Annett and J. Everett Dutton declare that larvæ, both Culex and Anopheles, are able to withstand a temperature of about 4° C. for a period of two weeks. There can be no doubt that mosquitos of both genera "hibernate" during the winter months in England, and it seems certain that not only the adults but also the larval forms provide for the continuation of the species during the cold weather. Among the numbers of mosquitos collected by these writers, a male was never found, and all the females used for the experiments had been fertilized. If these mosquitos are kept in a dry cage, they die in a few days, but they can probably be kept for months in a damp cage in the cold. On introducing them into a warm room they quickly become active.

Suprarenal Gland Extract in the Epistaxis of Hæmophilia.—Dan McKenzie reports the case of a hæmophilic male aged thirteen years, who had been suffering from nosebleed for some days. Tannin insufflation, calcium chloride—gr. v. in water every four hours by mouth—and plugging were tried, but all proved ineffectual. Finally, three tabloids of suprarenal gland (gr. v. each) were bruised to a powder, mixed with ℥i. of water, and allowed to settle.

A tampon of cotton-wool soaked in the fluid was inserted into the nostril with immediate success.

On the Advisability of the Inclusion of the Study of Anæsthetics as a Compulsory Subject in the Medical Curriculum.—By Dudley W. Buxton.

Presidential Address on Traps and Pitfalls in Special and General Practice.—By J. Dundas Grant.

Remarks on the Training of Ophthalmic Surgeons.—By A. Freeland Fergus.

Common Deformities of the Feet.—By Ethel M. H. Williams.

A Polypoid Excrescence of the Tonsil.—By Wyatt Wingrave.

Triplets with Single Placenta.—By William McFarlane.

An Unusual Site for Bursitis.—By H. H. Thomson.

Painless Calculous Pyonephrosis.—By John Smyth.

Placenta Prævia.—By James Ross.

French Journals.

Two Cancerous Goitres.—Maurice Patel reports these cases. The first was that of a woman aged fifty-four years. Five months before presenting herself at the hospital she began to suffer extreme pain in the left side of her head and face. A short time later a swelling appeared in the left cervical region which grew very rapidly. As long as she could remember she had had a swelling in the right cervical region which had never caused her any trouble. The menopause made no change in the size of the tumor. At the time of her appearance at the hospital she had an enormous tumor of the neck, the circumference of which was 54 cm. The head was inclined slightly to the left. The movements of rotation were very limited. The skin was darker than normal, and there were some large veins in the lower part of the tumor. The local temperature was high on simple palpation. The consistence of the tumor was firm in general. It was irregularly tesselated. The normal parts of the neck were distinguished with difficulty. Dysphagia was pronounced. Semi-solid food could scarcely pass. There was a dry cough without expectoration. The face was congested, the eyes were brilliant, with a slight degree of exophthalmus. The pulse was 96 and intermittent. There were no cardiac murmur and no tremor. The urine was normal. The general condition was bad. Finally, in a state of advanced cachexia the patient died. Post-mortem examination showed an epithelial cancer of the thyroid which had taken rise in an old cyst. There were secondary involvement of the trachea, œsophagus, and ganglia of that region, and metastasis to the lung. The second case was that of a woman who for a long time had had a goitre the size of a fist, which had never caused her the least inconvenience. Suddenly it began to grow, and although causing no pain the dyspnœa and dysphagia were intense. Finally, the neck measured 81 cm. in circumference. The patient was not very thin, but death occurred after the cancer had been growing seven months. Autopsy was not allowed. In cancer of the thyroid the general condition remains good for some time. The grave anæmia of other cancers is not met with here.—*Gazette des Hôpitaux Civils et Militaires*, March 9 and April 11, 1901.

Researches on the Etiology of Dysentery.—M. H. Comte, in the course of an epidemic of this disease, made many examinations of the stools, principally at the beginning of the attack. The glairy, blood-streaked stools of the first days were relatively poor in bacteria. The amœba was not seen, but a small bacillus occurred, sometimes in pure culture, sometimes associated with streptococci in small number, or with large bacilli. When the disease progressed, the bacteria increased in number and variety. The bacillus constantly seen was 2 or 3 μ, was contracted in the middle, so that it often looked like a diplococcus, slightly mobile in extemporaneous preparations of the stools, but very movable in bouillon. On potato and serum, the cultures looked like those of the bacterium coli. It fermented lactose, rapidly coagulated milk, gave the indol reaction, but did not stain by Gram. The writer has found the coli bacillus not only in dysentery but also in choleriform diarrhœa, which is often observed at the same time as dysentery.—*Le Bulletin Médical*, April 17, 1901.

The Serums in Therapeutics; Organic Serums.—Edmond Vidal draws the following conclusions from the study of orrho-therapy as it has been conducted in the various lines: It appears that all the serums called antitoxins do not act on the microbe nor on the toxin, but on the cells of the organism which they aid to ward off the enemy—the microbe. Consequently, the serums of immunized animals do not appear to have a certain specific action, but a general tonic action. Considering the uncertainty which still obtains in the use of animal serum in therapeutics, it is advisable for the physician to continue to employ only the serums called artificial, except in certain particular cases with definite indications.—*Le Progrès Médical*, April 13, 1901.

Inguinal Adenopathy in Visceral Cancers.—Ch. Viannay declares that the appearance of cancerous inguinal adenopathy is a sign of very grave prognosis. Cancerous glands of the groin do not demand any active treatment, because they are habitually indolent and do not cause the patient any pain. They represent a secondary lesion. If ulceration occurs the affected areas should be carefully dressed, in order to prevent the occurrence of erysipelas and other infectious complications. Quinine incorporated in the dressings is advised. At the same time the internal administration of quinine is advantageous.—*Gazette des Hôpitaux*, March 16, 1901.

Münchener medicinische Wochenschrift, April 9, 1901.

The Transfusion of Blood and its Applicability as a Curative Agent Considered from New Points of View.—A. Bier has found that the injection of small amounts of the defibrinated blood of animals differing in species from the recipient produces a hæmolytic reaction which is accompanied by general systemic effects. Prominent among these are dyspnœa and coughing, reddening and warmth of the surface, pain in the back and head, stimulation of peristalsis, and fever ushered in by a chill. With successive injections these manifestations decrease in severity until the hæmolytic powers of the animal operated upon reach such a point that a considerable amount of the foreign blood is broken down all at once, when a severe reaction is caused and subsequent injections have to be carried on with great caution. These observations were confirmed by experiments upon man, with the result that the author believes that the measure may eventually be found to have therapeutic value. The conditions it is capable of fulfilling are: (1) The possibility of producing temporary hyperæmia due to capillary congestion and involving even the most deep-seated portions of the body. Observations with drugs make it probable that these changes would be most marked in diseased tissues. (2) Great stimulation of metabolism and of the appetite. (3) The production of a high "aseptic" fever. (4) Possibly an alteration of the composition of the blood.

Multiplicity of Primary Malignant Growths.—Nehrkorn describes three cases of multiple epitheliomata which in each instance on section were found to represent different types of histological structure and may be considered as independent primary growths. Another case of multiple primary malignant disease was that of a woman who was at one sitting submitted to a resection of the rectum for melano-sarcoma and hysterectomy for adeno-carcinoma. In general, however, such coincidences are rare, and unimpeachable evidence of non-relationship between the growths can be obtained only in exceptional cases. Predisposition, to which an important rôle is ascribed in systemic disease, in these cases must remain only presumptive so long as definite knowledge of the noxa of cancer is still beyond us, and the remarkable simultaneous occurrence of malignant growths in the same individual is not explicable by any hypothesis as yet formulated. In view of the relatively excessive infrequency with which multiple primary growths are observed, we can perhaps fall back on the general laws controlling the coincidence of combined disease.

Bismuth Poisoning.—F. Mühlig reports two cases of poisoning resulting from the external application of bismuth which subsequent analysis showed to be absolutely uncontaminated. Both patients had received burns of considerable extent which were dusted freely with the subnitrate of bismuth. In the one case after nineteen days, and in the other after twelve days of this treatment, salivation accompanied by stomatitis, blue line on the gums, and dysphagia developed. In both cases complete recession of the symptoms did not occur till about a month had elapsed, and it was necessary thoroughly to curette from the wounds all traces of the application.

A New Point of View in the Treatment of Whooping-Cough.—G. Spiess believes that the laryngeal spasms of this disease are due to irritation of the peripheral endings of the sensory nerves of the larynx, and has found that they can be obviated by a more or less continuous anæsthetization or rather hypæsthetization of the laryngeal mucous membrane. This can be most advantageously done by means of insufflations of orthoform, which is but slowly absorbed by mucous membranes, with the result that its effect is protracted over a considerable length of time and the applications need repetition only once in several hours.

The Applicability of Glutoid Capsules in the Diagnosis of Intestinal Diseases and Especially those of the Pancreas.—By F. Fromme.

A Further Contribution to the Knowledge of Benign Stenotic Diseases of the Œsophagus.—By R. Schütz.

Severe Cauterization by Green Soap in a Child of Eighteen Months.—By J. Langer.

Experiences in the Boer War on Gunshot Wounds and Asepsis.—By E. Sthamer.

Further Observations on the Inflammation of Serous Membranes.—By R. Heinz.

A Case of Unilateral Dislocation of the Inferior Maxilla.—By M. Karehnke.

The Treatment of Gunshot Wounds of the Abdomen.—By W. Petersen.

Two Cases of Embolism of the Abdominal Aorta.—By C. Bührer.

Deutsche medicinische Wochenschrift, April 11, 1901.

Observations on Diffuse Peritonitis in Appendicitis.—E. Sonnenburg gives some figures that are encouraging, inasmuch as, although the gravity of complication cannot be discounted, yet the statistics of the later years are so much more favorable than those of the previous periods that at least a moderate degree of optimism for the future seems justified. During the six years from 1894 to 1900, 150 cases of suppurative peritonitis were treated with 79 (fifty-two per cent.) cures. Dividing these into two sets, *i.e.*, those before 1897 and those after that date, we find for the first period 61 cases with 25 (forty-one per cent.) cures, and for the second term 89 cases with 54 (sixty per cent.) recoveries. In most cases a lateral incision through the flank is recommended as giving better access to the presumptive starting-point of the infection and carrying with it less risk of diffusing the process than the median operation. Drainage and irrigation of the abdominal cavity are not advocated by the author, who habitually employs extensive tamponade. Early operation is the prime factor for success; in cases in which operation does not seem wholly indicated, rest with the administration of narcotics is advised; for, although opium obscures the clinical picture, still it does tend to restrict and localize the process so that small doses of morphine are permissible.

Total Extirpation of the Stomach (Œsophago-enterostomy).—A. Bardeleben reports another case of complete gastrectomy with apparently curative result. The patient, a woman aged fifty-two years, had for a year before the operation been suffering from the usual symptom complex of gastric carcinoma, and on exploratory incision it was found that the cardia, entire anterior wall, and the pylorus, as well as a portion of the omentum, were involved. The entire stomach and some of the omentum were resected, the duodenum was closed, and a lateral anastomosis made between the œsophagus and jejunum. The patient made an uninterrupted recovery, taking small amounts of fluid by mouth on the evening of the operation, while all rectal feeding was discontinued on the third day. Since then (a period of six months) she has had no pain, feels perfectly well, has normal movements, and has gained seventeen pounds.

Unusual Extraperitoneal Cystic Abdominal Tumors.—By C. Helbing.

Two Cases of Urogenital Coli Bacillosis.—By W. Karo.

Asepsis in Neck Operations.—By O. v. Büngner.

Berliner klinische Wochenschrift, April 15, 1901.

Hyperæsthesia of the Nasal Mucosa.—B. Fränkel believes that the importance of reflex neuroses, due to the heightened sensibility of portions of the nasal mucous membrane in producing asthma, hay fever, and similar affections, has been overestimated, and that the frequency with which cauterization and other surgical measures are performed is not justified by the results. In testing for the presence of such a state the customary method of touching various areas with a probe and noting the amount of reaction produced is unreliable, since the touch sense may be independent of the reflex excitability, and besides the sensitive spot is likely to be overlooked. A better way is to employ solutions of ammonia, beginning with a one-per-cent. strength and running up to forty per cent. These are given to the patient to smell, beginning with the weakest, and the strength of the solution first producing the characteristic stinging sensation is noted. In treating these states local anæsthesia with cocaine and orthoform often gives beautiful results in selected cases, but their effect is only transitory, and the patient is often disappointed by the speedy return of his symptoms, while it is not safe to give the drugs into his own hands for habitual use. On the whole, the best results may be expected from the bromides, in gr. xv. doses three times a day, and it is particularly in periodic affections like hay fever, whose advent can usually be accurately predicted by the patient, that prophylactic treatment, begun several days before the date of the expected attack, is to be recommended.

Glycogen Formation After Albumin Feeding.—By F. Blumenthal and J. Wohlgemuth.

The New Massage Institute of the Berlin University.—By J. Zabludowski.

Observations on the Physiology of Kidneys and Ureters.—By E. Warschauer.

The Plague Case in Bremen.—By Kurth and Stoevesandt.

Membranous Enteritis.—By H. Westphalen (to be concluded).

Annals of Surgery, May, 1901.

Concerning Prompt Surgical Intervention for Intestinal Perforation in Typhoid Fever, with Relation of a Case.—By Harvey Cushing. The author gives some statistics of this operation, stating among other facts that there are now on record thirty-seven actual cases of recovery after perforative lesions, and expressing the belief that the recovery percentage will steadily increase in years to come. He suggests that in future the following classification of cases should be made: (1) Those cases, usually followed by recovery, in which the peritoneal reaction has been sufficient to keep the infection localized for a long time, including presumably many cases of appendicular origin in which the operation has consisted in evacuating an intraperitoneal abscess; (2) those cases of late operation on an advanced generalized peritonitis which rarely end in recovery, and only when the predominating organism possesses a low degree of virulence; and (3) the cases of free perforation recognized and operated upon before the production of a diffuse peritonitis, in which the prognosis is dependent upon the promptitude of the intervention and the bacteriological characteristics of the extravasated material. The case here narrated presented abdominal symptoms from the start. Local peritonitis developed with pre-extravasation symptoms supposed to be due to a small hemorrhage. Subsequent laparotomy was done (forty-five hours later), under local anæsthesia, for symptoms of collapse. The perforation was found and closed. There was a second perforation into the wound with a resulting temporary fistula, but recovery eventually ensued.

Some New Points in Tendon Surgery.—By F. S. Cooldge. The paper is an advocacy of Nicoladoni's method of transplanting the tendon of a strong healthy muscle into the tendon of a paralyzed muscle. The following are the points to be considered: (1) The time of the operation, which should not be done until the reparative process which follows an attack of infantile paralysis has nearly or quite reached its limit. (2) The amount of strength of the muscle to be grafted as compared with the work which it will be called upon to do. (3) The location of the grafting, which may be done either above or below the annular ligament, preferably above it, for then the ligament will hold the graft in place. (4) The manner of joining the tendon. It is preferable to pierce the normal tendon, pull through the paralyzed tendon, and then apply sutures, or else to cut the paralyzed tendon quite long, to fold it down and suture it to itself, first always taking a stitch at the bottom of the slit in the tendon to prevent its splitting to the end. (5) The sutures; chromicized catgut with a life of four to six weeks is preferable. (6) The post-operative treatment should consist in the application of a plaster bandage for four weeks, then massage and passive motion, usually with some appliance to keep the foot in its proper position for a couple of months more.

The Surgical Treatment of Amœbic Dysentery.—By F. W. Murray. The author notes the peculiarly destructive character of the ulcerations occurring in this disease, and claims that in order to secure recovery two conditions are necessary: (1) Cleanliness, and (2) enforced rest of the ulcerated tissues. He therefore advises the formation of an artificial anus through an inguinal colostomy, preferably on the right side. Thereby we can place the bowel at rest, and through the bowel opening we can in addition carry on a thorough and satisfactory local treatment of the colonic ulceration. The operation should be performed early in the disease, after medical treatment has had a fair trial and has failed to relieve the condition. The duration of uncomplicated cases, which are cured by medical treatment, varies from two to four to six months; and Murray recommends that if, after four months of medical treatment, the dysentery is not cured, then the case should be turned over to the surgeon. The artificial anus should be left open for a long time, several months perhaps, and its subsequent closure should not follow until it is quite certain that the ulceration is healed.

Some Errors in Diagnosis in Conditions Resembling Appendicitis.—By G. E. Brewer.

Rare Complications after Operations for Appendicitis.—By Willy Meyer.

Operative Paralysis of the Spinal Accessory Nerve.—By P. Bailey.

Report of Three Cases of Properitoneal Hernia.—By J. C. Oliver.

The Surgery of the Spleen.—By J. Collins Warren.

Hydatid of the Prostate.—By L. Bolton Bangs.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, Held in Washington, D. C., April 30, May 1 and 2, 1901.

First Day—Morning Session.

The President's Address.—Dr. William H. Welch, of Baltimore, delivered this address. At the first meeting of the new century it would be appropriate, he said, to review the work of the past, but the members were there to listen to papers on actual knowledge and scientific research. He drew attention to the opportunities now offered to those desiring to take up the life and work of the medical profession. Thoroughness in laboratory training in this country compared very favorably with that of any other country. Those desiring to devote their attention to physiology, anatomy, or pathology were able to do so on account of the many positions opened to them in our colleges and institutions. It would seem that opportunities for training the physician had not kept pace with the progress in strictly scientific work.

Since the last meeting they had to mourn the loss of four of their members, three of whom had held the office of president. James T. Whittaker had been stricken down while in full possession of his powers. As an example of his ever-readiness to examine into the value and possibilities of a new scientific discovery, his hastening to Berlin immediately upon the announcement of the discovery of tuberculin by Koch was cited. James N. Da Costa had made a world-wide reputation as a teacher, author, and diagnostician. Among his many works the success of his "Medical Diagnosis" was mentioned as greater than that of any other American text-book. Samuel C. Busey was a man of lofty ideas and tireless devotion to his profession. His high standard for science would always keep his name among our peers. William H. Draper, who only the day before had been borne to his last resting-place, had presided over the first meeting of this association. Not a branch of the medical profession but had learned to honor and respect his deep learning.

Slow Pulse with Special Reference to Stokes-Adams' Disease.—Robert T. Edes, of Boston, the author of this paper, was unable to be present. He had forwarded his manuscript, but it was not read on account of the great number on the programme.

An Undescribed Cardiac Sound.—This paper was read by Dr. H. A. Hare, of Philadelphia. The discussion at the present time of any physical sign that had not been described was apparently impossible, he stated. He had no doubt that all present had heard the sound, and yet he was not familiar with any mention of it in text-books. The sound was that peculiar vibrating one occurring with systole, and heard best in an area extending from one inch to the right of the sternum to one inch to the right of the nipple, and on a level with the nipple. Sometimes it was very dry and resembled a pericardial friction sound. He was confident, however, that it was not a friction sound. It was probably due to vibrations in the chordæ tendineæ, produced by imperfect contraction of their muscular attachments, because it was not met with in feeble, irritable hearts. It was frequently found with early pulmonary tuberculosis, so frequently that he considered it indicative of that disease. It was not, however, frequent in the advanced stages of consumption. Emphatically it was not a hæmic murmur, which was generally heard elsewhere besides at the apex, and was soft and purring. This sound was like a "ching" at each systole. It was short and quick, and not changed by deep or superficial pressure of the stethoscope. It was decreased, but not obliterated, by rest. Nervousness and fear accentuated it. This was not the musical murmur described by Dr. Da Costa as resembling the cooing of a pigeon; it was not so clear and distinct. There were no subjective symptoms, as a rule.

The Frequency and the Diagnosis of the Flint Murmur in Aortic Insufficiency.—This paper was read by Dr. William S. Thayer, of Baltimore. The man for whom this murmur was named discovered it in 1862. It was loud and blubbering, like a mitral presystolic murmur. During the past eleven years a number of instances had come under his observation in Dr. Osler's wards in Johns Hopkins Hospital. Since 1889, autopsies had been performed in 74 cases. In 45 cases there had been a rumbling echoing murmur in diastole, limited to the apex. Unlike an aortic regurgitation, it was presystolic, ending in the first sound. Out of 58 aortic insufficiencies examined, 33 had the Flint murmur. In 17 of the 33 the mitral valves were absolutely normal. He drew the conclusion from these and other statistics that the Flint murmur was present in the majority of cases of aortic insufficiency. The most characteristic physical signs were to be found in the pulse, the sharp systolic shock at the apex, the mid-diastolic murmur, and the thrill in the apex region. An examination of 22 cases of mitral stenosis showed the thrill to be present in 54.5 per cent., the systolic shock in 68 per cent., and the presystolic murmur in 81 per cent. Aortic insufficiency with the Flint murmur was not so intense as the more marked murmurs of true mitral stenosis. The Flint murmur was associated with a heaving impulse. The condition of the pulse aided greatly in the making of the diagnosis. The history, too, was important. In the 33 cases with the Flint murmur, a history of rheumatism or chorea was obtained from only 13. In a larger percentage, about one-half, arteriosclerosis was present.

Dr. Cabot, of Boston, said that at the Massachusetts General Hospital he had found at autopsy the mitral valves normal in ten cases which had had the Flint murmur.

On Right-Sided Occurrence of Hydrothorax.—Dr. Alfred Stengel, of Philadelphia, read this paper. Having had at one time under observation, he stated, three cases of unilateral hydrothorax without external œdema, and being impressed with the difficulty in distinguishing such effusions from inflammatory pleural exudates, he had been led to investigate the causes of the condition. Writers, almost without exception, stated that the effusion in heart disease was always bilateral. To determine the frequency of hydrothorax and the conditions of its occurrence, he analyzed one hundred consecutive cases of cardiac disease, in which sufficient clinical and pathological information was preserved to make notes of value. He found seventeen in which the evidence proved the existence of hydrothorax. Of these seventeen, five were affected on the right side only, three on the left side, and nine were bilateral at some stage. Figures showed a very great preference of hydrothorax for the right side. This distribution was not accidental. He then reviewed the causes of dropsical effusions, mentioning obstruction to the venous circulation, lymphatic obstruction, changes in perivascular tissues, and hydræmia or anæmia. He said it would seem at first that hydrothorax without external œdema was caused by altered perivascular tissues from old pleural inflammations, with venous stenosis that had not increased sufficiently to cause bilateral pleural œdema. Some anatomical condition, however, must be sought, and two suggestions offered themselves: either obstruction of circulation in the superior vena cava, causing ob-

struction to the circulation in the right lymphatic duct, or the venous circulation in the intercostal and right pulmonary veins entering the vena azygos minor was obstructed. The former view was untenable, as the right lymphatic duct was well protected by valves; and, if this was the case, the chest, arm, and neck would be affected on the right side. The specific gravity of effusions was studied, as normal transudates ought to have higher specific gravity than that of venous obstruction. Statistics, however, did not substantiate this. The varieties of cardiac diseases in which right-sided hydrothorax had occurred was then discussed. However, in two autopsies the right ventricle, auricle, and the vena cava were unusually dilated, and there was marked backward pressure upon the root of the right lung and azygos vein. These facts, together with the anatomical studies, clearly pointed out the cause of the sole or predominant effusion on the right side.

A Case of Pneumonia Complicated by Pseudo-membranous Exudate on the Mucous Membranes of the Mouth, Tongue, Pharynx, Nares, Conjunctivæ, Glans Penis, Anus, etc., Caused by Diplococcus Pneumoniæ.—This paper was read by Dr. Charles Cary, of Buffalo. The case was remarkable in only the one respect: that this exudate was found so extensively involving the various mucous membranes. Microscopical examinations showed the diplococcus pneumoniæ to be present in all these situations. The case was reported in detail, the day of the appearance of the exudate in each locality being given. The patient evidently re-infected himself.

Exhibition of a Cardiograph and a Kymographion for Bedside Use.—By Dr. Alfred Stengel, of Philadelphia. These instruments were not presented, owing to a disappointment by the instrument maker.

Myocarditis and Fatty Degeneration of the Heart.—Dr. Beverley Robinson, of New York, said it was often most difficult to differentiate between these two affections. The diagnosis was often problematical on the most careful investigation. Fatty degeneration was not uncommon in pernicious anæmia, but not general in simple anæmias. The symptoms of cardiac weakness were slowness of the pulse, sometimes intermittence, a systolic murmur, dizziness, and perhaps fainting. He had seen patients unconscious for half an hour or more, the pulse at the wrist being very weak, and upon return to consciousness there would be found no enlargement of the heart. The diagnosis would always demand a great deal of consideration. If the patient was a high liver and took freely of alcoholic stimulants, it was reasonably sure that fatty degeneration was present. Dizziness might come on rapidly with little or no sufficient cause. This he considered evidence of a beginning of fatty degeneration. He would give in these cases iron and arsenic for the blood, intestinal antiseptics, and cardiac stimulants; oxygen also was often of marked usefulness in these cases. In senile heart, among those who had lived moderate and temperate lives, the changes were more likely to be fibroid in character. The arteries were apt to show fibroid changes, and the urine would be of a low specific gravity, without, perhaps, containing any albumin or sugar. With slight exertion or indiscretion in diet the symptoms might be brought on. The patients frequently had dizzy or fainting turns. They slept poorly, and bronchitis was likely to appear. These patients suffered from myocardial changes. In men after middle life and in women at the time of the climacteric great care should be taken in making a diagnosis. When women had a great flow at the periods of menstruation, the subsequent anæmia tended to fatty degeneration and cardiac dilatation. If under these circumstances it became necessary to administer an anæsthetic of any kind whatsoever, the greatest of care was required. This should be especially borne in mind in cases of uterine fibroids in middle-aged and corpulent women.

Hemorrhage into the Pleural Sac; a Cyst of the Omentum.—These two cases were presented by Dr. A. Jacobi, of New York. The first was that of a child admitted to Roosevelt Hospital after a prolonged illness. There had been loss of flesh, the appetite was very poor, and the child was very weak. Upon admission the temperature was 102° F. There was dulness over the right lung, extending to the fourth rib. Resection was performed under chloroform and pus evacuated to the amount of 500 c.c. Immediately a flow of blood followed. Fully 250 c.c. of blood was lost. It could be seen to be escaping from some tufts on the pleural membrane. These varied in size from 1 cm. in diameter to that of a pin's head. The necessity for immediate packing of the wound to prevent further loss of blood prevented the obtaining of a specimen for examination. The hemorrhage did not recur at subsequent dressings. A careful search for tubercle bacilli was unsuccessful. The temperature became normal in a few days, and the child made an uneventful recovery. Cases in the literature did not aid in the diagnosis. The second case had been admitted to the hospital with a diagnosis of tuberculous peritonitis. The abdomen was tapped, and the patient improved. One year later the child returned and was tapped again with apparently good results. A third time the tapping became necessary. There were no cough and no sweats, and the respirations were normal. The fluid was examined for tubercle bacilli with negative results. When a few weeks later lymph nodes appeared in the axilla, an operation was decided upon. A large multilocular cyst, containing two quarts of a clear straw-colored fluid, was removed. It was found to arise from the omentum by two pedicles. The patient had a high temperature two days after the operation, but presented no sign of inflammation at the site of the wound, and was shortly discharged from the hospital, cured.

Dr. Henry remarked that he had never seen hemorrhage into the pleural sac in tuberculosis, except in cases with scurvy, and he doubted if tuberculosis was usually a cause. Hemorrhage was quite uncommon, while tuberculous infection of the pleura was very common.

Dr. Peabody did not think hemorrhagic pleurisy with tuberculous infection was very uncommon. Very likely it was often not diagnosed, because many men recovered.

First Day—Afternoon Session.

Report of the Progress of Cases of Pernicious Anæmia Presented to the Association in 1900, and Report of a Case of Pernicious Anæmia with Diffuse Spinal-Cord Lesions, with Post-Mortem Findings.—This paper was read by Dr. Frank Billings, of Chicago. By means of carefully prepared charts he showed the changes these cases of pernicious anæmia had passed through during the past year. The blood examinations had been carried on as systematically as was possible. He drew attention to the fact that as the patient improved the megaloblasts diminished in number. This was spoken of as Von Noorden's crisis. The improvement waves were longer than at his last report. There were no new blood changes to be brought to the notice of the association. He described at length the spinal-cord lesions in his case of autopsy and demonstrated them by microphotographs.

Further Notes of a Case of Pernicious Anæmia Reported at the Meeting of 1900.—This paper was presented by Dr. F. P. Henry, of Philadelphia.

A Case of Acute Leukæmia, Presenting Some Interesting Features.—This paper by Dr. D. D.

STEWART, of Philadelphia, was not read, as he had another he was more anxious to present and he wished to help shorten a too long programme.

Acute Miliary Tuberculosis, Primarily Splenic.—This paper was read by Dr. D. D. Stewart, of Philadelphia. The disease, it was stated, was of very rare occurrence and easily overlooked. In one case mentioned, typhoid was regarded as very possible. The patient gave a negative history. After an attack of influenza and before he had become strong he was taken acutely ill. His temperature was between 101° and 103°. He had a chill daily. No red spots appeared. The spleen was easily palpated. A few weeks before death tubercle bacilli began to be suspected in the lung. The autopsy showed miliary tubercles in the spleen, lungs, and liver. The spleen was more enlarged than any other organ.

Notes on the Relapsing Fever of Hodgkin's Disease.—This paper was read by DR. JOHN H. MUSSER, of Philadelphia. He called attention to the fact that fever had long been observed as an important symptom of this disease. It was not always continuous but might be remittent. Sometimes before a paroxysm the patient had pains in the groins and became very irritable. Anæmia was very common, but the blood examinations threw no new light on its etiology. The glands in the neck and axilla might be enlarged, and the spleen usually was palpable. He concluded that the chronic recurring fever of Hodgkin's disease was in all probability tuberculous.

DR. WELCH said they had had quite a number of cases at the Johns Hopkins Hospital that had turned out to be tuberculous.

A Study of Granular Degeneration of the Red Blood Corpuscles.—This paper was read by Dr. Alfred Stengel for DRS. C. Y. WHITE and WILLIAM PEPPER, of Philadelphia. These granules were described as varying in size, as being usually rounded, sometimes elongated, and either clumped or scattered. The cell substance might be normal. They might be found in nucleated cells. They were found never in fresh cells but only after staining. The literature bearing upon the subject was reviewed. Their experiments had been carried out with several classes of cases. Examinations were made of the blood of those suffering from chronic lead poisoning; of men who were constantly exposed but were not poisoned; of men exposed to high temperatures—men working before large furnaces; of those suffering from other diseases than lead poisoning, and of the blood of animals under various conditions. In the first class the granules were very constant. The coarsest granules were in excess in the worst cases of poisoning. Granules were found in all of the next class without an exception. Among the men working in iron foundries, they were found in only one person. This man had been suffering from diarrhœa, and it was thought quite probable that he had been given some lead as a medicine. It was found that within twenty-four hours after lead acetate was given, granules could be found in the blood. Attention was called to the great difficulty in staining specimens from the marrow of bones. This had been found to be due to the oil and might account for the fact that no one had hitherto made these stains.

The Toxic Origin of Neurasthenia and Melancholia.—This paper was presented by DR. M. ALLEN STARR, of New York (see page 721).

The Evils Arising from Failure to Recognize the True Nature of Neurasthenia, and Some Causes of this Failure.—DR. W. W. JOHNSON, of Washington, who presented this paper, had made a careful study of the life of Charles Darwin, and, beginning with a history of his great physical and mental labors during his youth, showed how he was a sufferer for much of the remainder of his life. As a youth he had been fond of athletic sports. At the age of twenty-one years he had taken up work which occupied him until he was twenty-six years old. Travelling all that time, studying and taking an unusual amount of exercise, often in the saddle for many hours at a time, with poor food and water, he had overstrained his mental and physical powers. The effects of this were shown in his after-life. He became easily fatigued. He was a great sufferer from insomnia. Later he became despondent, had a desire to die—to get rid of the pain of living. Then his mode of treatment was reviewed. It was self-treatment so far as known. He adopted a rigid programme for his time. The early recognition of the nature of the overstrain was emphasized as of great importance and the need of proper sanatoria for these cases explained. Especially trained and skilled doctors and nurses should be in charge, and no other diseases admitted.

The Acid Intoxication of Diabetes and its Relation to Prognosis.—This paper was read by DR. C. A. HERTER, of New York. He first described and illustrated the different ways of obtaining the acids in excretions. One was to balance the acids and bases. In normal urines the acids and bases were nearly alike. By tables he illustrated the amounts and nature of the acids, and then compared a normal and a diabetic urine. The apparent excess of acids in the former was 0.9143 gm. in terms of sodium, and in the latter the apparent excess of bases in terms of sodium was 5.736 gm. Another method consisted in the determination of the nitrogen of ammonia. In ten normal urines the percentages of nitrogen of ammonia ranged from 2.87 to 5.39, while in seven urines collected in diabetic coma the range of percentages was from 16.73 to 28.11. The ratio of potassium to sodium was usually about 1 to 2, while in one case of diabetic urine he found 5.10 gm. of sodium to 6.69 gm. of potassium. By dieting this was changed to 7.08 gm. and 3.30 gm. There existed a certain amount of independence between the amount of sugar and the acids in these cases.

Metabolism in Diabetic Coma, with Especial Reference to Acid Intoxication.—This paper was read by DR. E. P. JOSLIN, who was introduced by Dr. Pfaff, of Boston. This was a short communication of some original research work done during the past two years. The author concluded that the most correct way was to find the excess of acids from computation of the bases.

DR. VAUGHN said there was every reason to believe that these acids did not come from the carbohydrates. He would infer that the increase of potassium came from cellular disintegration.

DR. HERTER said he thought the acids came from the nitrogenous foods.

Classification of the Intoxications from a Pathological Point of View.—This paper was read by DR. J. GEORGE ADAMI, of Montreal. He first divided all poisons into exogenous and endogenous. A great deal of misinterpretation in the causes of poisoning came about through the failure to recognize the fact that the intestinal tract was outside of the body; that auto-intoxication could not, therefore, take place from the stomach or intestine or from the bladder, but that it must be set up by the action of cells within the body.

First Day—Evening Session.

A Demonstration of Some Features of Photomicrography was made by DR. CHARLES S. BOND, of Richmond, Ind.

Demonstration of the Renal Lesions in Diphtheria, with a Stereopticon.—By DR. WILLIAM F. COUNCILMAN, of Boston.

Demonstration of Lantern Slides.—By DR. H. C. ERNST, of Boston.

Demonstration of Specimens of Experimental Acute Pancreatitis.—By Drs. S. Flexner and R. M. Pearce, of Philadelphia.

Demonstration of Specimens of Hemorrhagic Pancreatitis, Human and Experimental, and of Filarial Lympho-Varix.—By Dr. William H. Welch for Dr. E. L. Opie, of Baltimore.

Demonstration of Specimens of Multiple Myelomata and of Epizootic Hemorrhagic Encephalitis.—By Dr. William H. Welch for Drs. W. G. MacCallum and Buckley.

Second Day—Morning Session.

A Study of Bubonic Plague Based upon the Outbreak in San Francisco.—The clinical aspects, the bacteriology, and the pathology were discussed by Drs. L. F. Barker, of Chicago; F. G. Novy, of Ann Arbor, and Simon Flexner, of Philadelphia, respectively.

Dr. Barker said that the classification of types and the diagnosis of the disease would be based chiefly upon the cases at San Francisco, but also upon the cases seen previously at Hong-Kong and Bombay. The present conception of the disease was that it belonged to the group of septicæmic infections, that it gave rise to a general infection without any local preponderance. There was nothing distinctly peculiar about the outbreak in San Francisco. It was the same as prevailed in many places. However, it was a significant fact that thus far there had been no outbreak among the rats. The first case had been diagnosed in March, 1900, by Dr. Wilson and Dr. Kellogg, and it was confirmed by Dr. Kinyon. Most of the cases had been among the Mongolians, only three cases having been discovered among the Caucasians. In most epidemics the majority attacked had been between the ages of twenty and thirty, but the majority here had been older. There was little or no difference as to sex. The type was bubonic in general, with one primarily septicæmic and one primarily pulmonic, and two uncertain. The onset was usually sudden, followed by chill, fever, nausea, vomiting, nervous symptoms, often delirium and coma. As a rule, within twenty-four hours a bubo might be found. Death generally occurred on the fourth to the sixth day. Those who lived after the sixth day were more likely to recover. The mode of development of bubo was peculiar: it grew very rapidly, but varied in size, that of a hen's egg being most common. It usually included a group of glands and involved surrounding tissue. The œdema was very characteristic, being more elastic and resisting than in any other glandular infection. The Chinese doctor, as soon as he discovered the bubo, put on a piece of black plaster, and thus aided in diagnosing. Pain on pressure was nearly always present. The thighs were flexed and rotated outward. Hemorrhages were not uncommon. The most frequent site for the bubo was in the groin, next in the axilla, then in the neck. The popliteal space and the elbow were rarely affected. The pneumonic type—the Black Death of the fourteenth century—was of two forms: primary, in which the bacilli entered the respiratory tract and symptoms of a croupous pneumonia resulted, or secondary, usually by aspiration. At the beginning and end of epidemics it was extremely necessary to diagnose the abortive or ambulatory forms. The urine and fæces frequently contained the bacilli a month after recovery. The diagnosis could be made with absolute certainty. Doubt on this point had done much harm. No disease was more easy to recognize if one could take all the means needed. The reader then gave a differential diagnosis between plague and those diseases with which it might most easily be confounded.

Dr. Novy said the detection of the bacilli in the bubo was difficult during life. Cultures had been successfully made from blood, but were not to be relied upon. If 1 or 2 c.c. of blood were taken, they might prove successful. In the pneumonic forms no such difficulty was met with, as the sputum was loaded with bacilli. In five out of six cases the spleen was rich in bacilli. The process of staining these bacilli and a clear description of their appearance were then given. The results of the experiments with cultures were most interesting.

Dr. Flexner first drew attention to the fact that bacilli might pass through the skin of an animal without leaving any pustule. In these cases the spread to the adjacent glands took place most rapidly, even before the first was discovered. After incision into the gland, no pathological condition could be mistaken for this disease; the most important characteristic being the amount of hemorrhage into the gland, which was very striking. This hemorrhage and the œdema were not limited to the glands, but extended into the surrounding fascia and muscles for many centimetres. The glandular enlargement was due to cellular proliferation, especially of the nodes and cords. The growth of bacteria was not so enormous in any other disease, save, perhaps, in leprosy. In the lymph sinuses might be found clumps constituting thrombi, and thus the flow of lymph was obstructed. The necrosis in the glands was variously interpreted; possibly bacteria growing in such numbers might bring about this condition. Another explanation was that the lymph channels in the walls of the blood-vessels became plugged. The changes in the other organs were taken up in turn and fully discussed.

General Sternberg said that had this epidemic occurred thirty years ago we should probably be reading in papers to-day of five hundred deaths or so. But for the fact that we had had such men to send to the front, we knew not what extent this epidemic might have reached.

Dr. Park mentioned two cases which had been discovered in New York and in which the bacilli had been found. Both resulted in recovery.

Dr. Vaughn described the case which occurred at Ann Arbor.

Dr. Parker said the country owed a debt of gratitude to Dr. Kellogg and to Dr. Kinyon for their labors in San Francisco.

Experimental Yellow Fever.—This paper was prepared by Drs. Walter Reed and James Carroll, of the United States army. These experiments were conducted at an isolated garrison, erected with the aid of General Wood. The means of isolation and all the precautions against error creeping into their deductions were described fully. They tried to produce yellow fever in three ways: by the mosquito, by subcutaneous injections of blood from yellow-fever patients, and by fomites. The success of the blood-method only aided in confirming the mosquito theory. It was shown that all mosquitos did not become infected upon biting a patient. It was proven that the bacillus of Sanarelli was not the bacillus of yellow fever. It was also proven that yellow fever was not propagated by fomites. Great stress was placed upon the necessity of diagnosing the first case. The premonitory symptoms were often not very striking, and a mild case would be hard to diagnose by an unsuspecting physician. From these experiments and other observations the opinion was offered that the time of incubation was often longer than five days.

Dr. Sternberg reviewed the time he himself had given to the study and research of yellow fever. In 1880 he attempted examinations and experiments with the blood, but with no results; and now we had it absolutely demonstrated that there was something in the blood peculiar to this disease.

Dr. Welch wished it to be known that none of these young men upon whom the experiments were made died. They were American soldiers and volunteered for this work. They should be made known as great heroes.

A Case of Malarial Nephritis with Massing of the Parasites in the Kidney.—Dr. James Ewing, of New York, presented this paper. The frequent occurrence of renal lesions in malarial fever, he stated, was described long before the discovery of the malarial parasite. Of great interest and importance were the numerous records of distinctive signs of an acute exudative process in the kidneys, usually in æstivo-autumnal cases, less often in tertian infections, and consisting in the presence in the urine of epithelial and granular casts, many blood cells, and albumin. Recovery had usually followed the acute symptoms, and therefore the lack of pathological information. In the fatal cases of pernicious malaria the conditions found in this organ had been very uniform. The lesions had been those of a severe acute degeneration of the cortical tubule cells, with moderate exudation of albumin into the tubules and glomeruli. The invariable freedom of the kidney from localization of parasites in pernicious cases could not be attributed to the phagocytic powers of this organ. It was probably due to the rapid circulation in the organ. In the reader's experience in the examination of fourteen cases of malaria he found few parasites in the renal vessels, but extensive degenerative changes. However, a case recently encountered showing clinical symptoms of acute hemorrhagic nephritis and partial suppression of urine, together with the microscopical evidence of extreme massing of parasites in the kidney, appeared to show that malarial nephritis might be caused in large part by the presence of an excessive number of parasites in the renal capillaries. The case was then described in detail. In closing the author called attention to the importance of considering the possibilities of diagnosis, during life, of this type of malarial nephritis. It would seem that it could be done from the following evidence: partial or complete suppression of urine; considerable admixture of intact red cells; a considerable proportion of albumin; many granular and epithelial and some blood casts; infected red cells, both free and adherent to casts, and the presence of pigmented leucocytes.

Septic Infection through the Stomach and Duodenum.—Dr. Walter B. James, of New York, read this paper. He said that the gastric juice and the bile were commonly supposed to protect against infection through the mucous membranes of these organs. The occurrence of septic infection during the last few years, in a number of cases in which the portal of infection had apparently been in these locations, had led him to alter his views. Bacteria living in the stomach had been demonstrated by several scientists. Therefore the conditions were present for infection should a solution in the continuity of the mucous membrane occur. A case was then described at length, in which a patient had died of an overwhelming septicæmia. The staphylococcus pyogenes aureus was found in the blood, and the post-mortem showed all organs normal with the exception of a small growth in the stomach. There were no evidences of inflammatory conditions existing outside of the stomach. The increased temperature in gastric ulcer, it had been stated, could not be due to infection through the base of the ulcer. He cited a number of cases in which the autopsy had shown the existence of a superficial ulcer of the stomach without any evidences of inflammation in other parts of the body. In connection with cancer of the stomach fever was often present. This was the case in fifty per cent. of the cases reported by Osler. Another class of cases in which he thought infection often occurred by this route was that of phlegmonous gastritis. He called attention to the case of a linear stricture on the posterior surface of the stomach which had been reported at the last meeting. In his series of cases he had omitted all with inflammatory complications.

Dr. Cabot asked if a leucocytosis was usually present in these cases.

Dr. Meltzer thought that the fact of lowered vitality and resistant powers aided in explaining the infection.

Dr. Kinnicutt said this should not be considered a terminal condition. He had watched these cases for months, and the infection appeared too early to be classed as terminal.

Two Cases of Streptothrical Infection, One Broncho-Pneumonia, the Second Abscess of the Brain.—Drs. John H. Musser and N. B. Gwyn, of Philadelphia, were the authors of this paper. The symptoms in the first case had begun with a convulsion. No further symptoms had been present. The eyes had been examined with a negative result. On the third day another convulsion was followed with delirium and coma. Spinal puncture proved of no assistance in making a diagnosis. The patient died one week after the first convulsion. Circumstances permitted of a post-mortem examination of only the head. The arteries were not diseased, and the bony canals and walls presented nothing of a pathological nature. Pus was located, however, in the brain, and smears and cultures were taken. No tubercle bacilli were discovered, and it was only after prolonged and most careful examination that the streptothrix could be demonstrated. Stained with carbol fuchsin the appearance was much like that of actinomycosis, but there were no rosettes. The second case was mentioned because the patient had an increase of temperature and pulse before signs of a bronchitis appeared. It rapidly developed into a pneumonia. Specimens of sputum showed the streptothrix.

Dr. Flexner mentioned a case which had come to autopsy at Johns Hopkins Hospital, and which would have been recorded as tuberculous infection but for a most careful examination.

The Chemistry of the Bacillus of Tuberculosis.—This paper was prepared by Drs. E. L. Trudeau and P. Levene, of Saranac Lake. The following elements were isolated and specimens exhibited: Calorin; wax, existing to the extent of thirty per cent.; cellulose; three nucleo-proteids, and five glycogens.

Second Day—Afternoon Session.

To What Extent is Urine a Suitable Soil for Bacterial Growth?—Dr. William A. Park, of New York, read this paper. After ascertaining the normal acidity of urine he had made an acid bouillon using sodium phosphate, and with this normal solution of urine had proceeded with his experiments. Among other bacteria he used the staphylococci, streptococci pyogenes aureus, gonococci, the bacilli of Eberth, and the colon bacilli. He found the percentages of acidity in which they would live and thrive. The changes in the reaction of the urine due to the presence of bacteria was also studied. He experimented furthermore with urines containing albumin and sugar. He found that individual urines presented marked peculiarities. No bacteria could be made to grow in some. In the urine of one man who was in apparently good health and was taking no drugs, and whose urine was alkaline in reaction, no bacteria could be induced to live. This peculiarity was found in some urines irrespective of their reaction. In most cases, however, the acidity was all-important in determining when bacteria would grow. The author then reviewed the therapeutic advantages of an extended knowledge upon this subject.

Orchitis Complicating Typhoid Fever.—This paper was presented by Dr. Francis P. Kinnicutt, of New York. He first reviewed the literature and drew attention to the rarity of this complication. In one series of fourteen thousand seven hundred and thirty-eight cases, no record of an epididymitis or orchitis was mentioned. During the past winter he had had two cases at the Presbyterian Hospital. Full histories of both cases were read. In each this complication had occurred after convalescence had been established. In one it had begun in the cord in the inguinal canal and extended downward involving the epididymis. No sound or catheter had been used upon the patient and there was no discharge from the urethra. The urine showed a trace of albumin, no casts, and no gonococci. There was but slight constitutional disturbance. The saphenous vein on the affected side, however, became enlarged. In the second case the cord was unaffected. The enlargement was confined to the epididymis. After having been discharged from the hospital the patient had returned with the epididymis and testicle very much swollen. Fluctuation was obtained in the testicle and pus aspirated. Examination of this showed the presence of the Eberth bacilli. The author's conclusions were that epididymitis occurring in typhoid fever was due to the Eberth bacilli; that it was usually unilateral and commonly involved the epididymis and the testicle but rarely the cord; that suppuration occurred in twenty-five per cent. of all cases; that death as a result of this complication had never been recorded.

Dr. Osler said he had a case now under observation; a curious feature being the fact that the patient left the hospital without typhoid bacilli in his urine and came back with them present. Four other cases were reported by members.

Notes on the Treatment of Some Forms of Cancer by the X-Rays.—This paper was presented by Dr. Francis H. Williams, of Boston, who stated that it had been recognized for years that by caustics or the actual cautery cancer could be more or less controlled, especially when situated upon the face. The *x*-rays might also burn, and if used in this way acted only as a caustic. He wished to report cases in which it was not used as a caustic. Burns by the *x*-rays should be avoided, and great care was necessary. His first case was that of a young man with a small, flat epithelioma of the lip. After treatment it had entirely disappeared. At present he had another cancer of the lip under treatment. This one was of four months' duration and had a penetrating odor. The odor had disappeared and the new growth was improving. Another case which showed signs of decided improvement, and was now receiving treatment, was an epithelioma of the hand in a man seventy-three years of age. This cancer measured 4 cm. by 7 cm., and nothing short of amputation would have seemed possible. The special points in regard to this treatment he would make were: absence of pain; no delay from the dread of an operation; healing without burns; improvement began quickly, and the patient was not forced to give up his daily duties. The chief objections were: the care necessary to avoid burns; the expense, and the fact that the treatment must be continued for some time.

Dr. Peabody asked if the diagnosis had been proved in every case by microscopical examination. The reader replied that all cases had been submitted to a most skilful pathologist.

Ostitis Deformans.—This paper was prepared by Drs. Frederick A. Packard and J. Dutton Steele, of Philadelphia. The first case presented was that of a patient who had been an inmate of the hospital for some time without any one's attention having been called to the existence of this disease. He was a foreigner, and besides speaking a broken English he was considered to be rather stupid. The extra large size of the head as compared with the small stature first attracted the authors' attention. The calvarium was box-shape and the face was small in comparison. In one year his head was found to increase 1 cm. in circumference; the speech becoming much more indistinct. The clavicles seemed to extend almost backward. The right forearm showed a curvature to the radial side. The elbow joints remained normal. The chest was small and narrow above and large below. The ribs were thick and heavy and almost touched the crest of the ilium. The often-noted furrow extending across the abdomen was present. The pelvis had the shape of a female rather than of a male pelvis. The femora and tibiæ were much enlarged and roughened. The hands and feet were normal. The autopsy showed a remarkable form of the calvarium. It had a bluish appearance and measured 4 cm. × 5 cm. × 2 cm. The diploë was absent except in the occipital region. The pituitary body was normal. The calvarium was presented for examination.

The Spinal Form of Arthritis Deformans.—This contribution was offered by Dr. William Osler, of Baltimore. There were, he stated, three groups to be recognized: that in which the disease was found in young children with great enlargement of the spleen; the one in which adults were attacked and atrophic changes occurred in the joints; and finally the group in which all the well-known changes occurred, as exostosis and ring-bone. The course might be acute, resembling rheumatism. Associated with spinal rigidity there were two types of cases. In the first were found rigidity, kyphosis, and nerve-root symptoms: pain and muscular atrophy. The second variety differed by additional involvement of adjacent joints, spondylitis, and the absence of the nerve-root symptoms. The question arose as to the possibility of these being different diseases. He then reviewed some cases. Two were of the first type: one had complete ankylosis of the spine, together with severe nerve-root symptoms; the second had ankylosis of the spine and such severe pains that four or five grains of morphine a day were necessary. The neurologists had been devoting attention to this type. The pain was thought to be due to thickening of the pia mater and not to the bony changes. Of the second variety, three cases were described. Two had characteristic arthritis deformans. It became an interesting question whether these were new disorders or forms of arthritis deformans. The speaker's cases bore out the idea that they were arthritis deformans. A specimen, a skeleton, belonging to the University of Buffalo, was presented. The disease had started from a gonorrhœal rheumatism. The man was under observation throughout the course of the disease, which lasted for fifteen years. Shortly before death the patient had been able to move only the tongue and the eyes. He had been fed by a tube, for the introduction of which the removal of the incisors had been necessary. A peculiar feature had been the comparatively small amount of pain. A few doses of acetanilid and whiskey was all that was given.

Dr. Lamb showed a skeleton which had come from Alaska, and was supposedly prehistoric. The ankylosis of the spine was remarkable.

Dr. Griffith presented a most interesting specimen of hyperostosis of the calvarium.

Dr. Cabot spoke of the great relief found for these cases in support. He advocated the early application of plaster.

Dr. Packard said that many cases of multiple sarcoma were called arthritis deformans.

Certain Tropho-Neuroses and their Relation to Vascular Diseases of the Extremities.—This paper was read by Dr. B. Sachs, of New York. These, he

stated, had usually been associated more with diseases of the nervous system than with diseases of the arteries. The etiological factors of Raynaud's disease and of scleroderma were considered, together with the views of S. W. Mitchell and others upon the subject. The reader said the profession had troubled itself but little about arteriosclerosis anywhere in the body except in the brain. No matter how great the sclerosis might be, some nevertheless contended that these diseases were due to some mysterious trophic disturbances. It was certain that marked changes occurred in the vessels after section of the sympathetic nerves. This was especially marked in the smaller vessels, in which the lumen might become obliterated. Might not diseases of vessels occur independently of the nervous disorders? Alcohol certainly affected vessels as well as nerves. The histories of several cases were presented.

DR. JANEWAY agreed that the arteriosclerosis was certainly present and important in those diseases that we called Raynaud's and scleroderma.

DR. SACHS said he did not mean to claim that all these diseases were due to vessel changes, but that these were an important factor.

A Case of Subcortical Glioma of the Lower Part of the Ascending Frontal Convolution: A Contribution to the Nature of the Speech Disturbance Arising from Lesions in this Situation.—This paper was presented by DR. J. STEWART, of Montreal. The first symptom, and the only one for several months, was mutism for about half an hour a day. This was in August. In January there appeared attacks of spasmodic tics, followed by numbness in the face and arms. There were no subjective or objective disturbances in the lower limbs. Each symptom of increasing aphasia was carefully noted as it appeared. Finally, just before operation, the patient was suffering from constant headaches; spasms of the lower right side of the face, intermittent in character (other cranial nerves except the fifth were unaffected); appreciable difference in the strength of the upper and lower limbs, and a steadily increasing aphasia. He could understand all that was said, and could read, but could not articulate. The local temperature over the right side of the head was increased $\frac{1}{5}$° F. The knee jerks became exaggerated. The diagnosis was made of a tumor, probably a glioma, subcortical, and involving the lower part of the ascending frontal convolution. Operation confirmed the diagnosis. The size of the tumor was one by one and one-half inches. The recovery was slow but progressive. Speech began to return in a few days, words of more than one syllable being more difficult at first.

Personal Experiences in Cases of Jacksonian Epilepsy, with Special Reference to the Question of Treatment by Operation.—This paper was read by DR. JAMES J. PUTNAM, of Boston. In general, he stated, all agreed that operation had been valuable; as to whether cortical excision was of more value was not absolutely certain. The shock of the exposure of the cortex checked for a time the action of the disease. In operation the object was not only to remove gross sources of irritation, but the minute imperceptible ones as well. As to the removal of an epileptic centre, he doubted if we could speak of any such centre. In judging of the results of operation it should be remembered that almost all neuroses showed a tendency to remission. This was seen very remarkably in tic douloureux.

DR. JACOBI said that in the Jacksonian form one would certainly expect a local cause to be found, but that in two autopsies performed during the past year upon undoubted cases of Jacksonian epilepsy, absolutely nothing was found.

DR. SACHS urged immediate operation in these cases if there was to be any operation at all. He said neurologists had become a little more conservative.

The Chemical and Microscopical Results of the Examination of Three Cases of Family Periodic Paralysis.—This paper was prepared by DRS. JOHN K. MITCHELL, SIMON FLEXNER, and D. S. EDSALL, of Philadelphia. The first two of these cases were a woman and her daughter. The former found that her attacks were brought on whenever she ate abundantly, or if she ate very sweet food. The paralysis progressed gradually without her knowledge until she would find herself unable to move. The right apex was slightly affected, the pupils and reflexes were normal, and the total palsy in the seizures was complete. Her daughter, a sturdy girl, had attacks which were similar, but less severe. She had her first one when six years of age. Both of these patients found that exertion might prevent an attack. If realized in time, they could be walked off. The urine was found to be of high acidity and loaded with urates. The third patient was a man twenty-one years of age. In three generations of this family there had been five patients. The attacks were much like those of the cases cited. This patient presented the aspect of one suffering from a poison: he grew very pale, the mind remaining clear, and the paralysis becoming complete. The urine was repeatedly examined, but not again for its toxicity, as that had been done thoroughly three years before. The high acidity of the urine led to suspicion of some changes in the blood. The authors described the great care with which all these experiments were conducted. The examination of the creatin gave greater promise of some light upon the subject. It would seem that the attacks were due to metabolic disturbances, to a reduction in the formation of creatin, and not to a retention, as is the case with uric acid in gout. The first patient had made an interesting discovery, that the citrate of potassium was of very effectual use. It would not postpone an attack, but by a large dose the worst seizure might be terminated within an hour. The authors had experimented with the other salts of potassium, but none of them acted the same.

DR. PUTNAM had tried potassium citrate unsuccessfully in a case he had had of this disease.

The Heredity of Appendicitis.—This compilation of statistics was prepared and exhibited by DR. F. FORCHHEIMER, of Cincinnati.

Third Day—Morning Session.

Some Observations Made in a Case of Diverticulum of the Œsophagus.—DR. FRANZ PFAFF, of Boston, read this paper. The case was seen for the first time four years ago. The patient had been losing weight for some time, had regurgitation of food, a sense of oppression at the pit of the stomach, and was constantly growing weaker. His loss of weight had during the past few weeks become so rapid that his friends were greatly alarmed. The attending physician had been unable to find any disease, and the author's examinations were equally unsuccessful. Examinations of the stomach were entered upon. No indigestion was demonstrable, but large amounts of muscular fibre were recovered. A probable diagnosis of spasm of the stomach was made, and the patient advised not to masticate his food but to feed himself with the stomach tube, which he was taught to manipulate. Instead of within a few weeks the patient did not report until the end of three years. He had used the tube all of this time. Whenever he attempted to masticate his food he had had a return of the symptoms. Further examinations were made. After twenty-four hours' fasting, no pepsin, no acids, but muscular fibres were found. Clearly these were not gastric contents, and the diagnosis of a diverticulum was established. The following facts were of great interest: the slow formation of the diverticulum; no history of injury,

and no history of disease. The patient had not even had the customary diseases of children; he had never been ill in his bed for twenty-four hours. The exclusion of saliva from the process of digestion, during tubal feeding, had not interfered with digestion. The patient was increasing most markedly in weight. The diverticulum was not increasing in volume but seemed to be changing in position. The tube must now enter the diverticulum before he could pass it, and he did not need to do so before. It had been found that quite an amount of carbohydrates was digested in the œsophagus—but experiments with lactose, and the much more easily diffusible sodium chloride, showed that absorption did not take place in this part of the intestinal tract. In another case the diverticulum was becoming more and more dilated, and eventually it would be impossible to pass the tube into the stomach. The possibility of relief and cure being had by surgery was to be considered. There was no operation mentioned in the literature.

The Importance of a Recognition of the Significance of Early Tuberculosis in its Relation to Treatment.—This paper was presented by Dr. Edward L. Trudeau, of Saranac Lake. He said it would seem to be unnecessary to emphasize this point. There was now ample evidence of the curability of this disease. The prognosis depended in great part upon the stage at which the disease was discovered. Persistent slight cough, loss of weight, and a constant slight rise of temperature in the afternoon or evening pointed too plainly, even in the absence of abnormal pulmonary signs. There might even be miliary tubercles in the lungs when there were no appreciable physical signs. When bacilli were found there was, of course, no plea for a mistaken diagnosis, but the physician should not wait until he found them. They did not appear in the sputum until ulceration began. The history and subjective symptoms, aided by the *x*-ray, helped to an early diagnosis. The tuberculin test was most valuable but by no means always necessary. This test was especially useful in incipient cases. The number of unsuspected cases of tuberculosis might be imagined when one remembered that Beck got the tuberculin reaction in twenty-five per cent. of twenty-five hundred cases in Berlin, and one of the doctors present had recently stated that in seventeen per cent. of autopsies upon patients who had died of diphtheria, he found unsuspected tubercles. The responsibility of the physician in these cases was not generally realized. Patients were often deceived as long as possible, and until too late to offer much hope by treatment in a proper sanatorium. Not less than seventy per cent. of those who applied at Saranac Lake had had the disease for a long time. The final results looked for as an outcome of the great impetus now given to the building of cottages and sanatoria for tuberculous cases would not be nearly so grand as expected unless the disease was more often diagnosed while in the first stages.

A Study of a Series of Cases of Burns.—This paper was read by Dr. J. George Adami for Dr. J. McCrae, of Montreal. By means of an enlarged micro-photograph of a stained specimen, the reader was able to demonstrate the characteristic changes of "focal necrosis." A series of thirteen cases was reviewed. Four of these had come to the post-mortem table, and from one other glands had been obtained for examination. Only one had presented a duodenal ulcer. A detailed report was given of the conditions found in each organ. In no one of the cases were the kidneys unaffected. Attention was called to the great contrast between the central foci and the surrounding tissue as brought out in the illustration. In the central portion were large cells, some triangular, others square, and some nearly circular in outline. The rapid disappearance of the débris in these cases could be explained only by a phagocytosis.

Dr. Flexner thought the most remarkable feature was the similarity which had been shown in the findings of autopsies upon subjects dying of burns and those which had been found in animals dying of diphtheria. If in burns there was a true toxæmia it might throw great light upon the cause of death in these cases.

Dr. Welch said that the view that the nuclear fragments were the result of the digestion of lymphoid cells by phagocytes was harder to believe than that the toxins were at the bottom of it all and caused the primary changes.

Hæmolysis.—This paper was presented by Dr. S. J. Meltzer, of New York. Before giving the results of his own researches, he presented a review of the recent studies in hæmolysis. The normal blood of one animal was often detrimental when introduced into the blood of another. In his own experiments he used defibrinated blood. Serum lost hæmolytic action by being heated to 55° C., and also when kept for eight or ten days. His recent studies had been devoted to the effect of the peritoneum upon the hæmolysis of serum. The normal peritoneal exudate did not contain any hæmolytic element. He described at length his mode of procedure, and pictured the possibilities of further work on the subject.

The following papers were then read by title, and will be incorporated with the reports of the Association:

"The Relative Prevalence of Bright's Disease in New York, London, and Berlin," by Dr. Hermann N. Biggs, of New York. "Lithæmic or Recurrent Coryza," by Dr. B. K. Rachford, of Cincinnati. "A Further Report on a Case of Presystolic Mitral Murmur Associated with Systolic Tricuspid Murmur Complicating Pregnancy, Reported to the Association in May, 1899," by Dr. James Tyson, of Philadelphia. "The Extension of Aortic Aneurisms into and between the Walls of the Heart and Dissecting Aneurism of the Heart," by Dr. Ludvig Hektoen, of Chicago. "A Study of Bacteria Isolated from Cases of Dysentery," by Dr. F. F. Wesbrook, of Minneapolis. "Sarcosporidia of the Mouse (Sarcocystis muris) Transmitted Directly by Feeding Muscular Tissue," by Dr. Theobald Smith, of Boston. "The Toxin of the Colon Bacillus," by Dr. Victor C. Vaughn, of Ann Arbor, Mich. "Report of a Case of Spondylosis Rhizomelia, with Autopsy," by Dr. Charles L. Dana, of New York. "A Product of Bacillus Pyocyaneus Resembling Vegetable Gum," by Dr. A. C. Abbott, of Philadelphia. "The Relation of the Tracheal Tug to Fixation and Elasticity of the Left Lung," by Dr. Henry Sewell, of Denver, Col.

This meeting of the association closed with the election of officers. The following men were chosen: *President*, Dr. James C. Wilson; *Vice-President*, Dr. James Stewart; *Recorder*, Dr. S. Solis-Cohen; *Secretary*, Dr. Henry Hun; *Treasurer*, Dr. J. Crozer Griffiths; *Councillors*, Dr. Frank Billings, Dr. Francis P. Kinnicult; *Representative on Executive Committee of Congress*, Dr. William Osler; *Alternate Representative*, Dr. Francis H. Williams.

Salicylates and Metabolism.—The influence of salicylates upon the body metabolism has been investigated by F. W. Goodbody. He finds that sodium salicylate causes an increase in the quantity of urine excreted, and in the specific gravity; the latter increase being principally due to the increased elimination of the nitrogenous substances, especially of the urea. The drug does not seem to have any influence on general metabolism, so far as the adoption of proteids and fats is concerned; but it increases the breaking up of proteids in the body.—*Journal of Physiology.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, April 16, 1901.

E. FRANKLIN SMITH, M.D., CHAIRMAN.

Potain's Simple and Accurate Method of Percussion of the Heart, with Post-Mortem Verification.—DR. GEORGE M. CONVERSE read a paper with this title (see page 722).

DR. JUDSON DALAND, of Philadelphia, said that in practice one was often greatly disappointed at the results of determining the deep area of cardiac dulness by percussion. This was especially true of cases in middle life, because of the other modifying influences, such as emphysema. He agreed with the author as to the great importance of a single isolated percussion stroke, as well as concerning the recognition of the changes in pitch rather than changes in intensity.

DR. ANDREW H. SMITH said that for many years he had practised with satisfaction auscultatory percussion for determining the deep area of cardiac dulness, and had done this by scratching with the finger on the chest wall instead of striking the chest. By this method it was not very difficult to distinguish the outlines of the heart and also of the adjacent organs.

DR. L. S. CONNER thought the combination of change in pitch and change in the sense of resistance imparted to the finger was more important than either one of these alone.

A Case Illustrating the Influence of Arterial Spasms upon the Left Heart.—DR. JUDSON DALAND, of Philadelphia, read this report, which served as a text for a general discussion on the relation of arterial changes to the heart. The case reported was that of a girl of ten years who had previously been in robust health. The child had a strange fondness for table salt and for a certain kind of table sauce. After having taken about three ounces of this sauce one evening, there were aching bones, headache, fever, anorexia, difficulty in swallowing, and slight convulsions. The urine contained one-fourth by bulk of albumin, and also some red blood cells. The pulse was 95 to 110, and was somewhat irregular. The radial arteries felt like wires under the finger. The physical signs seemed to point to an acute dilatation of the heart rather than to a true hypertrophy. In a few days all of the symptoms and signs had subsided, and when she was discharged, after fifteen days, the urine and blood-vessels were almost normal again. The exact composition of the table sauce could not be ascertained, but it was probable that its chief active ingredient was Cayenne pepper.

DR. WILLIAM H. THOMSON said that he did not doubt that in scarlet fever and in acute rheumatism there was often an acute dilatation of the heart, which was dependent largely upon arterial spasm. In his opinion, it was one of the most trustworthy means of making the diagnosis of scarlet fever prior to the appearance of the eruption. When a child had been suddenly attacked with vomiting and high fever, with, perhaps, sore throat, there was every reason to suspect scarlet fever if in addition there was a small and high-tension pulse. He had made a series of observations on the specific gravity of the urine in cases of chronic nephritis, and had been astounded at the remarkable fluctuations in the specific gravity from day to day, and even from hour to hour. There was, however, nothing like a periodical fluctuation. In each case the urine for the twenty-four hours had been collected, and the quantity of urea estimated, and in no instance had it been above 13 gm. During the period of observation there had been no change in the diet or medication, and none of the patients had had a hysterical attack. The explanation seemed to be that a sort of vasomotor storm took place in the splanchnic area. These observations also showed that the heart was called upon to deal with intermittent strain, and hence the tendency to cardiac hypertrophy. It had long been known that cases of extensive atheroma of the aorta and of the large arteries might occur without hypertrophy of the heart. It was strain that first produced atheroma. The pulmonary artery did not show atheroma except in cases of mitral stenosis. In all cases of cardio-vascular disease the first question the physician should ask himself was, "Where is the strain?" In his opinion, arteriocapillary disease was always due to a toxæmia, and the one great prophylactic and the one great therapeutic measure in the treatment of chronic vasomotor diseases was fresh air, because this did the most to counteract the chemical changes going on in the blood.

DR. BEVERLEY ROBINSON said that physicians often relied to some extent upon appreciable arterial changes to help them in making the diagnosis of the more obscure cases of cardiac hypertrophy. He had noted in many chronic conditions marked fluctuations in the constituents of the urine at different times in the twenty-four hours. Referring to treatment, the speaker said that, as it was generally accepted that under certain conditions cardiac hypertrophy was the most conservative effort of nature, one should not rashly prescribe nitroglycerin and endeavor to overcome the hypertension of the arteries. He closed with a scathing criticism of what he called one of the medical fads of the day, *i.e.*, persons going abroad to certain spas in order to have their arterial changes favorably modified, and returning home with numerous charts to show that they had a little more or a little less heart than when they went away. He expressed most emphatically his belief in the comparatively limited and well-defined limits in which the Schott-Nauheim treatment was useful.

DR. MORRIS MANGES thought Dr. Daland had overlooked the effect of the myocardial changes which inevitably took place in the acute infections. When the coronary vessels were not involved, it had been shown that the strain could be well borne for a long time. General arteriosclerosis might exist without any hypertrophy of the heart at all. The case reported by Dr. Daland, while interesting, should not be used too freely in the effort to explain arteriosclerosis and arterial spasm.

DR. ANDREW H. SMITH said that it was now pretty well settled that the aortic tree and its branches might be considered a continuation of the heart, and that there was active muscular work going on throughout the whole arterial system down to the smallest branches containing muscle. There must be a nervous influence behind all such muscular effort, and hence arterial spasm should be a subject of great importance. If the effort of the heart were actively seconded by a sort of peristaltic action throughout the arterial system, the work of the heart must be lightened. On the other hand, if the muscular effort were against that of the heart, the strain on that organ must be very greatly augmented. Toxic materials in the blood acted upon the muscular coat by direct irritation.

DR. RICHARD VAN SANTVOORD said that in his own practice he frequently met with a pulse which felt small and weak to his finger, and yet the sphygmograph showed the pulse to be one of high tension. He had also come to believe that the loudness of the second sound of the heart was not an indication of high arterial tension or of strength of the heart. Loud heart sounds were often observed in persons evidently in a state of great debility. This was probably to be explained by the fact that the snap of the valve depended upon the difference in the blood pressure on two sides of the valve.

The Climate of Long Island.—Dr. Le Grand Denslow read a paper on this subject. He said that Long Island as a whole was comparatively flat, though there was a chain of hills having an average height of one hundred and fifty feet. The greater part of the island consisted of sand and clay. The eastern end and the south shore were the coolest portions in summer. The winter temperature was slightly higher at the eastern than at the western end. Long Island was influenced by the prevailing westerly winds. The average summer temperature of the eastern end, as represented by Block Island, was lower than that of any other point on the Atlantic coast between New York and Florida, except Nantucket. One of the most marked climatic features of the eastern end of Long Island was the amount of sunshine, there being at Cutchogue over one hundred more days of sunshine than at New York City. The speaker said that he was unable to account for this limited area of dryness and sunshine situated so near New York City that it could be reached by a journey of from one to three hours, but this region should prove very suitable for the relief of many cases of heart, lung, and kidney diseases, and for rheumatic affections.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 4, 1901:

	Cases.	Deaths.
Tuberculosis	283	147
Typhoid fever	22	11
Scarlet fever	642	38
Measles	319	9
Diphtheria and croup	288	45
Smallpox	86	10
Cerebro-spinal meningitis	0	5

Hard on the Physicians.—A Hoosick Falls correspondent writes to the *Troy Times* that quotations from tombstones seem to figure prominently of late in the *Troy Times* and other leading newspapers of to-day, and suggests that that village, being always up to date, has a contribution to offer that may be worthy of a place among the most odd and quaint, and which can be seen and read at any time in the daylight. In Maple Grove cemetery, south of the post office, there is a headstone, upon which is the following:

> "Her body was stolen by fiendish men,
> Her bones anatomized,
> Her soul we trust has risen to God,
> Where few physicians rise."

Salubrious Cuba.—The New York *Evening Sun*, commenting editorially upon Major Gorgas' glowing report of the sanitary reforms introduced into Havana by American methods, says: "Colonel Waring, of New York, introduced the system of sanitary treatment which has converted Havana into a health resort, so to speak. It has been extended to other Cuban cities, and it appears that the results have been fully as satisfactory as in the case of Havana. For instance, the death rate of Santiago in February was 2.05 per 1,000, and that of Guantanamo only 5.77. Both places were notoriously unhealthy before the war. February, however, has generally shown a lower death rate in Cuba than any other month. Major Gorgas can rejoin that, even so, the death rate in Havana for February of this year was lower than for any preceding February during twelve years. The virulent fever months in Havana have usually been July, August, September, and October. If these months in 1901 pass with a fairly clean bill of health, we shall know that yellow-jack is no longer a menace to Havana, for the returns in 1899 and 1900 were most encouraging. The sanitary reforms which the United States have given Cuba should be a durable title to her gratitude."

Health Reports.—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended May 3, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, San Francisco	April 13th to 20th	2	
Illinois, Chicago	April 20th to 27th	9	1
Freeport	April 20th to 27th	1	
Indiana, Evansville	April 20th to 27th	1	
Kansas, Wichita	April 13th to 20th	30	
Kentucky, Lexington	April 20th to 27th	2	
Massachusetts, Fitchburg	April 13th to 20th	2	
Holyoke	April 20th to 27th	1	
Michigan,* Bay City	April 13th to 20th	5	
Detroit	April 20th to 27th	1	
Minnesota, Minneapolis	April 16th to 22d	8	
Nebraska, Omaha	April 13th to 20th	11	
N. Hampshire, Manchester	April 20th to 27th	5	
New York, New York	April 13th to 27th	94	18
Ohio, Cincinnati	April 19th to 26th	4	
Pennsylvania, Allegheny City	April 12th to 19th	3	
Johnstown	April 13th to 20th	1	
Philadelphia	April 13th to 27th	12	2
Steelton	April 20th to 27th	1	
Williamsport	April 20th to 27th	3	
Tennessee, Ducktown	April 20th	Present.	
Memphis	April 13th to 20th	24	
Nashville	April 20th to 27th	14	
Utah, Salt Lake City	April 13th to 20th	17	
Philippines, Cebu	March 12th	5	1
Manila	March 8th to 16th	8	
Porto Rico, Aguas Buenas	To April 10th	4	
Ciales	To April 10th	1	
Isabela	To April 10th	4	
Manati	To April 10th	1	
Ponce	To April 10th	34	
San Juan	To April 10th	6	
* Present at 94 places.			
Smallpox—Foreign.			
China, Hong-Kong	March 8th to 23d	23	10
Colombia, Panama	April 15th to 22d	5	3
Ecuador, Guayaquil	March 2d to 23d	..	3
Egypt, Cairo	March 25th to April 1st	..	2
France, Paris	April 6th to 13th	..	7
Great Britain, England, Liverpool	April 6th to 13th	..	2
Wales, Cardiff	March 8th to 30th	6	1
Scotland, Dundee	April 6th to 13th	2	
Glasgow	April 12th to 19th	..	6
Mexico, Mexico	April 7th to 14th	..	1
Russia, St. Petersburg	March 30th to April 6th	14	3
Warsaw	March 23d to 30th	..	5
Straits Settlements, Singapore	March 2d to 16th	..	1
Yellow Fever.			
Mexico, Vera Cruz	April 8th to 16th	..	1
Plague—Foreign and Insular.			
Australia, Adelaide	February 28th	1	
China, Canton	February 28th	Epidemic.	
Chan Tsin	February 28th		
Fatshan	February 28th		
Hong-Kong	March 8th to 23d	22	21
Straits Settlements, Singapore	March 7th to 16th	..	2
Hawaii, Honolulu	March 20th	..	1
Philippines, Manila	March 8th to 16th	10	8

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

La Tuberculose et la Médication Créosotée. By Dr. Samuel Bernheim. 8vo, 317 pages. A. Maloine, Paris, France.

A Text-Book of Gynecology. By Charles A. L. Reed, M.D. 8vo, 900 pages. Illustrated. D. Appleton & Co., New York.

International Clinics. By Henry W. Cattell, M.D. 8vo, 312 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa.

Laryngeal Phthisis. By Richard Lake. 8vo, 94 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

Mental Diseases and their Modern Treatment. By Selden Haines Talcott, A.M., M.D. New York: Boericke & Runyon Co. 1901.

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Original Articles.

THE RECENT BUFFALO INVESTIGATIONS REGARDING THE NATURE OF CANCER.[1]

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AT the risk of tedium on your part, I have ventured to select as the subject of my address to you a topic upon which I have been repeatedly heard during the past few years. This subject of cancer has been for the pathologist the mystery of the ages, and continues to be the subject of active and profound study in all quarters of the world, with now a promising hope of eventual solution. It would appear to be about the only local disease concerning which there is still much of the uncertain and the unknown. Diseases like scarlatina and syphilis, for instance, for which we readily acknowledge a contagium vivum, are widespread, and in no sense localized among the tissues; but the more one studies cancer the more he becomes convinced that in its inception it is purely local, and that the process of generalization is relatively slow save in certain rare instances. The older views about the constitutional nature of the disease, then, may be set aside as absolutely untenable, and we have nothing left to do now except to consider it in its thus limited relations.

Pathologists, who study it purely from the deadhouse point of view, have confronted some of the greatest problems which it has to offer, but have also missed some of its most important aspects. On the other hand, the operating surgeon, who sees in this mystery only the question of how far he may go with the scalpel, misses also the fundamental theories of its origin and the consideration of its etiology upon which its whole successful therapy must be based. Only by a combination of ante- and post-mortem studies can its nature be solved. All this became so exceedingly evident to me many years ago that I began a series of studies upon the disease, both with regard to its nature and its operative treatment, which have been my excuse for the numerous communications which I have made upon the subject.

Microscopical sections alone may well arouse the numerous hypotheses which are now in vogue as to the peculiar behavior of cells and their reactions. But the clinician who is to study the disease in its various phases may well criticise every theory which ascribes cancer to purely intrinsic causes, even though he be forced to acknowledge that he cannot absolutely demonstrate an extrinsic cause. Nevertheless, so much has been done in the past five years that I, for one, have not hesitated to avow myself a firm believer in the later teaching as to the infectious nature of the disease, a theory, indeed, which I have held to and taught for nearly fifteen years.

The parasites of cancer, be their nature what it may, are in all probability polymorphic in extreme degree and masquerade under many forms, changing with their different stages of reproduction. So much of the personal equation enters into their consideration and investigation that one must know an individual and his methods before one knows exactly what estimate to place upon his work and the weight to be attached to his views. Take the work, for instance, of Borrel.[1] In 1892 he published a monograph on the cellular evolution and parasitism of epithelioma, in which he claimed that for four years he had continuously and carefully studied the subject, and convinced himself that there was no doubt about the parasitic feature of these cases; he claimed priority in establishment of parasitism for Malassez.[2] Borrel, like most French investigators, is attached firmly to the parasitic hypothesis, but is of the belief that the parasites in question are protozoa, *i.e.*, are of animal origin. In the plates which he published nine years ago, there may be seen the same peculiar appearances which most other observers since his time have noted. In this connection one may say that the most striking feature of all these studies, as one compares the plates of various writers, is the fact that they all agree as to the extraneous nature of certain cells which they picture in various stages of cell division or reproduction, though they nearly all differ in the peculiar interpretation of those phenomena which they illustrate, differing as well in names as in classification of the parasites, differing even in the kingdom to which they assign them, *i.e.*, animal or vegetable. It is most suggestive in one regard, though somewhat disturbing in another, to see practically the same parasitic forms described and figured by an Italian writer as showing the presence of blastomycetæ, while the French would call them protozoa, and most of the German scholars would indicate them as mere products of cell degeneration. This only illustrates, however, that, to a considerable extent at least, the variations which appear so great between different observers merely concern differences of interpretation. I do not see how one can study the illustrations of this subject, still less the actual sections, without being firmly of opinion that parasitic forms are certainly present, although he may be absolutely in the dark as to their minute nature; just as no man can come long into contact with the clinical features of the disease without feeling that cancer must be considered as an expression of infection of some kind, but not necessarily committing himself as to the minute nature of the infectious element.

Let me here repeat the essential feature of an argument which I brought before this association in 1898, with regard to the infectious nature of cancer. I have found that the length of time over which this infection, if such it be, may extend, as well as the period of incubation, are in many cases the principal arguments which the opponents of this view advance against its accuracy. Such argument as this, however, must fail from what we already know of other infections. For instance, there are infections which kill within a few hours from the appearance of their first lesions, such, for instance, as bubonic plague, cholera, etc.

[1] Being the president's address before the American Surgical Association, at its Baltimore meeting, May 7, 1901.

[1] "Evolution cellulaire et parasitisme dans l'épithélioma," 1892.
[2] Archives de Méd. Exp., 1890, 2.

These constitute the most acute and disturbing type of their kind. The time limit of others is measured by days, as, for instance, in the case of tetanus, variola, pneumonia, and meningitis. In yet others the course of the disease is run within only a few weeks, as in the case of typhoid fever. Tuberculosis and actinomycosis, again, run their course in a few months, while in the case of syphilis and leprosy ordinarily the time in which they kill by their own ravages is measured only in years. No violence then is done to the general acceptance of the theory of infection if we suppose that cancer is a disease whose duration of infection may extend anywhere from weeks to years.

There is no other disease which is characterized by metastasis in which the pathologists decline to see evidences of parasitism. When one considers the more acute expressions of metastatic infection which he may see in surgical and puerperal sepsis, for example, or the slower forms seen especially in tuberculosis, they all convey the same meaning to the careful studient, *i.e.*, they imply that some infectious element has been transported from one part of the body to another, there to set up disturbance similar to that existing at the point of departure. Why should this explanation be acceptable in the cases of all other diseases and so difficult of acceptance in the case of cancer? For myself, as I have often remarked, every metastasis of cancer has the form and significance of an inoculation experiment, only performed under the most favorable because natural conditions.

The primary question after all is the general one of parasitism. Are not parasites at fault? It has not yet been reduced to a question of just which parasite. However, if analogy assists one at all, he must not forget that there are numerous organisms which may produce pus formation, and these not alone belonging to one animal kingdom. Why, then, may it not be so with cancer, that not one organism alone, but perhaps numerous forms are at fault? In my opinion, it may and probably will be found that cancer is not a question of any single organism, possibly not even of a single class.

Roger Williams, though acknowledging its inoculability, has very little faith in the transmission of cancer from one human being to another, even by contact, and he quotes Demarquay, who collected one hundred and thirty-four cases of cancer of the penis, whereas in only one instance was the wife affected with uterine cancer.

With regard to its inoculability he acknowledges that the evidence is so weighty as to be practically conclusive. Aside from instances to which I have already alluded in other papers, I quote, *e.g.*, the following: Cripps has reported the case of a woman with extensive cancerous ulceration of the left mammary region, who, being unable to wear any dress, has kept her arm bent at a right angle and in constant contact with the disease for several months; in consequence of which the skin in the vicinity of the elbow became the seat of a cancerous ulcer several inches in diameter. A similar instance has been already reported by De Morgan. Instances of the spread of disease by contact infection from the uterus to the vagina have been reported by Thorn and many others. Thorn's case was in a woman, aged forty-six years, whose uterus had been deflected to the right and retained by adhesions. Owing to this bad position the cancerous excrescence was constantly in contact with the left side of the vagina, where another cancer developed which fitted that on the cervix "like a saucepan lid." Elsewhere the vagina was free from disease. Numerous cases are on record in which the primary outbreak of the disease in the fundus has been followed by similar lesions of the cervix. The cases in which cancer of the upper alimentary tract has been followed by others lower down are common, and Moxon has described the spread of the disease along the trachea to the lungs in a similar way. Cancer in the pelvis is often apparently due to infection with nodules detached from cancerous growths in the upper part of the abdomen, while visceral cancer projecting into the peritoneal cavity often infects the exposed tissue with which it comes in contact. Numerous cases are now on record of cancer along the track of the trocar used in tapping for ascites due to cancerous disease. Surgeons now quite generally admit this traumatic dissemination of the disease by inoculation of wounds during operations. Schopf reports cancerous infection of the lateral incisions into the vagina and vulva necessitated in the course of vaginal hysterectomy for cancer.

Roger Williams closes his section on this subject by repeating the warning now so often given, that care should be taken to avoid cutting into the malignant neoplasms during their removal, for "such is the great tenacity of life and the wonderful proliferative power of even the most diminutive fragments of cancer, that when left behind they only too often constitute fresh centres of disease." If this is not a virtual admission of the infectious nature of the disease by one of its strongest opponents, I scarcely know how to regard it.

It will probably not be amiss if now I ask your attention to some recent work which has been done in the State laboratory, conducted under the auspices of the University of Buffalo. We have enjoyed exceptional facilities in that laboratory for the study of cancer, it having been founded for the purpose, and generously maintained and supported by the State. Some years ago I outlined in a paper, which partly treated of this subject, the general lines of investigation which I thought it would be necessary to follow in order to arrive at more accurate notions regarding the nature of cancer. Those included not only the ordinary histological and bacteriological methods of investigation, but I also at that time insisted that the subject should be studied from a biological and from a chemical standpoint. The latter method had never been undertaken in any systematic way until we began it in this laboratory, where we have now a competent biological chemist, and are at last able to study the disease in some of those relations which have been hitherto either misunderstood or not understood at all. The studies already made have seemed to render it clear that death in cases of cancer comes about, as in so many other diseases, by a sort of terminal infection, which is a conspicuous feature of the disease, and has not hitherto attracted sufficient attention. It appears to us as though the end is finally brought about by a distinct toxæmia, and particularly by a sort of hæmatogenous infection. This has been made clear by a study of the experimental rather than of the clinical side of the disease. In all our animals inoculated and injected, this feature has become so very distinct as to be positively striking. The exact nature of these terminal changes has not yet been made out beyond what is implied in the term "hæmatogenous." Moreover, as I have previously indicated in another paper, the cachexia which is so pronounced a clinical feature of cases of cancer is produced by varied and varying causes, and it is hard to ascribe to the distinct toxæmia of this disease its proper rôle. Much more can be learned about the disease by experimental research than by speculation concerning clinical features.

In a paper which I presented to this association in 1898, I argued at some length for the infectious or parasitic nature of this disease. At that time I had just returned from Italy, and was particularly conversant with the work done by the Italian investigators, who seemed to be almost unanimous in belief as to the vegetable, *i.e.*, fungous nature of these parasites.

If in the succeeding years views regarding their nature have gradually changed, it may be but a natural outcome of further acquaintance with the bodies in question and a more complete recognition of their extraordinary polymorphism, as well as our ignorance regarding the protozoa, especially of their life histories. The predictions of the Italians have failed in many respects, and it is by no means so easy successfully to inoculate animals with the yeast as had been generally supposed, but the differences that have come about in our own views in Buffalo have been essentially the outcome of our own experimental work. Perhaps I can best illustrate this by epitomizing some of the work as recently reported by my colleague, Dr. Gaylord, who really has directed it and is entitled to the credit of it.

In August, 1898, I explored the abdomen of a patient, the case being one in which a clear diagnosis of intra-abdominal carcinoma could be made; but beyond that no accurate conclusions were reached, because of the distention by ascitic accumulation. The fluid from the patient's abdomen was collected in abundance, and it was in this fluid that the bodies which have since so attracted attention were by us first observed. Anatomically the case eventually proved to be one of adeno-carcinoma, probably arising from the appendix, spreading, involving the greater portion of the peritoneal surface of the omentum and mesentery, and then undergoing mucoid degeneration to such an extent that when the abdomen was opened at the operation simply a mass of soft cancerous contents was exposed. The fluid, which was removed through a sterile tube, and remained bacteriologically sterile at the end of two weeks, contained a large number of small hyaline bodies which, under the microscope, were seen to change in size and form and to pass through a cycle of development up to what appeared to be a spore-forming stage. These bodies were at first mistaken for fat droplets, but did not react to ether or osmic acid, as fat usually does. They were injected into animals. Those which received injection into the peritoneal cavity developed no tumor formation, but marked peritonitis and enlargement of local lymph nodes. In their peritoneal fluid the same characteristic spherical nucleated bodies, or sacs filled with granules, were found. When these bodies were kept a few days in a thermostat they not only changed their form but apparently developed into larger structures, in many of which pseudopodia were seen. In one slide at least twenty such organisms were arranged around an air bubble, all of them with long pseudopodial projections, as though by some chemotactic excitation. Another animal whose jugular had been injected was found, fifty days after injection, with white nodules in the lungs, which on microscopical examination proved to be minute adeno-carcinomata. The tumor cells, as well as cells from enlarged follicles found in the spleen, were seen to contain adventitious bodies of unusual appearance. Those of the splenic pulp corresponded to Russell's fuchsin bodies, while in the perivascular spaces Plimmer's bodies, *i.e.*, half-grown organisms, were found in large numbers, just as he has found them in carcinoma on man.

Attempts to cultivate these organisms at the time were not successful; but success was met with later, the culture medium giving the best results being that recommended by Celli for the cultivation of amœbæ, *i.e.*, a bouillon made with fucus crispus. Other animals inoculated at this time also developed evidences of peritonitis, splenic enlargement, and pulmonary œdema. In their peritoneal fluid, as well as blood, and in the organs, large numbers of these parasites were detected, while sections since stained by Plimmer's method revealed the presence of numerous parasites in all of the viscera, especially in the lymphatics.

As an outcome of the experiments we were specially directed toward investigation of fresh scrapings from cancer. Starting with the assumption that the small spherical bodies which so closely resembled fat are not fat, Dr. Gaylord endeavored to determine how the great discrepancy between the large number of parasites found in fresh cancer and the small number in sections could be accounted for. Moreover, examination of numerous tumors shows that in all rapidly growing tumors a great number of organisms are present. Comparing tumors removed by operation with those removed post mortem, it became evident that the organisms either increase rapidly during the period just before death or that they proliferate in the tissue immediately after death. In two cases of large tumors examined immediately after operation, and found to contain numerous organisms, which yet remained sterile to ordinary methods, the following observations were made: Repeated examinations of successive scrapings made at intervals of several hours showed that the relative size of the organisms increased. In the course of ten hours repeated scrapings showed that amœboid forms were greatly increased in number, and that after twenty-four hours the "morula" or spore-bearing stage had been reached. At the end of three days the spore sacs were completely replaced by groups of hyaline bodies considerably larger than those which the sacs originally contained. From this it would appear that the so-called fatty degeneration of carcinoma cells is at least in some part due to the presence of organisms which have been mistaken for fat droplets or for epithelial cells in advanced fatty degeneration.

It was also possible to determine that cancer juices (or so-called cancer milk of some of the older writers) consist almost entirely of pure culture of these organisms; also that fluid from malignant ovarian cysts contains them in large numbers, as does also the peculiarly characteristic soft mass found in the cavities of certain adeno-carcinomata of the ovaries. Thus in practically all scrapings from cancer could be seen either small hyaline refractive forms, which in suspension possess a characteristic oscillating motion, or larger forms with projecting pseudopodia, or saccular forms containing very refractive spherical bodies. By incubating hanging-drop preparations of fresh scrapings from cancer, the smaller forms can be followed in their development as they increase in size; and if kept upon a warm stage they may be seen to throw out especially developed nuclei and conclude their life history by a formation of a sac in which they develop their spores. Since the specific gravity of these organisms is less than that of water, they rise to the surface in the hanging drop, and are to be sought directly beneath the cover slip, and not in the lower portion of the fluid.

Having learned the nature of these changes in the hanging drop outside the body, it became necessary next to determine why they could not be more easily demonstrated in the tissues by ordinary staining-methods. It was then found that nearly all the fixatives in common use cause the disappearance of all the spore sacs and the greater part of the more developed organisms. Only two small, more resistant forms remained, and these would take the ordinary aniline stains. These now appear to be those forms seen so long ago by Russell and so generally known by his name. A little later in their life history these reach such a stage of development and size that it is often impossible to state whether they are parasites or tissue elements. In one case, however, of carcinoma of the bladder in which these organisms appeared in large numbers in the urine, Gaylord was able to detect these forms between epithelial cells and attached to the surface of the tumor after its removal.

Another experience encountered in the summer of

1898 made a profound impression upon our minds. An autopsy was made upon a patient who had died of carcinoma of the uterus. It disclosed advanced general peritonitis, with abundance of fluid, such as would ordinarily be produced by perforation and extension. It was found, however, that there was absolutely no perforation, and the peritonitis seemed to be due to a general infection whose source was to be traced. Further preparation was made by Gaylord from the surface of the peritoneum, the spleen, the lungs, and the blood, showing large masses of pale hyaline forms seen so often in fresh scrapings, in the peritoneal fluid of cancer, and in the blood and fluids of experimental animals.

In January, 1899, before the Medical Society of the State of New York, Dr. Gaylord and myself both stated that we believed he had recognized and demonstrated the presence of parasites in cancer and had successfully reproduced cancer in animals, but that we were at that time not in a position to state positively the nature of these parasites. Since that time most elaborate studies have been made, both of experimental animals and by post-mortem examinations of patients dying of cancer, and Dr. Gaylord is now able to demonstrate that all the organs of patients dying of cancer, including sarcoma and epithelioma, as well as the blood, contain large numbers of the organisms.

What now shall be said with regard to the yeasts and the fungi which numerous observers, especially among the Italians, believe to be the actual parasites of cancer? It certainly is true that Sanfelice has produced neoplasms, essentially tumors, in animals, by inoculation with the yeasts which he cultivated; but this occurred only in isolated instances, and can be regarded as proving only that the yeasts are pathogenic but not certain cancer producers. That fact had already been made plain by Busse, independently of the Italian observers. The yeasts certainly have their pathogenic rôle and are now known to produce certain skin lesions, as well as to be associated with certain internal diseases, and occasionally with the formation of pus. Nothing has yet been established to prove that they may not in occasional instances produce cancer; but so far at least as the Buffalo researches are concerned, we have to report that the Italian observations have been neither absolutely disproven nor confirmed. Sanfelice was unable to cultivate the organisms from the region of inoculation, but was, in many instances, able to regain them from the regional lymph nodes. By transferring these from animal to animal he enhanced their virulence to such an extent that they became fatal to the animals in which they were injected.

Further difficulty is added to this line of investigation by the extraordinary polymorphism of many of these minute organisms. Even the yeasts and fungi undergo numerous changes in size, and doubtless this is probably true to greater extent of the protozoa.

Plimmer, of London, has rendered most signal service in this direction by his extraordinary patience and the number of his investigations. During a period of six years he examined microscopically twelve hundred and seventy-eight carcinomata. In eleven hundred and thirty of these cases he found those parasitic bodies which are now associated with his name. They were found in all portions of the cancer, but especially at the growing edges. They appear only in the active cells, and not in those which are undergoing degeneration. They appear also between the cells and even in the leucocytes. In the more rapidly growing tumors they are found in large numbers. He has found even as many as sixty in one cell. Comparing sections of cancer with those of other growths, granulomata, etc., as well as normal tissues, he stated positively that he had never seen in any instance save in cancer bodies which resemble these parasitic forms or which have their reactions. The claims made by Plimmer have been almost faithfully corroborated by work done in the Buffalo laboratory, and substantiate his claim that these bodies are present in practically all carcinomata. They may be demonstrated in the fresh state, although here it is somewhat difficult to differentiate them from the fat droplets which they resemble. The most minute forms might be confused with cocci. The maturer forms appear either as spherical bodies with delicate outlines, or in full form, as well within as without the cells. Sometimes pseudopodia may be seen, in which case their contained granules remain, for the most part, in the larger portions of the structure. Sometimes the extra-cellular bodies may be noticed to change their form by placing them in a thermostat. Summing up these investigations of Plimmer's bodies, it may be stated that they present characteristic appearances, and can be differentiated from cell degenerations of the usual type as well as from other structures which they may resemble. It has never been possible to make out degenerative changes in the epithelial or other cells in cases of cancer which can really be confused with the so-called Plimmer's bodies.

It is extremely probable that most, if not all, of the observers who have described and figured cell inclusions have been watching the typical Plimmer's bodies. This is particularly true of Sjöbring.

Culture experiments made in our laboratory by the ordinary bacteriological methods have been uniformly negative in result. In order to show that they have been assiduously tried, I would say that sixty-four different media, including about everything that has ever been suggested and some original formulæ, have been employed, and of various degrees of acidity and alkalinity. Per contra, the organisms have been usually obtained by cultivation after experimental inoculation in animals. In those instances in which the yeast was employed, it has been possible to produce a pretty typical blastomycetic mycosis with abscess formation, or characteristic infectious granuloma.

Matters rested in this state in our laboratory for two years, our staff—and especially Dr. Gaylord—varying in opinion, as the evidence seemed to present itself one way or the other, inclining at times to the view that the parasites were fungi, and at other times that they were protozoa, the difficulties of the research being such that it seemed most difficult to weigh the evidence and reach a satisfactory conclusion. This was, however, at last and recently hastened by the investigations of Copeman and Funk on the protozoa of vaccine lymph. Sections of rabbit cornea, which had been inoculated with vaccine virus, showed not only that the half-grown formation of the vaccine organism is closely related in appearance to Plimmer's and Russell's bodies, but that the life cycle of this organism seemed to epitomize that of the cancer parasites which we had been studying. Going over the old work which had been done by methods previously in use, in the light of these latest researches on vaccine organisms, very positive conclusions can now be reached.

It would appear, for instance, that the protozoa are capable of producing in man (as Pfeiffer showed that they might produce both in man and in animals) lesions of widely different nature from mere infection of epithelium. For instance, in a pustule found upon the surface of a cancerous breast which I removed in February of this year, Dr. Gaylord found a quantity of material, consisting of leucocytes, red corpuscles, and a very large number of cells which proved to be protozoa. On cutting into the breast and making fresh scrapings these were found to consist of closely packed epithelial cells, fat droplets, and a considerable number of small greenish hyaline bodies of high refractive

index, and corresponding in every way to the Plimmer's bodies and to the parasites already described. Sections stained in the ordinary way, as well as by Plimmer's method, show also the same condition. Sections of the region of the pustule above mentioned show a tremendous number of spherical and oval Russell bodies, as well as large cells with more than one nucleus, many of them containing spherical bodies like Russell's. This pustule would appear to have been the result of an embolic deposit of parasites from the cancer itself, and we naturally interpreted it as indicating that the organisms of cancer are capable of producing other lesions than mere epithelial infection.

In a short time full report will be made of the results of inoculation of seventy-two animals. The material with which they were inoculated consisted of peritoneal fluid, fluid from the interior of malignant ovarian cysts, bacteriologically sterile cancer, and dried cancerous lymph nodes, rubbed up with salt solution. Some of the latter contained metastatic cancerous deposits, while in a number Russell's bodies were detected. In each case the fresh material was carefully examined and the presence of parasites determined before inoculation.

Briefly epitomizing the results obtained, we have the following interesting features: Fourteen guinea-pigs inoculated in the peritoneum with peritoneal fluid containing the organism had an average life of fifty-eight days; four, inoculated in the peritoneum with cancer mush, an average length of fifty-eight days; eleven, inoculated in the peritoneum with dry cancerous lymph nodes, forty-five days; while six guinea-pigs inoculated with material from these animals already infected gave an average length of life of twenty-nine days, but little more than half the length of time for the animals inoculated directly from man. Only one interpretation can be put upon this, and that is the increased virulence obtained by passing the organisms through even one animal. By other experiments organisms grown in a collodion sac within the peritoneal cavity of rabbits were so enhanced in virulence that a healthy rabbit inoculated in the ear vein died within fifteen days of general hæmatogenous infection. Thus, it will be seen that animals are rapidly infected when inoculated with cancerous material proven to be bacteriologically sterile, and consisting essentially of pure culture of the cancer parasites. All these animals rapidly emaciated and presented, on opening of the abdominal cavity, enlarged peritoneal lymph nodes, an increase in fluid, and enlargement of the spleen. Several of the animals presented also minute nodules in the lungs, which we are quite justified in interpreting as beginning adeno-carcinoma, while similar nodules were noticed in other instances in the liver and the spleen. In all of the organs thus far examined by Plimmer's method, large numbers of parasites were found in various stages of development. The lungs, in all instances, show that the parasites have penetrated the bronchial epithelium, causing a typical proliferation and epithelial nests beneath the basement membrane, practically such lesions as Pfeiffer described ten years or more ago in many of the lower forms of animal life.

The mention of protozoa as active agents in the production of cancer will strike no one as a novelty. The lowest forms of animal unicellular life have been regarded, as it were, as disease-producing agents for a number of years. Among the most conspicuous investigators of this subject has been L. Pfeiffer, of Weimar, who has published monographs at various times on this special subject. Published as they were, they seem to have attracted less attention than they deserve, or would if they had been printed in some journal of wide circulation. So early as 1890, Pfeiffer had written and studied most extensively on this subject, and his investigations are remarkable examples of the fidelity and patience with which some of the Continental investigators pursue studies.

Then we have had recent description of Eisen's cancriamœba, showing that so far as the microscope alone could take him he was working in the right direction. There is also, for instance, Korotneff's Rhopalocephalus carcinomatosus, which he has figured and described with infinite pains.[1] There are, further, Bosc's descriptions and plates of myxosporidia, coccidia, etc., which present very similar appearances. But the most elaborate monographs of all dealing with this side of the subject are those of Pfeiffer.[2] He attacks the matter from the comparative standpoint, which is by far the most successful one, and shows, for instance, how epithelial proliferation is provoked in the lower forms of life, and by many parasitic forms belonging to the protozoa. Thus Clepsidriana will produce in the intestine of the golden beetle (Chrysomela) and the horned beetle (Carabus) epithelial proliferation by which a heaping up of cells and almost miniature tumor formation are produced. This is particularly true in the case of the intestinal lesions produced in the beetle by Actinocephalus. Tumor formation in the spertoblastic cells of the earth-worm is produced by certain of the monocystidia, while Klossia produces a similar effect in the kidney tissue of certain snails. Coccidiosis is now well known, especially in the rabbit and the domestic mouse, as the explanation of certain neoplastic lesions. Infection by certain sporidia produces general muscle tumors in the hog, sheep, horse, and other animals. The name myositis gregarinosa is given to certain muscle tumors caused in the horse by sarcosporidia, and to tumors in the œsophagus and pleura of sheep produced by similar organisms. Pfeiffer found also muscle tumors produced in pickerel and other fish by myxosporidia, as well as tumors of various viscera, and even the heart substance. These parasites also produce neoplasms in nerve trunks, thus leading to lesions which he describes as polyneuritis parasitica. They also produce tumors in the swimming bladders of the horse-mackerel (Caranx), which he considers expressions of endothelial infectious tumors.

A close study of these comparative lesions and of tumor formations in human beings leads Pfeiffer to say: "When the cancer parasite is an obligate cell, parasite cultivation, according to ordinary bacteriological methods, cannot succeed; or, if at all, probably only in the hen's egg as a medium" (p. 97).

Having thus called your attention to some of his researches upon the rôle which the protozoa play in comparative pathology, let me remind you of what he has done and found concerning their activity as disease-producing agents among human beings. The dermatologists meet frequently with a disease which we call molluscum contagiosum, which is known among the Germans often as epithelioma contagiosum. A similar lesion is met with also in birds, and especially among domestic fowl, pigeons, etc., and is seen upon the head, neck, eyelids, inner surface of the thighs, and about the anus. In birds it seems to be often accompanied with a formation of false membrane upon mucous surfaces, giving rise to the term avian diphtheria. This, however, is a most unfortunate expression since it has nothing whatever to do with our diphtheria. In human beings similar tumors appear on all parts of the body, and seem to possess a certain degree of contagiousness or infectiousness. Thirty years ago Virchow called attention to the resemblance between the so-called molluscum bodies and certain protozoa found in the intestine and liver of rabbits. In 1873

[1] "Sporozoen als Krankheitserreger."

[2] "Die Zell-Erkrankung und die Geschwulstbildung durch Sporozoen" and "Die Protozoen als Krankheitserreger."

Bollinger called attention also to the resemblances between these new formations and what was known as bird-pox. He it was who first gave it the name of epithelioma contagiosum. In 1890 Pfeiffer fully described the peculiar infection of the epithelial cells by protozoa, and figured characteristic appearances in his book. He also showed, as have Darrier and Wickham, the protozoan nature of Paget's disease of the nipple, agreeing with these other authors as to the nature of the disease, and illustrating the gradual invasion of the milk ducts by these parasites.

Pfeiffer also called attention to the changes occurring in epithelial cells in herpes zoster and the eruptive diseases of children. He showed how in a fresh herpetic vesicle the epithelial cells could be found packed with protozoa, and how the latter could be also seen in the fluid and in the tissues. Similar vesicles produced by burning, by croton oil, etc., did not show these evidences of parasitic infection. This is of practical interest in connection with some of the herpetic eruptions seen along with cases of cancer. In a later monograph published in 1895, Pfeiffer claimed to be among the first who had determined the animal nature of certain parasites seen in tumors, and especially in carcinoma and sarcoma. He did not claim to have succeeded with inoculation experiments, but was sure of the microscopic appearances. In this publication he gave numerous illustrations of the parasites in the epithelial cells, which, save for a certain coarseness of drawing, would pass muster to-day. He shows, for instance, the parasitic infection of muscle cells, and even their nuclei, with zooglœa spores; and it is impossible to examine his brochure without feeling that he was far ahead of his generation in his recognition of the important rôle played by these animal parasites.

Pfeiffer also set the first example in a careful study of endemic cancer and of localities in which it occurs. He presents a small map of the village of Grossobringen in the neighborhood of Weimar. The little village contains about six hundred inhabitants. During the previous twelve years nearly three times as many had died of cancer as of tuberculosis. He showed that in this small town the mortality rate from cancer was much higher than of the adjoining country or villages. While it cannot be said that he presented a reasonable explanation therefor, this report of Pfeiffer's must still stand as an illustration of topographical study of the most important kind, antedating Behla's similar investigation of the town of Luckau, to which reference has often been made. But I must pass on, lest other matters of importance in this connection be neglected.

Certain observances have been made regarding these parasitic forms, which may be stated somewhat succinctly as follows:

These organisms can be found in regional lymph nodes before epithelial deposits are detected in the same. This would seem to imply that they travel ahead of the epithelial cells, and would seem also to take away the force of that argument which was perhaps put forward first by Rindfleisch, who spoke of the infectivity of epithelial cells. The parasites thus being much smaller may much more easily enter the lymph stream when liberated.

The constant occurrence of young forms of parasite around the periphery of a growing tumor, where they more easily get into both blood and lymph streams, is also of significance, taken with the above. Just how early they make this entrance into the current is a matter yet to be determined, as also whether there is any clinical or pathological sign by which such event may be indicated.

In all cancer cadavers so far examined, we have found organisms in all the organs and even in the peripheral blood, in every instance showing how widely the organisms are thus diffused and the far-reaching effect of a primarily local infection. Also all patients so far examined in whom cachexia has been extreme have given the same result so far as the peripheral blood was concerned. The organisms seem to be always found in this fluid.

Malignant lymphoma is a disease about which in times past no small differences of opinion have existed. This would appear from the variety of names which have been given to it, if on no other account. It certainly presents a great variation in degree of malignancy, some cases being exceedingly rapid and acute, and some slow. In two cases of mine of more rapidly growing type, one of which was fatal without operation, the other undergoing it and resulting in recovery, parasites were found in the circulating blood; in the former instance seven days before death. Such cases as these would seem to be instances of primary lymph or recurring infection. The more rapid in type, the greater the danger and degree of hæmatogenous infection. The slower forms of this kind are commonly those which are usually known as Hodgkin's disease, appearing in its slow type, or at least are barely distinguishable from it. The microscopic changes in the lymph nodes, disregarding changes in the blood, which are seen in malignant lymphoma, Hodgkin's disease, and leukæmia, are barely distinguishable from each other if at all. So too the changes in the spleen in chronic leukæmia, chronic malaria, and splenomegaly (Banti's disease), barring, of course, increase of leucocytes in the former and the presence of malarial parasites in malaria, are barely distinguishable from each other. There seem to be two quite different types of lymph infection—those in which the lymph nodes especially are involved, as in malignant lymphoma and Hodgkin's disease, and those in which the spleen especially is involved, as in the disease last mentioned. The position of malaria at one end of this list and of malignant lymphoma at the other, protozoa being responsible for each of them, would seem to imply that all the intermittent conditions must necessarily be regarded as protozoan infections aside from the actual microscopic findings. In this respect the recent work of Löwit, which is exceedingly suggestive, must not be overlooked.

Those diseases in which enlargement of the spleen forms a prominent feature have been in times past attacked surgically until the number of failures in attempting to relieve lymphatic spleens has led almost to the abandonment of splenectomy for this purpose. The primitive form of splenomegaly (Banti's disease) has given much better result after operation than any of the other morbid conditions of the spleen; and this may now be explained, since in this condition the infection is still local, in whole or in part, and more resembles malignant lymphoma. If leukæmia is a protozoan disease, as Löwit claims, it is on a par with malaria, and must be regarded as a specific infection of blood cells similar to malaria, in which case splenectomy would be very much less promising. It is only when the lymph nodes or spleen are primarily infected, and most conspicuously involved, that the case becomes essentially a surgical one.

Cancer begins as a purely local infection. This is a statement which I have repeated for many years, and which would seem to be verified by our recent work in Buffalo. It kills by becoming generalized. This is also true of tuberculosis, and while there are possible exceptions in each case, the general statement thus made can scarcely be denied. Miliary carcinomatosis is not much more rare than miliary tuberculosis, and these constitute apparent exceptions to the above rule. Even they, however, do not prove that the disease did not have a local beginning. In each case

operation, if done before general infection has occurred, or metastasis has taken place, is exceedingly promising if done thoroughly. This statement, of course, is backed up by universal experience, but finds its explanation in what I have already said. Operations done later are palliative in that thereby a large focus, or dépôt, or principal source of supply is removed, its removal not only lessening danger of general dissemination, but permitting the blood to assert its own normal parasiticidal properties.

More specific illustration of this statement may be found in cancer of the stomach, in which a successful gastro-enterostomy saves the patient from death by starvation, but does not avert his final cachexia and terminal hæmatogenous infection. It prolongs his life only indirectly and for but a short time. On the other hand, radical operation when successfully done seems really to prolong life and to remove cachexia, as theoretically should be the case when the principal source of infection is extirpated.

Take the case again of a successful splenectomy for primary splenomegaly. It at all events produces great temporary benefit, if not indeed absolute cure. It has been hitherto supposed that the splenic enlargement was due to absorption of toxic substances from the intestines. If this were really the explanation, splenectomy would be ridiculous. On the other hand, if the primary infection be in the spleen, and the source of supply limited to that organ, then its removal would be most strongly indicated, and should prove of the greatest benefit. It remains yet to be positively demonstrated that Banti's disease is really a protozoan infection, since I doubt if yet any inoculations of such splenic pulp have ever been made into animals. It is, however, a promising field for research.

If these statements have aught of actual value, this value is extreme, since they should teach that in dealing with primary lymphatic infections of such structures as the spleen and lymph nodes, extirpation done early is of the greatest importance and should not be neglected. It is most indicative also, in my estimation, that in our laboratory experiences Gaylord succeeded just as well when inoculating animals by using old dry lymph nodes as by introducing fresh elements. This suggestion is, so far as I know, original with him, and seems to have a far-reaching importance, that organisms may remain in the dry tissues for considerable lengths of time and still prove effective when inoculated. This is, however, just what we see with vaccine lymph, for instance, while the resemblances between the protozoa of such lymph and those of cancer have been already strongly touched upon.

I want to make it as evident as possible that carcinoma as a type of disease is, in every instance, an example of epithelial infection. Without infected epithelium we have no cancer cells nor cancer formation. Sarcoma, on the other hand, is an infection of connective tissue, probably by the same organisms, the tissue cells reacting somewhat differently. It would seem, so far as we have gone, that different forms of parasite have specific tendencies in one direction or the other; but it will take years of minute and careful study to show which kind of parasite prefers one or the other of these tissue cells. Up to a time within a few years ago, and quite easily within our recollection, malaria was almost as much a mystery as has been cancer. Now we recognize at least three distinct types of malarial parasite, and talk and think of these organisms as if we were reasonably acquainted with them. We have then ample grounds, reasoning by analogy, for supposing that cancer organisms may in some manner manifest specific inclinations. Moreover, those animals which were inoculated with sarcoma showed predominant sarcomatous lesions, although epithelial infection was not entirely wanting. For instance, in the first animal inoculated from my first case, which was so carefully worked up, although the predominant lesion was adeno-carcinoma of the lung, it was nevertheless found that all of the splenic follicles (which are of connective-tissue origin) were likewise infected.

Authentic instances of mixed sarcoma and carcinoma are in man rare clinically; but we may note, for instance, in Cullen's recent work the frequency with which myoma and uterine cancer are associated, and this is made still more apparent by Wadworth's recent paper illustrating the frequent occurrence of these lesions.

An entirely different aspect of this question is still left untouched by our researches, and one to which in time past I have invited your attention, and that is the possibility of spontaneous retrocession, or disappearance of malignant growths. I had thought to get together for presentation to you at this time the views and reports of various surgeons in all parts of the world upon this topic, but was prevented doing this by press of other work. I have for years maintained that in rare instances malignant tumors have undergone a spontaneous and mysterious retrocession, for which it was impossible to account in any known way. While some surgeons have denied that this was possible, others have maintained, as I did, that it has occurred under their personal observation. Most recently in this connection similar instances have been reported by one of our medical confrères, Osler,[1] whom we surgeons always delight to honor. There is nothing in the protozoan theory of cancer which makes this appear less possible or plausible than before, nor is there anything which shows it to be impossible. We see startling recovery from other infections in cases in which hope had been abandoned, and there is no reason to think that such a thing is impossible, even in dealing with so dreadful a condition as cancer.

CONTRACTURE OF THE NECK OF THE BLADDER.*

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In treating the subject of contracture of the neck of the bladder, the literature of which is limited and obscure, this paper will encroach upon the prolific and more discussed subject of prostatic hypertrophy—first, because these two maladies have much in common and have been more or less confounded, and second, because one of the purposes of this writing is to introduce as a substitute for the Bottini galvano-caustic operation a more surgical procedure, the claims of superiority of which are based upon such advantages as greater precision, lower mortality, fewer complications, and the promise of better results.

Such unstinted praise, appearing as it does at the opening of an article, would seem fulsome indeed were it not sustained by the practical showing of a fair array of clinical cases to be hereafter reported.

This same malady has been described by different writers under various designations. In a thesis embodying this subject ("De la contracture douloureuse du col de la vessie"), Sockell[1] undoubtedly has in mind the condition under present consideration, but does not give a definition which conveys a clear understanding of its real nature and cause.

Some early writers describe contracture of the vesical sphincter under the denomination of neuralgia (névralgie du col), while others have embraced it in a

[1] American Medicine, vol. i., p. 65, April 13, 1901.

* Read before the Association of Genito-Urinary Surgeons, May 2, 1901.

description of chronic cystitis of the neck of the bladder, and the same morbid condition has been described under such titles as spasm of the neck of the bladder, "valvule," urethro-vesical fold, barriers, etc.

Civiale,[2] one of the earliest writers upon this condition, recognizes a simple urethro-vesical fold of mucous membrane in some cases and in others a more dense barrier containing fibrous or muscular tissue.

Mr. Guthrie[3] mentions chronic thickening of the neck of the bladder, and enumerates symptoms of this

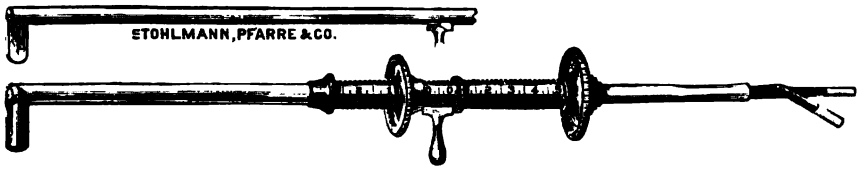

FIG. 1. The Author's Original Perineal Galvano-Cautery Incisor.

condition, which are those peculiar to most cases of contracture.

Mercier[4] speaks of the existence of a urethro-vesical barrier produced by muscular spasm, the result of prolonged irritation.

Fuller[5] describes the condition of "chronic contraction of the prostatic fibres encircling the vesical neck," and likens this lesion to the tonic contraction of the sterno-mastoid muscle in torticollis.

Von Frisch[6] says: "In long-standing cases of spasm of the sphincter there results an inability to empty the bladder entirely, and there may arise from this a permanent insufficiency of the bladder muscle with residual urine amounting to from 100 to 250 c.c. and more." These somewhat varied opinions, representing different theories of writers whose views are entitled to recognition, while not entirely in accord, refer to either the same condition or to different degrees or phases of the same malady.

Definition.—What is meant in this paper by contracture of the neck of the bladder is a fibroid stenosis of the vesical sphincter or fibrous infiltration of the glandular and muscular tissues encircling the bladder neck, simulating symptomatically stone in the bladder and resembling senile prostatic hypertrophy by the mechanical hindrance it produces to the urinary outlet. Many of the cases of prostatic hypertrophy reported are simple cases of contracture, notably some of those operated upon by the Bottini method, or are of the contracture type of prostatic hypertrophy in that they present a fibroid collar at the vesical orifice, which contains more or less adenomatous tissue, and this condition may and does exist alone or in combination with central, unilateral, or bilateral prostatic outgrowth.

Cause.—The cause of this pathological condition is found in long-standing chronic inflammation centred in the region of the trigone (behind) or in the prostatic sinus (in front). It is commonly but not necessarily of gonorrhœal origin. Prostatic abscess, stone in the bladder, traumatism, or any of the conditions involving prolonged suppuration in the neck of the bladder or prostatic urethra may leave behind them this condition; and it may also coexist with prostatic hypertrophy, when it becomes one of the elements of the obstruction formed by this morbid growth.

Sir Henry Thomson[7] in his writings on diseases of the prostate recognizes the existence of this organic obstruction apart from that caused by prostatic hypertrophy. In his conclusions he states:

"That an organic obstruction may exist at the neck of the bladder when there is no enlargement of the median portion of the prostate.

"That in this case it is most commonly due to hypertrophy of the muscular fibres at the neck of the bladder produced by long-continued irritability of the viscus and generally occasioned by stricture of the urethra, inflammation or calculus of the bladder, and occasionally appearing without any of these conditions.

"And that sometimes the obstruction consists of a fold of mucous membrane and submucous tissue drawn upward by enlarged lateral lobes of the prostate, the median portion being slightly, but sometimes not at all, affected."

An example of the latter condition may be found in Case XII. operated upon by the writer.

Symptoms: The symptoms of contracture of the neck of the bladder, as already stated, are analogous to those of vesical calculus. The most predominant symptoms are urgency and frequency of urination, the calls to urinate varying from half-hourly to every two hours day and night. The desire is generally precipitant, and if not responded to promptly is productive of marked pain in the bladder region or involuntary urination. Difficulty in starting the flow is noted in some cases, and attacks of complete retention supervene in many instances. In long-standing cases the force of the stream is distinctly less than normal, and residual urine exists in varying quantity in most if not in all cases. As is the case in prostatic hypertrophy the urine generally contains the elements of catarrhal inflammation, while at times it is devoid of these qualities and is perfectly clear. Examination per rectum discovers nothing characteristic of this condition, although, as stated, prostatic hypertrophy may coexist. Examination by way of the urethra with a short-beaked sound meets an obstruction beyond the prostatic sinus, and after entering the bladder, the same obstruction will be recognized by turning the beak toward the bas fond. The urethral distance is not elongated unless there be a coexistent median or lateral prostatic enlargement.

Treatment.—The treatment of this condition, if intended to be radical, must necessarily be directed toward the removal of the existing obstruction to the urinary outflow. Such methods as forced dilatation and cauterization have been tried, and yield at best only temporary and transient relief of the affection and cannot be treated as worthy of consideration. The only satisfactory surgical means of attacking it, which has been tried and has accomplished the end in view, is free incision of the obstructing area through a perineal wound. Perineal cystotomy was performed a long time ago under the inspiration of Mercier, who was one of the first to conceive the idea of cutting down the neck of the bladder through the urethral channel by means of a specially devised instrument. But the complications and difficulties attending such an operation are similar to those met in connection with the Bottini galvano-caustic operation, among which may be mentioned hemorrhage, painful and prolonged bladder spasm, complete retention of urine, swollen testicle, prostatic abscess, and profound urinary infection. All of these dangers are very much lessened, if not removed, when a perineal opening is made and drainage instituted.

The Bottini operation, which was introduced some twenty-five years ago by the author whose name it bears, was advocated as an improvement upon the Mercier urethral prostatotomy, and was intended to lessen the danger of hemorrhage and to produce a more permanent result. That an incision made by means of a galvano-caustic knife is less prone to be followed by hemorrhage, and more likely to leave a permanent channel, appeals to reason; but it cannot be denied that, when conducted through the urethra, it is accompanied by all the other disadvantages at-

tending the same operation without the cauterizing element. One of the greatest objections to an intravesical operation done by way of the urethra is the lack of precision allowed in its performance. Recognizing this difficulty, there has been introduced of late an instrument permitting the Bottini operation to be performed under ocular inspection by the combination of a cystoscopic attachment to the incisor. But who can read the many contributions to the literature upon the subject without being impressed with the number of complications and difficulties which have occurred in connection with the Bottini operation even when performed by the most skilled hands? Taking into consideration the difficulties encountered during and after its performance, and recognizing that its advantages are such as can be incorporated in an operative procedure which is surgically precise, less dangerous, and more effectual, who will deny that such an operation is entitled to the honor of precedence?

This operation consists in adopting the perineal route as a means of approach to the neck of the bladder, and the galvano-cautery knife as a means of removing the obstruction or the obtruding inflammatory or hypertrophied outgrowth.

W. T. Belfield,[8] of Chicago, in 1886 reports two cases of prostatic hypertrophy operated upon by a technique which consisted in making a perineal wound and in applying the electric cautery through this opening to the enlarged prostate. In one of these cases the cauterizing operation was performed two weeks after a perineal drainage had been established, and resulted in a decided diminution of the symptoms up to the time of death seven months after the operation. The other case was unsuccessful on account of the failure of the battery.

F. S. Watson,[9] of Boston, in his admirable monograph on the operative treatment of the hypertrophied prostate, published in 1888, describes an instrument devised by him, called a galvano-cautery prostatectatome, for the purpose of attacking the enlarged prostate through a perineal wound or a suprapubic cystotomy. He describes this instrument as having the form of a short, broad-bladed lithotrite, the blades of which are reduced to a thin edge by a large central fenestra. Each blade contains a platinum wire loop connected by conducting wires through the inner shaft with a battery which affords the electric current. This instrument is intended to grasp a central portion of an enlarged prostate for its removal or to extirpate the gland piecemeal. No cases are reported. It will be seen that in both the above instances there is a lack of sufficient clinical material to demonstrate the value of the operation suggested, although it resembles that employed by the writer of this paper. This method is a modification of the Bottini technique. A specially constructed instrument performs the same function as the galvano-cautery knife of Bottini, but is operated through a perineal opening.

Instrument.—The first instrument constructed, and used by the writer thus far in the greater number of his cases, has been found quite satisfactory as regards principle, but has since been embellished and rendered more wieldy. Like the Bottini and Freudenberg instruments, there is an outer shaft in which slide the wires and cautery knife. The beak is turned to a right angle. The blade is about 1 cm. in length. The handle of the instrument is graduated so that the length of the cut is accurately determined. The sliding of the knife is controlled by the fingers instead of by the rotation of a wheel, so that the operator more readily appreciates the density of the tissues and the progress of the blade during cauterization. A movable stop upon the handle makes it impossible to cut beyond the distance determined upon before the current is turned on. One hand only is required to operate the instrument, so that the index finger of the other is free to be introduced in the rectum. No cumbersome cooling attachment is required. The circulation of a cold sterilized solution through the urethra, and out through the perineal wound, accomplishes the purpose of keeping the instrument sufficiently cool without affecting the blade. When a storage battery is used an amperemeter is attached, and the same amount of current is required as with the Bottini instrument—namely, about 50 amperes. When the street current can be had, which is much more satisfactory, a motor transformer and rheostat are needed. Fig. 1 shows the author's original incisor and Fig. 2 a later instrument with improved attachments. The older instrument is intended to be held in the hand against the web between the index finger and thumb, as the battery wires are attached behind the handle and run off horizontally. The new instrument is supported against the palm of the hand, the battery wires running off perpendicularly, and there has been added a cut-off, under the control of the fingers of the operator, which the original instrument did not have.

Operation (Fig. 3).—The patient is placed in the lithotomy position, the bladder having been previously washed with boric or boro-salicylic solution, a small portion of which is left in the bladder. If it has not already been done, the urethral distance and amount of residual urine should be noted. A small-sized grooved staff is introduced and a median perineal incision made upon this, opening the membranous urethra. The bladder having been reached, the staff is withdrawn and the finger introduced into the perineal opening. In cases of marked contracture of the neck of the bladder, whether accompanied by prostatic hypertrophy or not, when the vesical orifice is too small to admit the examining finger, this opening is not forced and torn by the finger of the operator, but the cautery knife is at once introduced for the first incision. In making this cut it is not necessary to be particular that the bladder contains fluid. The instrument is first tested and then introduced in the bladder through the perineal opening. The index finger of the left hand feels for the beak through the perineum. An assistant couples with the meatus a blunt glass nozzle attached to an irrigator containing cold saline or boric solution. The operator, who holds the handle of the incisor in one hand and recognizes its actual situation with the finger of the other in the rectum, turns on the current by means of the interruptor, and the assistant allows the cooling solution to flow. Ten seconds are allowed to lapse before the

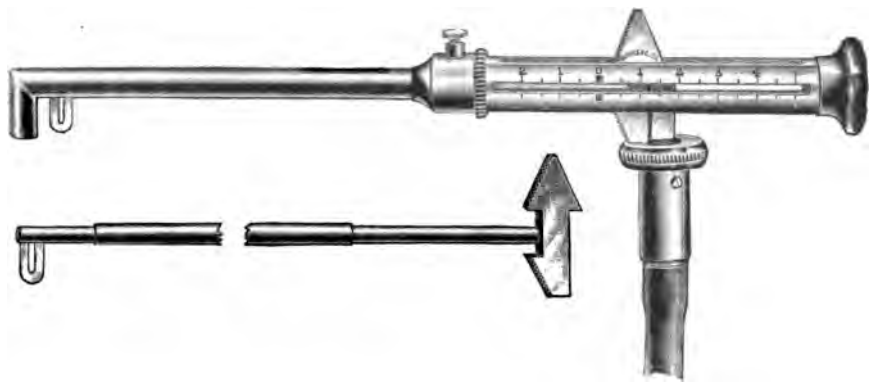

FIG. 2.—The Author's Improved Instrument.

knife is unsheathed. The operator then slowly withdraws the knife with the fingers of the right hand, readily appreciating that it is doing its work. This manœuvre is conducted very slowly. From one-half to three-quarters of a minute is generally taken to complete an incision of minor length and return the knife to the sheath, when the current is discontinued. The cooling irrigation is allowed to flow for a short time, and the instrument is then withdrawn. The finger of the operator can now readily enter the bladder and a careful and exact examination be made. In cases of simple contracture the work has been completed, as is often also the fact when there is a prostatic bar. When the finger distinguishes a marked unilateral or bilateral prostatic growth, these are either carefully burned through with the galvano-cautery knife, or in the case of a pedunculated lobe its removal is effected by means of an incision on either side. The bladder is now washed and a small perineal tube tied in place.

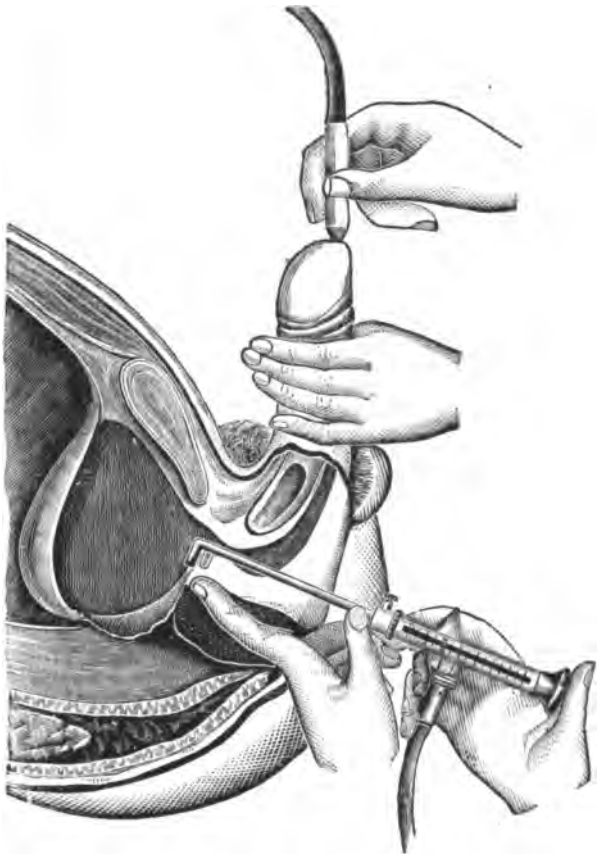

FIG. 3.—The Operation.

The patient is returned to bed, the whole operation having taken but a few minutes after he is under the influence of the anæsthetic. General anæsthesia is always employed, beginning with nitrous oxide and ending with ether. If the patient's kidneys are diseased, or if for any other reason chloroform is preferred, after the ether anæsthesia has been thoroughly established chloroform is substituted, and thus a minimum amount of the former anæsthetic is employed. The advantages of general anæsthesia need no comment. Those who have done the Bottini operation often seem to prefer its use, and the patients themselves demand it.

The after-treatment of the patient is important, and is practically the same as that employed for perineal section. Urotropin or cystogen is given in doses of gr. xl.–l. in twenty-four hours, and an anodyne may be administered, but is seldom required. The bladder is washed daily with boro-salicylic or nitrate-of-silver solution through the perineal tube. The bleeding is always slight. In none of the cases operated upon has it been persistent or annoying. The perineal tube is removed from the third to the sixth day, after which the re-establishment of the natural channel takes place, as after a perineal section, at the expiration of a variable period.

Sixteen cases have been operated upon by the writer. The ages of the patients have varied from thirty to seventy-three years, six of them being below the age of forty-five, and the remainder between forty-five and seventy-three years old. Six patients (i., v., vii., viii., ix., xi.) were cases of simple contracture of the neck of the bladder. Three patients (iv., x., xiv.) had reached the age when prostatic hypertrophy supervenes, and might aptly be called cases of the contracture type of hypertrophied prostate without marked lateral enlargement, and, besides these, five patients (ii., xii., xiii., xv., xvi.) had more or less unilateral or bilateral prostatic outgrowth. One case (ii.) was complicated with calculi. Two cases (iii., vi.) were tuberculous. Two patients (xiii., xiv.) had previously had epicystotomy performed, in one of which a suprapubic fistula remained. Two patients (i., v.) were diabetic. Out of this number there had been one death (xvi.) which occurred five weeks after the operation from pyelonephritis, the patient having secreted prior to the operation only 10 to 13 gms. of urea in twenty-four hours. Seven (i., ii., v., viii., x., xi., xv.) patients may be considered entirely cured; three (vii., xii., xiii.) are materially improved, and five (iii., iv., vi., ix., xvi.) partially improved.

In regard to those cases reported as being partially or materially improved, two of them are tuberculous, and these obtained no further benefit from the operation than what might be expected from ordinary perineal drainage, although the intensity of their symptoms has somewhat moderated, and the intervals between urination are slightly lengthened. The remainder of these improved cases are still under observation, and show signs of progressive betterment.

There is no evidence of permanent perineal fistula in any of the cases operated upon. In one only (iv.) has there been much tardiness in the closure of the wound. The cases (xiii., xiv.) complicated with suprapubic fistula resulted in complete closure.

There existed in all of the cases more or less residual urine, and in several there was urinary overflow, with the bladder retaining between seventy and seventy-five ounces.

The symptoms of urgency and frequency of urination, diurnal and nocturnal, were present to a greater or less degree in every instance, and, as a result of the operation, have disappeared or moderated in most of the cases.

The residual urine has entirely or practically disappeared as a result of the operation in all cases with the exception of one (xiii.), in which there still remains four ounces, there having been at the time of the operation thirty ounces of retained urine, and the residuum has shown evidence of progressive diminution at each examination subsequent to the operation.

Two of the patients (ix., xiv.) still under observation have more or less incontinence of urine, but as this is at times materially diminished, it is hoped that it will ultimately disappear.

Two patients (iv., ix.) developed after the operation swollen testicle, both of whom had previously had similar attacks of the same trouble. There was no suppuration either in the testicle or the ducts, the inflammation promptly subsiding under appropriate treatment.

In reviewing the histories of the foregoing cases, a noteworthy fact is the absence of complications which have been a feature in many of the operations performed according to the Bottini technique, as admitted by the various writers who have reported them.

One of these complications, perforation of the urethra by too long an anterior incision, has occurred in the experience of most operators who have employed the Bottini method, and, according to Meyer,[10] is more likely to happen in cases of the so-called soft variety of prostatic enlargement, on account of the impossibility of determining prior to the operation the compressibility of the tissues, and, as Meyer states, "unforeseen occurrences may then baffle the operator." To use his language, "for if, in the case of a fibrous prostate with lengthened urethra, he should exhaust the full length which the ordinary incisor permits of cutting, namely, 4 cm., the incision may easily be too short, and never properly divide the obstruction down to the prostatic urethra—an experience which I have had in a few cases—or if in a soft, compressible gland he should made an incision of from 2.5 to 3 cm. in length, he may at once do a real internal posterior urethrotomy and perforate the urethra, an accident that happened to me in two instances."

Granville McGowan[11] met with a similar unfortunate experience during the operation upon one of his patients, although a proper amount of precaution and gentleness was exercised; the patient died, having developed perineal abscess.

L. Bolton Bangs[12] reports two deaths due to acute sepsis. In one of these cases he states that the posterior incision probably opened the deep urethra.

Freudenberg, Meyer, and Granville McGowan all report cases of perforation of the space of Retzius by the anterior incision, which on this account has been discarded.

These are the complications which have been met during the performance of the Bottini operation, and it is obvious that with the perineal wound, through which the operator's finger can determine the compressibility of the tissues and the actual distance to be traversed by the cautery knife, the danger of these complications does not arise, and even if the anterior incision be long enough to encroach upon the urethra, with the drainage afforded by the perineal wound and the introduction of the tube it can do no damage.

With regard to the post-operative complications, the most dangerous of which are urethral fever, profound sepsis, and pyæmia, the existence of adequate drainage is certainly the most surgical means of guarding against such conditions as these, as well as the annoying occurrence of absolute retention, frequent and painful bladder spasms, and hemorrhage, which have characterized the histories of some of the cases operated upon by the Bottini method.

Those uncompromising advocates of the Bottini operation who oppose this modification will do so on account of the perineal incision employed; but how can such an objection stand in the face of its many advantages? Others may say that when an incision is made one might as well perform the more radical operation of extirpating the gland by means of a complete prostatectomy. In this particular the observations of F. S. Watson[9] are of interest. In examining the anatomical specimens of thirty cases of prostatic hypertrophy this writer found that in twenty-one out of the thirty, or more than two-thirds of the number, the median enlargement could have been successfully reached and incised, or partially or wholly removed, through the perineal route; and in seven cases the great distance of the median enlargement from the perineum rendered the suprapubic operation imperative, if any were done.

I can do no better than to quote from the conclusions of this writer at the end of his thesis: "In a given case open the membranous urethra, put in your finger and explore. Twice out of three times the operation can be completed by this route. In the other third of the cases the long perineal distance, or the form of the median enlargement, will make the suprapubic operation necessary."

The most ardent advocates of the Bottini technique admit that some cases are not suitable to this mode of procedure, and should be submitted to the more radical method of prostatectomy. Yet it has not been shown how to determine previous to operation upon a given case which method should be adopted. Cystoscopy is of doubtful expediency in advanced cases of prostatic hypertrophy, especially when there is evidence of pyelonephritis. Meyer relates a case in which cystoscopy was followed by protracted urethral fever that ended fatally.

The finger is much more serviceable in solving any and all the questions which may arise in doubtful cases.

A perineal incision permits an exploration, which is better and more rapid than cystoscopy, affords opportunity for an operation, based upon the Bottini technique, with the most absolute precision, which the Bottini method lacks, while if this operation be deemed insufficient or improper in a given case, the total extirpation of the hypertrophied prostate gland, either by the perineal or suprapubic route, can be accomplished.

It remains for future experience to develop how permanent are the results obtained in this somewhat varied collection of cases, and for other surgeons who may test this operation to define its limitations.

Report of Cases.—Case I.—J. H——, aged forty-five years. The patient has had chronic urethral discharge for over ten years, during which period he had several acute exacerbations. He has been troubled with too frequent urination for about one year. This difficulty came on slowly, and has progressively increased so that at the present time he rises from three to six times during the night and urinates every hour by day. The desire to urinate comes on suddenly, and is imperative. The urine is filled with pus, and examination reveals an excess of urates, acid reaction, a small percentage of albumin, and evidences of hyperæmia of the renal pelvis. The patient, having been submitted to various therapeutic measures without improvement, was prepared to accept surgical interference. Examination finds no peripheral prostatic enlargement per rectum; a dilated prostatic sinus and a bar at the neck of the bladder; urethral length seven inches; residual urine half an ounce.

Operation, November 20, 1900, median perineal cystotomy. The finger detects a very marked contracture of the neck of the bladder, which is burned with the galvano-caustic knife a little to the left of the median line at a slight angle 1 cm. in length. In this case the Freudenberg-Bottini instrument was used, and, the first cut being unsatisfactory, a second had to be made in the same line. Little reaction and a mild amount of bleeding follow. The perineal tube is removed at the end of six days. The wound closes satisfactorily, and the patient leaves the hospital at the end of three weeks with a small amount of dribbling between urination. At the end of six weeks after the operation the patient sends his urine for examination. The albumin has entirely disappeared; there is no evidence of renal hyperæmia; it is perfectly clear, and entirely free from pus and shreds. He reports that he urinates every three hours by day and once or twice at night. There is still some dribbling. Four weeks later the patient sends another specimen of urine, which is entirely clear, free from albumin, and contains no pus. The intervals between urination run as long as four or five hours, and he can pass the night without rising. There are only a few drops of dribbling between the urinary acts.

Case II.—November 27, 1900. H. L——, aged fifty-eight years, has had frequent urination for twelve

or fifteen years past, which came on gradually and increased progressively. For the first six years of this period he was compelled to rise two or three times at night and in the last six years five or six times ordinarily. In the past few months, however, his condition has been much worse; urination has been from every five minutes to every half-hour day and night, and is accompanied by intense pain, notably at the end of the act. Exercise and exertion of any kind intensify his symptoms. The urine is markedly purulent and ammoniacal. He has been treated at the hands of his family physician with bladder irrigation, and has had between two and three ounces residual urine. No improvement has attended this treatment. There is a small amount of blood squeezed out with the terminal urine. The patient's suffering is so great that no exploration is deemed advisable, a tentative diagnosis being made of prostatic hypertrophy with possible calculus. He is prepared for operation on the following day.

Operation. Examination of the patient under the anæsthetic results in finding the prostate per rectum moderately enlarged; the urethral length is not taken; residual urine three ounces. Median perineal cystotomy. Two small calculi, weighing ten and twelve grains, are found and removed with a bladder scoop. There is a left prostatic enlargement and a moderate median bar. The left lobe is incised with the galvano-cautery knife at a slight angle, so as to accomplish sufficient lowering of the median bar. A perineal tube is inserted; no reaction and little hemorrhage follow. The patient experiences immediate relief from all symptoms following the operation. The tube is removed at the end of six days. The patient leaves the hospital and returns home at the end of three weeks. He urinates about every hour day and night, and has a certain amount of dribbling between times.

February 11th. The patient urinates twice in the forenoon and two or three times in the afternoon; rises once or twice at night; has absolutely no pain, no leakage, no residuum. The urine is free from pus, and contains only a few shreds. The patient considers himself perfectly well.

Final report, April 24, 1901. The patient urinates about every four hours by day and rises only once at night, and sometimes not at all. There is no leakage, and the urine is free from catarrhal elements.

Case III.—December 15, 1900. G. K——, aged thirty-three years. The patient states that when twenty-five years of age one evening he tried to pass water as usual, but was unable to do so on account of, he says, clots of blood in the bladder. There was no cause assigned for this condition, he having been attending to his regular occupation previous to the occurrence. His bladder was washed at the time by his physician, and soon after he enjoyed his usual good health, with no signs of blood in the urine until two years later, when he again noticed the presence of blood in the urine. Two months later he had a third attack of hæmaturia, and thereafter his attacks became more frequent; first every couple of weeks, then every week, then every day. As the attacks of hæmaturia became more frequent, the desire to urinate also increased, and was accompanied by intense pain, which was absent when the hæmaturia first occurred, and until the last few months.

Operation, December 18, 1900, perineal cystotomy. There is a contracture at the neck of the bladder, but it is soft, non-resistant, although barely admitting the tip of the index finger. Incision is made with the galvano-cautery knife, about 0.5 cm. in length. No reaction from the operation and little bleeding follow. The patient is up and about at the end of three weeks, there having been no return of the hæmaturia. The perineal wound was somewhat tardy in healing, but finally closed entirely. The patient's urinary symptoms are slightly but not materially improved since the operation. Before the operation he had been compelled to urinate about every fifteen minutes by day and about ten times at night. At present (twelve weeks after the operation) he urinates ordinarily from every one-half to three-quarters of an hour day and night. Sometimes in the early morning he goes as long as two hours. An examination of this patient's urine prior to the operation revealed the presence of tubercle bacilli and the evidences of pyelo-nephritis.

Case IV.—J. S——, aged fifty-two years, had gonorrhœa about twenty-eight years ago, which, he says, lasted about eight months; had a second attack last July. For the past five and a half years he has been compelled to arise once or twice to urinate, and has had some frequency by day. This condition continued until December last, when he noticed a burning pain along the urethra, and was compelled to arise three or four times at night to pass water. He entered the hospital January 31, 1901. Residual urine, one-half ounce; no appreciable enlargement of the prostate can be felt per rectum. The searcher detects a barrier as it passes over the prostatic urethra and enters the bladder.

Operation, January 10th, perineal cystotomy. The finger through the perineum recognizes the bar at the vesical outlet. One incision is made slightly to the left-hand side with the Bottini instrument.* There are no reaction and no bleeding after the operation. The tube is removed at the end of five days. The patient walks around the ward at the end of three weeks, and complains of more or less continuous dribbling of urine between the urinary acts, when upon his feet. He leaves the hospital at the end of a month, and returns in three or four days with a swollen testicle on the left side without apparent cause. One week later, when the left epididymitis had subsided, his right testicle also swelled. The patient reports having had several previous attacks of the same trouble. Both testicles yielded to the ordinary treatment, but the incontinence continued. About eight weeks after the first operation, there being no cessation in the continued tendency to incontinence, it was thought an inadequate cut might have been made, and a second operation was proposed. Operation February 7th. The same procedure is repeated, but the specially devised galvano-cautery knife is employed. When the perineum is opened, the index finger finds still some contracture at the vesical orifice, but in lesser degree than before the previous operation. The patient has some febrile disturbance after the second operation, but no hemorrhage; he sits up in bed in two weeks, and walks about the ward at the end of three. The perineal wound is sluggish, and some of the dribbling passes by this route.

April 25, 1901. The patient urinates every three hours by day and about four times during the night. There is still some dribbling of urine through the penis and through the perineal wound.

Case V.—E. S——, forty-five years old; January 5, 1901. Four years ago the patient had gonorrhœa for the first time. This lasted for nine weeks. During the fourth week of this attack he had hæmaturia, which lasted four days. Last October he developed a slight discharge, which disappeared in three weeks. At the same time he passed blood at the end of each urination. The calls to urinate are, and have been in the last eight weeks, frequent and urgent, and the discharge of blood with each urinary act has continued up to the present time. The patient has also diabetes.

Operation, January 10, 1901, perineal cystotomy.

* This was one of the first operations performed and a special instrument was not in use. From lack of experience an insufficient amount of current was employed.

The neck of the bladder is tightly contracted, and is incised with galvano-cautery; no reaction follows. He is discharged from the hospital at the end of three weeks. The patient disappeared from observation until March 25, 1901, when he reports himself as being well. He urinates every three or four hours by day and rises sometimes once at night to pass the water, and sometimes not at all. There is no pain in connection with urination, and he has gained in weight and strength. The urine is clear.

Case VI.—E. S——, aged thirty-one years; January 10. 1901. When twelve years old, the patient states, he sustained serious internal injury, the result of a fall from a horse, following which he passed small clots of blood, and continued to do so for one year afterward. Subsequently he enjoyed good health up to four years ago, when, after a severe exposure to cold, he was confined to bed, with night sweats. At this time he again noticed the passage of blood in the urine, sometimes in clots and sometimes fluid. On the 30th of June last he was operated upon for a supposed stone in the kidney, but none was found. At that time perineal section was performed and a perineal tube inserted. Following these operations the patient thinks he was worse than before; the calls to urinate are almost continuous, and are accompanied by intense pain before, during, and after the act. Physical examination reveals dulness over the left apex and tubular breathing. Examination of the sputum reveals a few tubercle bacilli.

Operation, January 12th, perineal cystotomy. A moderate contracture of the neck of the bladder is found and is incised with the galvano-cautery knife. The bas fond is covered with velvety granulations, which are scraped away with a blunt curette. The patient suffers considerable pain the first few days after the operation. The calls to urinate are from every hour to every half-hour, and accompanied by great pain. One week after the operation the urine passes almost entirely through the penis. The intervals of urination have slowly lengthened, and the pain is materially decreased. A second exploration is made under the anæsthetic two weeks after the first operation, and the finger introduced through the perineal wound finds the neck of the bladder in good condition. The floor is again curetted with a dull scoop. Following this secondary operation the perineal wound again heals; the urine comes from the natural route at the end of three days. The intervals are about every half to three-quarters of an hour. The pain has lessened, but still continues to be annoying. The patient leaves the hospital at the end of about ten days, somewhat but not satisfactorily improved.

Case VII.—J. G——, aged thirty-three years, was admitted to the hospital January 8, 1901. The patient complained that for a number of years the calls to urinate had been frequent and urgent. He had contracted gonorrhœa sixteen years previously, when he was placed under treatment, but apparently not thoroughly cured. In the last six years he had been compelled to arise at night to pass water six or seven times. The stream has become small, and at times the urine passes in a dribbling manner. The patient was taken sick two or three months ago with sudden chills and sweating, which caused his confinement to bed. At present he complains of deep-seated pain in the perineum, of a bearing-down character, aggravated by sitting down. An examination per rectum reveals an enlargement and fluctuation in the prostatic region.

Operation, January 14th. Residual urine, two and one-quarter ounces. The perineal incision opens a large prostatic abscess. There is a very pronounced contracture of the neck of the bladder, which is incised with the galvano-cautery. No reaction from the operation and little hemorrhage follow. January 20th, the patient is allowed to sit up, and has no elevation of temperature. He is placed on regular diet. January 25th, the perineal wound has almost healed. A moderate amount of urine still escapes, but most of it is passed by the penis. The patient gets up once or twice at night to urinate, and the intervals by day are about half-hourly. February 5th, the perineal wound is closed up; the urinary calls are urgent, and there is some dribbling. February 18th, the patient is discharged at his own request. The frequency of urination has materially diminished, and there is no dribbling. He urinates two or three times during the forenoon and afternoon and about the same during the night.

Case VIII.—G. C. H——, aged twenty-nine years. January 21st. The patient comes complaining of frequency and urgency and precipitancy of urination, which symptoms have existed for over a year. He has also pain during and after the urinary act. Exercise aggravates his symptoms. He had gonorrhœa three times; the first attack eleven years ago, which persisted for two years, at which time the posterior urethra was involved; he had relapsing attacks from time to time up to two and a half years ago, when he had what he considered to be the third gonorrhœal attack. His present condition has been more or less continuous since this last attack, but the symptoms have been much more marked in the last year. He now urinates three to five times at night, and from every hour to every two hours by day. The urine is clear in the second flow and purulent in the first. There is a stricture at four and one-half inches, admitting a No. 17 French bougie. There are two ounces of residual urine.

January 22d, operation, perineal cystotomy. There is a pronounced contracture of the neck, which will not admit the finger. A left lateral cut at an angle of about 45° is made with the galvano-cautery knife. The anterior stricture is cut. There is little reaction from the operation, and no hemorrhage follows. The tube is removed January 24th. He has some difficulty in retaining his urine subsequent to the operation up to February 20th, when the perineal wound has practically healed, and the urine is controlled more satisfactorily. March 4th, the patient is discharged from the hospital. He passes water every five hours; has no complaint, with the exception of a slight discharge from the meatus. March 28th, the bladder now empties itself perfectly. He urinates every three to five hours by day, and does not habitually rise at night. There is slight dribbling at times, but this is not constant, and is growing gradually less.

Case IX.—January 25, 1901. P. A. P——, aged thirty-nine years, complains of bladder trouble fifteen years old. He now urinates every two or three hours by day and twice or three times at night ordinarily, but more often much more frequently. The residual urine found at this examination is three drachms. The patient states that the residuum is often much greater than this quantity, being sometimes several ounces. He has been subjected to treatment by deep instillations and sounds and injections, and has had acute attacks from time to time brought on by treatment.

Operation, January 29th, perineal cystotomy, which reveals a pronounced contracture of the bladder neck. A lateral incision is made by means of the galvano-cautery knife a little over 0.5 cm. in length. No reaction or hemorrhage follows. The tube is removed at the end of a week. After removal of the tube the patient suffers more or less from bladder spasm, and a catheter is tied in the urethra for three days. This is followed by left epididymitis, the patient having had several previous attacks of the same trouble. He

leaves the hospital at the end of four weeks, and starts for his home on the Pacific coast at the end of five weeks. He urinates every three hours by day and rises twice at night. There are still some pain at the end of the urinary act and a very slight amount of dribbling at times.

CASE X.—E. R——, forty-six years old. January 31, 1901. The patient has had cause to complain of his bladder for about ten years. He urinates hourly day and night. At times he has been compelled to rise as often as fifteen times during the night. He disclaims ever having had venereal disease. After passing two ounces normally, ten ounces of residual urine is drawn, which is perfectly clear, and contains no pus and no shreds.

Operation February 5th, perineal cystotomy. There is a dense fibrotic bar at the neck of the bladder, which is incised with the galvano-cautery. There is no hemorrhage, no disturbance, or reaction. Size of cut 1 cm. The removal of the perineal tube, at the end of four days, results in a rise of temperature and symptoms of systemic infection. The tube is reinserted after being out three days and left in four days longer. There is a slight elevation when the tube is again removed, but this gradually subsides, and normal conditions hold after a few days. The residuum at the end of two weeks is but one ounce. This is gradually reduced until March 3d, when he leaves the hospital, there is none. He urinates about every three to four hours in the twenty-four, but states that he could hold the water longer if he tried. The urine is purulent, but not offensive. March 30th, he now urinates three to five times by day, and can go the night through with emptying the bladder but once; there is no residuum. The urine is still somewhat cloudy, but gradually clearing.

CASE XI.—E. H. B——, aged thirty-nine years. February 14, 1901. The patient complains of trouble with his bladder. He urinates with variable frequency, from every five minutes when moving about, to every three hours when quiet. He urinates from five to eight times at night. There is pain during the act of urination, which is also variable, and is intensified by exercise. He has at times voided blood with the urine, the greatest amount having been after some unusual exertion. His trouble, he says, has been most marked in the last two months, but he has been compelled to rise two or three times at night for the last seven or eight years. He denies venereal history. There is no tuberculous family history. The prostate is inflamed and enlarged, not very tender; the urine is turbid, purulent, and slightly blood-stained. There is one and one-half ounces of residuum. Search for stone is negative. There are a rigid bar at the neck of the bladder and a long prostatic sinus. A gush of fresh blood follows the withdrawal of the searcher. The capacity of the bladder is five ounces; the urethral length, eight inches.

Operation, February 15th, perineal cystotomy. A marked contracture, barely admitting the tip of the index finger, is incised with the galvano-cautery knife. A perineal tube is inserted. No reaction and little hemorrhage follow. The tube is removed at the end of one week. The patient leaves the hospital and returns home at the end of three weeks.

CASE XII.—H. W——, aged sixty-four years. February 20, 1901. The patient has had three attacks of gonorrhœa, the first of which occurred when he was eighteen years of age, and the last three years ago. For the past seven years he has had marked urgency and frequency of urination, having been compelled to arise once or twice during the night for the first two years, since when there has been a marked increase in the intensity of the symptoms. In the past five years there has been more or less constant dribbling of urine. At the present time he is compelled to make his water twelve to fifteen times during the day and eight to ten times at night, but little urine being voided at each time, and that only by a straining effort. He has had several attacks of retention of urine. The prostate per rectum is bilaterally and symmetrically enlarged and of dense consistency. The urine is alkaline in reaction, 1.016 specific gravity, and contains no albumin or sugar.

Operation, February 22d. The patient is catheterized and forty-seven ounces of retained urine is drawn. The urethral length is seven inches. A median perineal cystotomy is performed. The finger introduced into the bladder finds a moderate bilateral prostatic enlargement, but no median lobe. The neck of the bladder is drawn in a fold by the lateral outgrowths. Both lobes are incised with the galvano-cautery knife, thus lowering the median fold. The patient has no hemorrhage and no reaction. February 26th, the perineal tube is removed and a full-sized sound introduced. February 29th, the patient is out of bed, most of the urine escaping through the perineal wound. March 15th, the perineal wound has healed, all the urine now escaping from the penis, although the patient complains of having no control of the flow. He urinates every half-hour, there being a moderate dribbling in the intervals. March 20th, the patient's condition has markedly improved, he passing his urine voluntarily, there being but little dribbling, and that immediately after the act of micturition. The patient has gained in flesh, and declares that he feels better than he has felt in years.

CASE XIII.—E. H——, seventy-three years old. February 25, 1901, this patient is brought to the hospital in an ambulance, having an attack of complete retention of urine. He has suffered for at least twenty years from frequent urination. A few days previously he had held his urine longer than usual. During the evening he passed the urine very frequently, and there was a constant dribbling between times. Toward morning he had complete retention. A physician was called, who tried medicinal measures, which failed. An attempt to catheterize was unsuccessful. On the same night a consultation was held, and a suprapubic puncture made and a cannula inserted into the bladder. The tube came out the following morning, and was reinserted, the irritation not having been relieved. The tube was left in place for twenty-four hours longer, and was then removed, after which he passed small quantities of urine through the natural passage.

February 26th, operation. A bi-coudé catheter is inserted without difficulty under the anæsthetic and two and one-half pints of retained urine removed. The urethral length is six inches. Perineal cystotomy is performed. A marked bilateral prostatic enlargement is found, and both lobes are incised with a galvano-cautery knife. This incision through the lateral lobes results in a sufficient lowering of the median muco-muscular fold, so that no posterior incision is required. A perineal tube is inserted and removed at the end of one week. No reaction attends the operation. The suprapubic puncture heals without attention. The patient leaves the hospital at the end of four weeks, passing all the urine through the penis, having a residuum of about six ounces. He urinates hourly, and there is a certain amount of involuntary dribbling, which is gradually growing less. He is much improved in general health, has no pain, and is well pleased with his condition.

April 19th. Final examination. He urinates every one and two hours and three or four times at night. There is only an ounce of residuum and a little trickling away of urine after the act. He shows progressive tendency to improvement.

CASE XIV.—August 7, 1900. A. A——, aged

seventy-three years, complains of recurring attacks of cystitis. He has had suprapubic cystotomy, but the wound remains fistulous, and the bladder holds only five ounces. The urine dribbles continually, so that he has practically no urinary call, and he urinates, perhaps, a teaspoonful at a time.

September 19th, a perineal cystotomy is performed, and the neck of the bladder is incised with the bistoury. The neck is found to be exceedingly rigid. The fistula is then scraped and sutured. The tube is removed after twenty-four hours. January 3, 1901, the urine is exceedingly purulent and ammoniacal. The patient urinates every three hours with considerable pain. There is a residuum of one ounce. There is a tender lump at the seat of the old fistula; the incontinence has ceased. February 23d, the residuum is one-half ounce. The suprapubic fistula has reopened slowly.

Operation, February 28th, perineal cystotomy. The finger detects a very rigid collar surrounding the urethral orifice of the bladder, which is incised with the galvano-cautery knife 1.25 cm. in length, with 50 amperes current. A perineal tube is inserted. The tube is removed at the end of a week, having caused no local irritation. March 20th, the patient sits up all day for the first time, having been kept in bed solely on account of a spasmodic pain in the muscles of the neck. The bladder has been perfectly peaceful. The perineal wound is healed. The suprapubic fistula has entirely healed, and gives no trouble. He still has incontinence of urine, losing about half the entire amount involuntarily. Urination is every half or three-quarters of an hour. The patient's improvement has no doubt been retarded on account of his general condition, due to the persistence of painful spasm in the muscles of the neck, which has resisted all efforts for relief.

Case XV.—R. H. S——, aged sixty-nine years. December 17, 1900. The patient has had trouble with his bladder for many years. Examination of the urine, November 20th last, revealed 1.25 per cent. of albumin, cells from the pelvis of the kidney, and evidence of pyelitis. The patient's sister died of pulmonary tuberculosis, and he also has two children afflicted with the same malady in its advanced stages. He urinates every twenty minutes, except during the early morning, when the intervals become somewhat extended. The patient has attempted to relieve himself by the use of the catheter, but was compelled to discontinue it on account of severe hemorrhage. The urinary distance is seven inches. The prostate per rectum is felt to be quite small. On account of the constant spasm attendant upon the urinary act, the patient has developed a prolapse of the rectum, which adds greatly to his suffering.

Operation, March 12, 1901. One ounce of residual urine is drawn. Perineal cystotomy is performed. The neck of the bladder is exceedingly tight and will not admit the tip of the finger. A galvano-cautery incisor is introduced and a left lateral incision is made about 1.5 cm. in length. The finger is now introduced and finds the median enlargement quite movable on its attachment to the right side, having been severed by the first incision from the left; a second incision on the right side of this lobe loosens it sufficiently to permit its detachment by the finger through the perineal wound, the portion removed being one and one-half inches in length by one-half inch in thickness. A perineal tube is inserted. No reaction and little hemorrhage follow. The tube is removed at the end of forty-eight hours. The patient sits up at the end of three weeks, passing the urine in part through the perineum and in part by the natural channel. At the end of four weeks practically all the urine comes through the normal channel at intervals of about one hour. There is still some smarting pain at the end of the urinary act, but this is moderate as compared with his suffering previous to the operation, and he is much improved in general health and spirits.

Final examination, April 27, 1901. The patient was prepared to leave for his home in the South, but was prevented on account of a severe attack of facial neuralgia. He now urinates about every two hours by day and less often at night. There are no pain and no dribbling. There is no doubt but that he could retain the urine for a longer interval, but he is of a nervous temperament, and is constantly keeping his mind on the subject.

Case XVI.—J. F. H——, aged seventy-three years. The patient urinates from every twenty minutes to every hour by day and from every ten minutes to every three-quarters of an hour at night. One year ago the urination was every half-hour by day and every hour by night. The prostate per rectum is found symmetrically but not markedly enlarged. The bladder is distended above the pubis, and the patient suffers more or less constantly from overflow. No instrument is introduced into the bladder, as the patient gives evidence of having had uræmic attacks.

Examination of the urine, January 21, 1901. Quantity in twenty-four hours, 2,800 c.c. Reaction, acid. A small quantity of albumin. Specific gravity, 1.009. Amount of urea in twenty-four hours, 11.284 gm. A large amount of pus forms the bulk of the deposit. Some hyaline casts and groups of cells from the pelvis of the kidney are present. The patient is placed upon urotropin gr. xl. in the twenty-four hours.

Second examination of the urine, February 10, 1901. Quantity in twenty-four hours, 3,000 c.c. Reaction, acid. A trace of albumin. Specific gravity, 1.009. Quantity of urea in twenty-four hours, 13.92 gm. A large amount of pus, hyaline casts, and cells from the pelvis of the kidney are present. The patient's general condition has somewhat improved; his tongue has become more moist, the eye is clear, and the skin less dry.

Third examination of urine, March 4, 1901. Quantity in twenty-four hours, 2,280 c.c. Reaction, acid. A trace of albumin. Specific gravity, 1.009. Quantity of urea in twenty-four hours, 10.351 gm. A large amount of pus, hyaline casts, and cells from pelvis of kidney are found. The general condition is about the same, in spite of the damaged condition of the kidneys, and the amount of urea secreted being much below the minimum. After careful consideration, an operation is deemed more expedient than an attempt at establishing catheter life, although the danger of a surgical interference under existing conditions is fully realized. Yet it is decided to be a wiser course to concentrate the danger at one time than to spread it over a longer period by submitting the kidneys to the constant irritating influences of repeated catheterization.

Operation, March 22, 1901. Thirty-one ounces of retained urine is withdrawn, the patient having urinated immediately previous to entering the operating-room. Perineal cystotomy is performed. There is a pronounced median bar and a moderate lateral prostatic outgrowth, notably on the left side. One incision is made with the galvano-cautery knife 2 cm. in length, sufficiently deep to lower the neck of the bladder even with the bas fond, and at a slight angle sufficient to encroach upon the obtruding left lateral enlargement. The operation is conducted with as little expenditure of time as possible, and the patient stands it better than was expected. Twenty-four hours after the operation an analysis of the urine shows an increase of urea to 17 gm. in the twenty-four hours. Forty-eight hours after the operation there is 21 gm. of urea excreted, and seventy-two hours after the operation there is 28 gm. of urea excreted. The tube is

removed at the end of the fourth day. On the tenth day after the operation the patient has three chills, varying in duration from fifteen minutes to half an hour each, and his condition causes considerable concern. He rallies, however, in the next twenty-four or forty-eight hours, and on the seventeenth day after the operation the patient sits up out of bed. The urine all passes by way of the perineal wound by continuous dribbling, and there is still from six to ten ounces of residuum; but this, while purulent, is free from odor of decomposition.

April 15th, examination of urine reveals only one per cent. of urea, and the patient's general condition, instead of continuing to improve, shows evidence of failing. From this time on there is increasing evidence of kidney insufficiency, and the patient is no longer able to sit up out of bed. This failing condition progressively and gradually grows worse, and death occurs April 25, 1901, about five weeks after the operation.

In connection with this case it might be remarked that an operation was of questionable propriety. It is extremely doubtful, however, whether the kidneys in their damaged condition would have sustained an attempt at frequent catheterization, and the fact that the patient lived five weeks after the operation is evidence that he did not die from its immediate effects, but from the gradually increasing pyelo-nephritis.

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Is There Such a Constituent of Urine as "Ureine"?—W. S. Haines and C. S. Woods, of the Rush Medical College Department of Chemistry, take exception to the alleged discovery of a new constituent of the urine, as claimed by Moor. Their objections are maintained in the following propositions: 1. It is in the highest degree improbable that, if such a substance existed, it would not long have been discovered in view of the vast amount of work which has been done on the chemistry of this fluid. 2. The foundation on which the discovery is based has no existence in fact, as several well-known components of urine will produce the reaction which Moor claims to be characteristic of ureine. 3. The latter is simply a strong aqueous solution of well-known urinary solids and of chemicals used in operating on the urine. 4. Considerations in connection with specific gravity of the urine afford conclusive proof of the non-existence of ureine. 5. If ureine is the poisonous element in urine, then the toxicity of the latter would disappear if the former were destroyed, but this is not the case, as experiment will easily show.—*Medicine*, April, 1901.

The Value of the Leucocyte Count in the Diagnosis and Prognosis of Appendicitis.—E. H. Season says that with most abdominal troubles the leucocyte count will help us more than any other single means at our disposal. The presence of a marked leucocytosis excludes simple colic and intestinal obstruction, excepting in those cases associated with ulceration or gangrene. A leucocytosis, if marked, would point to a general peritonitis, rather than to appendicitis, in cases in which these two affections were to be differentiated, though a leucocytosis may be absent in either. In conclusion, it is important to remember that the normal number of white blood corpuscles varies between 5,000 and 10,000 per cmm., and that a moderate leucocytosis exists in the new-born, during digestion, during pregnancy, post partum, after violent exercise, and after cold baths, while in tuberculosis, typhoid fever, and malaria the leucocytes are normal, or below normal, except in those cases associated with other complications. Finally during starvation or fasting the blood shows a leucopænia.—*Cleveland Journal of Medicine*, April, 1901.

The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin.—C. H. Dalton says that two years ago he accidentally discovered that diphtheria antitoxin was an excellent remedy in the treatment of scarlet fever, and later investigation proved that it was equally as efficacious in the prevention of the disease. He has now tried it in a large number of cases, so many, in fact, that he must conclude that it is a sovereign remedy in the treatment and prevention of the disease. He has used antitoxin in over thirty cases since, and has immunized the other children in the families. None of them had the disease. None of the patients died, and a number of them had the disease in a severe form. A fact which impressed him particularly was the mild form assumed after the use of antitoxin in a number of cases which were running a severe course. It is in the bounds of possibility that, if he had not used the antitoxin, the patients would have gotten along just as well and none of the other children would have taken the disease, but, in view of the large number of children involved and the contagious nature of the disease, it seems that this is highly improbable.—*St. Louis Medical Review*, April 6, 1901.

Alcoholism in Childhood.—M. Kassowitz has seen both functional disorders, such as delirium tremens, alcoholic mania, and epilepsy, and actual organic lesions follow the protracted use of alcohol in children, and believes that they are often produced by even the milder forms of stimulating beverages, such as beer and light wines, given in amounts universally regarded as harmless. It, therefore, seems justifiable to conclude that there is an especial susceptibility of the immature organism as a whole, and especially of its nervous system, to the effects of alcohol, and the prevalent belief that small amounts may in some conditions of weakness and disease be advantageously given to children as a tonic and roborant, is unfounded. Physiological investigation has shown that the older view that alcohol is a food and capable of preventing tissue destruction is groundless, for nitrogen elimination is increased and not diminished by it, and it is a close corollary to this observation that stunting in growth and development follows its protracted use in children. Furthermore, it is deficient in the very properties for which it is most often given, for it is a hindrance and not an aid to digestion, is dangerous as an antipyretic, its stimulating effect is fleeting and followed by muscular and nervous depression, and its use as an internal antiseptic in the infectious diseases is in the light of recent animal experiments wholly irrational, so that its administration to children in sickness or health is absolutely to be deprecated.—*Wiener klinische Rundschau*, April 7, 1901.

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SOME CLINICAL ASPECTS OF CHRONIC NEPHRITIS.

WHILE the medical profession should be ever ready to honor those of its members who have distinguished themselves and advanced their art by important discoveries, the wisdom of employing eponymic designations in this connection is questionable, because they are necessarily undistinctive, at times confusing, and thus obstructive of progress. Thus the same name may be, and actually has been, applied to more than one condition; then, with the growth of knowledge it may be found that the limitations of the original name have not been perfectly defined; finally, there are few minds so capacious as to be able to store up all of the proper names that have at different times been proposed. Some of these difficulties are illustrated in the employment of the term "Bright's disease." Although the association of disease of the kidneys, albuminuria, and dropsy had been previously noted, to Bright belongs the credit of having first pointed out the dependence of the latter two upon the first; but several morbid conditions of the kidney were comprehended in the description of Bright, so that after all it seems better, for the sake of clearness and accuracy, to employ the generic designation nephritis with its several qualifications—acute, chronic, parenchymatous, interstitial, lardaceous, cystic, etc.

A view somewhat opposed to this is taken by Dr. Alfred G. Barrs (*British Medical Journal*, March 30, 1901, p. 753) in an address on "Some Clinical Aspects of Chronic Bright's Disease" recently delivered. He contends that the pathological distinctions made between the different forms of so-called chronic Bright's disease have little clinical value, and that there is no practical utility from a therapeutic or a prognostic standpoint in distinguishing between a large white and a small red kidney, even if it were possible to do so with certainty.

The important fact to determine, he thinks, is whether the condition be acute or chronic, as the chances of recovery are then good or bad respectively. Acute nephritis, Barrs believes, terminates either in recovery or in death, while chronic nephritis is so from the outset, and he suggests the possibility of a bacterial origin for the latter.

The opinion is expressed that the diagnosis of chronic Bright's disease cannot safely be made in the absence of albuminuria, although it is not denied that renal changes—Bright's disease in a pathological sense—may exist and the urine be free from albumin. No importance whatever is attached to the quantitative estimation for albumin, and the estimation of urea is not thought to be of any great value. The cardio-vascular changes, it is believed, are not so uniformly inevitable or so common as is generally held. The statement is made that arteriosclerosis, altogether independent of renal disease, is a far more common cause of cardiac hypertrophy than Bright's disease, and vascular disease of this nature is probably a cause as well as a result of rena ldisease. As a natural corollary chronic renal disease is not looked upon as having nearly such a common association with cerebral hemorrhage as has been supposed. Toxæmia, the inevitable result of progressive destructive disease of such a vital excretory organ as the kidney, is considered the direct and only cause of death in the vast majority of cases.

In the matter of diet Dr. Barrs makes it his rule that if the bowels are acting freely the patient may live on such ordinary mixed food, including meat, as he has appetite for and can digest. Water and other fluid sustenance should be taken freely; alcohol is to be avoided unless demanded by cardiac failure; climatic treatment may be a valuable adjunct. Of drugs nothing beyond the systematic use of purgatives, to keep the bowels acting freely, will be needed except for the treatment of special symptoms as they arise. Dr. Barrs has no great faith in the so-called vicarious action of organs, and he believes that the proper way out of the body for urea is the kidneys, and neither the intestines nor the skin can be made to take its place efficiently. Diuretics such as digitalis are frequently of the greatest use, but they almost as frequently fail. Diaphoretic drugs, such as pilocarpine, are sometimes unpleasant and even dangerous in their effects, the hot bath and the hot-air bath being depended upon to do all that can be done. Vaso-dilators have little if any diuretic action, but may relieve dyspnœa, headache, and vomiting. Bleeding, purgation, and sweating are employed for the relief of nervous and respiratory disturbances. Morphine and opium should not be used as a rule, but not infrequently the former alone will relieve distressing and painful respiratory and mental disturbances.

The views thus briefly summarized are, as will have been seen, not in accord with current opinion; but without agreeing with them we must at least give them respectful consideration, emanating as they do from a most responsible source. A discussion in detail would carry us too far and besides seems unnecessary. In all scientific controversy, however, the motto "Audi alteram partem" is a good one to adopt.

Medical Student Killed.—W. L. Royce, a member of the senior class of the Kentucky School of Medicine and an interne at the College Hospital, Louisville, was stabbed to death a few days ago by a negro who was employed as a helper in the dissecting-room.

RACE DISTRIBUTION OF CANCER IN BUFFALO.

At a recent meeting of the Buffalo Academy of Medicine, an account of which is published in the Buffalo *Medical Journal* for May, Dr. Lyon, of that city, read a paper of much moment upon the distribution of cancer in Buffalo for the past twenty years.

The death rate from cancer in Buffalo has shown a steady increase, rising from 32 to 53 per 100,000 population from 1880 to 1899. The age distribution agreed with other well-known statistics.

The significant and suggestive portion of the paper was that which dealt with the race distribution. The statement was made that Germans and Poles constituted 42 per cent. of the cancer mortality of the city, though making only 20 per cent. of the population. Those of native American birth constituted only 29 per cent. of the cancer mortality, as against 65 per cent. of the total population of the city.

The distribution of cancer by organs involved, in the different classes of population, was most important. Cancer of the stomach occurred in 47 per cent. of all males and in 25 per cent. of all females dying of cancer, or 34 per cent. of both sexes. For the Germans and Poles the corresponding figures were 52 per cent., 35 per cent., and 43 per cent., and for those born in the United States 37 per cent., 13 per cent., and 21 per cent.

From these statistics it will be gathered that the proportion of cancer of the stomach and cancer of all organs is more than twice as great in the Germans and Poles as in the native-born of Buffalo.

As Dr. Lyon remarks, this fact seems of great importance in pointing to diet as a probable factor in determining the frequency of location of cancer in the stomach, and he goes on to say, accepting this explanation, Then how can the diet affect this result?

The choice lies between two theories: (1) The diet may be supposed to infect the stomach with a cancer-producing organism, which organism occurs in certain articles of diet, more frequently used by the Germans. Or (2) it may be supposed that the German abuses his stomach by his food and drink and thus increases its liability to cancer. This theory is in accord with the trauma theory and that of Cohnheim. Dr. Lyon is of opinion that the evidence for the abuse of the German stomach is not strong enough to support this theory, and that the doubled frequency of attack of the German stomach, as compared with the American stomach, is best explained by the theory of direct infection through diet.

Behla's observations support the parasitic theory and cast suspicion on uncooked vegetables as the carriers of infection. It is notorious that the Germans are great eaters of raw vegetables, salads, and the like. Dr. Lyon concluded by declaring that, whatever the theory of explanation, the fact remains that the German stomach is remarkably liable to invasion by cancer.

That the Germans are peculiarly susceptible to cancer of the stomach is, so far as we are aware, a coincidence which has not been made the subject of public notice previously, and, before accepting the statement as proven, it will be well to study statistics bearing upon the question in Germany itself, as well as in other American cities besides Buffalo, which have a large German population, for it may be presumed that the food of the Teuton is much the same in all civilized countries.

If after this has been done it is clearly demonstrated that the German does suffer largely from cancer of the stomach, a sound *a priori* argument will have been provided that his diet may be a factor in its causation. At any rate, the point is worthy of investigation.

In the discussion that followed the reading of Dr. Lyon's paper, the question as to whether the German or native American most abused his stomach was gravely debated, and the consensus of opinion seems to have been that the German is the greater sinner in this respect. With this conclusion there will be, except among the Germans themselves, a unanimous agreement, for, although the American is careless with regard to his food and eats too quickly, he is not, like the German, a gross feeder.

GENERALIZED GONORRHŒAL INFECTION.

It is recognized as a fundamental principle in pathology that infectious processes are in general primarily local. From the site of local infection the invading bacteria may gain entrance into the blood-vessels or the lymphatics, or they may continue their attack by continuity or contiguity of structure. At each place of lodgment they give rise to lesions comparable in some degree to the original, and the resulting manifestations are local in character. By reason, however, of their vital activity and the reactions that occur between them and the fluids and cells of the body, certain toxic products are generated to which the constitutional symptoms are due. We thus have to do with two principal conditions: (*a*) Infection, which may be local or general; and (*b*) intoxication. General infection may be designated also bacteræmia; if dependent upon pyogenic micro-organisms, with the development of metastatic abscesses, the condition is one of pyæmia. Now, these terms are sufficiently descriptive and comprehensive, and should render unnecessary the further use of others, such as septicæmia and sapræmia, that were devised at a time when knowledge of infectious processes was less complete and less exact than at present.

It is self-evident that general infection can occur only with aerobic bacteria, and it seems a fair inference that such infection may be due at times to any of these bacteria. This has been demonstrated with regard to a number of micro-organisms, such as the typhoid bacillus, the plague bacillus, the diphtheria bacillus, the pneumococcus, the anthrax bacillus, the influenza bacillus, the tubercle bacillus, the streptococcus, and the staphylococcus; but even with the most of these the local infection is the more conspicuous, while the constitutional symptoms are due to the general intoxication.

Gonorrhœa was for a long time looked upon as merely a local infection, although its gravity, by rea-

son of extension by continuity, has been duly appreciated. The accumulating experience of the last decade, however, has all too abundantly shown that the gonococcus also may be the cause of severe and even fatal general infection. Synovitis, endocarditis, and myelitis are perhaps among the best known of the complications of this character. In a discussion of this subject Arthur H. Ward (*British Medical Journal*, March 30, 1901, p. 755) undertakes to show that the constitutional symptoms associated with gonorrhœal infection are due to absorption into the system of an irritating toxin generated by the gonococcus and causing systemic degenerations of varying degrees of severity. He holds that gonorrhœa is a general toxæmic affection, the microbes generating the toxin being usually localized on or around a mucous tract. Extension of the infection is thought to be favored by the paralyzing action of the absorbed toxin on the leucocytes, thus preventing encapsulation of the microbes. As a result the gonococci reach the circulation and are carried to the heart, the endocardium, the pericardium, the pleura, the joints, and elsewhere.

Such invasion of the organism, it is believed, is contributed to by unduly energetic measures aimed at the local infection, which, by depressing the local powers of resistance and abrading or lacerating the mucous surface, may directly open the way to infection. These dangers are to be averted by the avoidance of all measures capable of injuring or abrading the mucous lining of the urethra, such as instrumental treatment during the acute stage of the disease, the employment of injections under high pressure, or of abortive antiseptics. When constitutional infection has taken place the internal administration of germicides, such as quinine, mercury, arsenic, and salicylates, is recommended. Further, potassium iodide may be administered with large amounts of water; baths, massage, and exercise employed, and change of air recommended.

ANTI-TYPHOID INOCULATION.

As we pointed out a short time ago (April 27th, p. 659), the results of observations as to the utility of inoculation in reducing the morbidity and mortality of typhoid fever are not so entirely unequivocal and unanimous as to permit of a final decision in this matter. We were then able to quote statistics indicating a favorable influence attributable to inoculation. In the judicial spirit we have to quote to-day figures—though on a somewhat smaller scale—of an opposite character. In making a report on 295 cases of typhoid fever observed during the spring of 1900 at the General Hospital, Ladysmith, South Africa, Dr. David Melville (*British Medical Journal*, April 20, 1901, p. 952) states that among this number inoculation was practised in 30, in 6.67 per cent. of which death took place, as compared with 1.89 per cent. in uninoculated cases. Complications, further, occurred in 40 per cent. of the inoculated, as against 20.75 per cent. of the uninoculated cases. This is apparently a damaging exhibit for the cause of inoculation, but it proves almost too much, apart from the fact that the number of cases is entirely inadequate to eliminate the influence of accident. There is certainly no reason to believe that if inoculation does not protect from, it predisposes to typhoid infection. It may be found, besides, that the results of the experience here quoted may be in some way related to the mode of procedure adopted. Immunity is practically always only relative and never absolute, and its duration, as its degree, is susceptible of considerable variation. These facts must always be weighed in the final analysis.

News of the Week.

The Late Dr. F. J. Brockway.—"The members of the West End Medical Society desire to express their sorrow at the death of their fellow-member and former president, Dr. Fred. Brockway. This is to be taken not merely as a formal record of the feeling of the society as a body, but as the expression of a genuine sense of loss on the part of each individual member. While the death of our colleague makes us regret the loss to the profession of his solid abilities as a practitioner and teacher, on the other hand his sterling qualities as a man and friend, his absolute reliability, his sound common sense, and, last but not least, his fund of quiet humor, all constituted a claim to the personal regard of each member, such as to call forth that regard in its highest form. The society wishes Dr. Brockway's family to know of the great esteem it had for him, and it hereby expresses to them its deepest and most heartfelt sympathy.

"*Resolved*, That the above minute be entered in full on the records of the society, and that a copy be sent to the family of our deceased colleague. B. B. GALLAUDET, M.D., J. E. NEWCOMB, M.D., Committee."

University of Pennsylvania.—Dr. Thomas R. Neilson has been elected clinical-assistant professor of genito-urinary diseases in the medical department.

Willard Parker and Reception Hospitals.—Dr. Louis Fischer has been appointed visiting physician to the Willard Parker and reception hospitals of the health department of this city.

Mount Sinai Hospital.—The ceremony of laying the corner stone of the new Mount Sinai Hospital, at Fifth Avenue and One Hundredth Street, will be conducted by Mr. Isaac Wallach, president of the hospital, on May 22d. The speakers will be Governor Odell, President Seth Low of Columbia University, Mr. Randolph Guggenheimer, Mr. Edward Lauterbach, and Dr. A. Jacobi.

Dr. Frederick Peterson, of this city, has been appointed by Governor Odell the medical member of the State Lunacy Commission to succeed Dr. Wise, who was removed by Governor Roosevelt. Dr. Peterson's appointment carries with it the office of president of the commission. The term is six years and the salary $5,000, with $1,200 allowed annually for expenses. Dr. Peterson is to devote about a third of his time to

his new duties, and is not obliged, therefore, to relinquish his practice in the city. He sets a good example in being willing to make a financial sacrifice, which we know he does, to fulfil the duties of an office in which much good can be accomplished in promoting the welfare of the insane and the course of medical science.

The Grave of Hippocrates is said to have been discovered recently in the course of some excavations at Larissa, in Thessaly.

The Plague at Cape Town.—Up to Saturday, May 11th, it is stated that there have been six hundred and ten cases of plague and two hundred and seventy-five deaths from the same at Cape Town.

A Trolley Ambulance.—The officials of the Brooklyn Rapid Transit Company have in mind the establishment of a receiving hospital for the extension of first aid to persons injured on the lines of the company. There will also be a trolley ambulance service provided.

A New Use for Quarantine.—According to a veracious correspondent of the London *Daily Chronicle*, the Sultan learned that a band of anarchists was on the way to Constantinople with the intention of assassinating him. In order to keep them out, he got up a plague scare and imposed a very strict quarantine.

The Louisiana Lepers' Home.—The Gustine plantation has been bought for a lepers' home, but may not be used for that purpose. Strong opposition against the establishment of the home in that locality has been aroused among the people of the surrounding parishes of Jefferson and St. Charles, and a mass meeting in protest was recently held. The school boards and boards of health of Jefferson and St. Charles parishes and the town council and board of health of the city of Kenner have also joined in the petition against the location of the lepers' home.

Prize Essays on Subjects Connected with Tropical Diseases.—It is announced in the *Journal of Tropical Medicine* that: 1. A prize of the value of £10, entitled the Sivewright Prize, presented by Sir James Sivewright, K.C.M.G., will be given for the best article on "The Duration of the Latency of Malaria after Primary Infection, as Proved by Tertian or Quartian Periodicity or Demonstration of the Parasite in the Blood." 2. A prize of the value of £10, entitled the Belilios Prize, presented by the Hon. E. R. Belilios, C.M.G., will be given for the best article on "The Spread of Plague from Rat to Rat, and from Rat to Man by the Rat Flea," to be substantiated by experimental proof. The papers must be sent to the editors of *The Journal of Tropical Medicine*, 83–89 Great Titchfield Street, London, W., by December 1, 1901. All papers sent in become the property of the journal, and will be published as the editors decide. The competition is open to qualified medical practitioners of every nationality. The papers may be written in English, French, German, Italian, or Spanish. The names of the prize winners will be announced in January, 1902, in the public press and in the medical journals. The judges are: Surgeon-General Roe Hooper, C.S.I., president of the Medical Board, India Office; Col. Kenneth MacLeod, LL.D., professor of clinical and military medicine, Netley; Patrick Manson, C.M.G., F.R.S., LL.D., medical adviser Colonial Office and crown agents of colonies.

Dr. Harriet E. Blach, of Amityville, has been appointed physician in the Long Island State Hospital at a salary of $1,000.

The American Laryngological, Rhinological, and Otological Society.—The seventh annual meeting of this society will be held in the New York Academy of Medicine on May 23, 24, and 25, 1901, under the presidency of Dr. Robert C. Myles, of this city. The secretary is Dr. Wendell C. Phillips, 350 Madison Avenue, New York City.

Smallpox continues to prevail in this city to a degree which does not speak favorably for the efficiency of the board of health under its present management. The members of the police force were vaccinated last week on the order of Commissioner Murphy, a policeman having been taken with smallpox a few days ago.

A Dangerous Post is that of physician to the ruler of Turkey, if we may believe a tale recently told by the London *Daily Express*. According to this paper, an aurist, who was lately treating the Sultan for an affection of the ear, accidentally touched the drum membrane, causing his patient intense pain. His Majesty, believing that an attempt was being made on his life, drew a revolver and shot the physician dead. A chamberlain hearing the shot entered, and the Sultan fired at him, wounding him.

Meeting of the American Medical Editors' Association.—The annual meeting of the American Medical Editors' Association will convene in the library rooms of the Ramsey County Medical Society, Lowry Arcade building, St. Paul, at 2:30 P.M., Monday, June 3d. The annual dinner will take place at 9 P.M. of the same day. The president of the association is Dr. Alexander J. Stone, of St. Paul, and the secretary Dr. O. F. Bell, Century Building, St. Louis, Mo.

An International Congress of the Medical Press will meet at Brussels on September 20, 1901. Any representative of a legitimate medical journal is entitled to membership in the congress, but there are also to be official delegates, four each from Germany and Austria, three each from France, Italy, Great Britain, and the United States, two each from Spain and Russia, and one each from the other nations of the world. At this meeting it is proposed to draw up a plan and rules for an International Association of the Medical Press. The secretary of the congress—the second of its kind, the first having been held in Paris last summer—is Dr. Pechere, Rue de la Loi. 140, Brussels, and to him all communications relating to the congress should be addressed.

Dr. Henry L. Woodward, Jr., of Glendale, Ohio, was the recipient of the "faculty prize" at the eighty-second commencement of the Medical College of Ohio.

now the medical department of the University of Cincinnati, on May 7th. This prize, a large gold medal, is awarded for "general excellence." The faculty prize man also receives from "a friend of the college" one year's subscription to a weekly medical journal. There were sixty graduates.

Willis Eye Hospital.—Dr. S. Lewis Ziegler has been elected surgeon in succession to Dr. George C. Harlan, resigned.

Pathological Society of Philadelphia.—At a stated meeting held May 9th, Dr. William S. Wadsworth read a report of "A Case of Ball-Clot in the Auricle; Death by Occlusion." The patient had been a muscular iron worker in apparently good health, but who had been on a debauch. Death resulted suddenly, and post-mortem examination disclosed an enlarged and hypertrophied heart and narrowing and obstruction at the mitral orifice, with vegetations upon the valve leaflets, and a globular thrombus as large as an ordinary lemon in the left auricle, covered by a sort of hood, which may have been attached to the auricular wall at one point. Dr. F. S. Pearce exhibited "Two Specimens of Hemorrhagic Pachymeningitis," the symptoms in one case being suggestive of ingravescent intracerebral hemorrhage, with spastic symptoms. The condition was unilateral in each instance. Dr. Pearce exhibited also a specimen of "Tumor of the Spinal Cord" from a demented woman, who presented symptoms of spastic paraplegia. The growth originated from the dura and pressed upon the anterior surface of the dorsal cord. It was thought to be an endothelioma. Dr. W. Wayne Babcock exhibited some new apparatus: (*a*) a device for measuring fixed quantities of culture media or the like in many equal parts; (*b*) for washing sections of tissue contained in their original bottles; (*c*) for staining sections on slides to the number of one or two at a time, with the expenditure of little staining material, and to facilitate the application of heat; (*d*) for mounting celloidin-embedded specimens upon paraffin. Dr. Joseph Walsh read a paper entitled "Diphtheria Bacilli in Noma," in which he related eight cases of this disease, some following diphtheria, some measles, attended with the presence of diphtheria bacilli. In several of the cases recovery took place. The diphtheria bacilli were thought possibly to favor infection with and the action of certain unidentified putrefactive bacteria. Drs. W. E. Hughes and Joseph McFarland read a report of a case of "Rupture of the Aorta." An L-shaped laceration of the intima and media of a moderately atheromatous aorta had taken place a short distance above the posterior sinus of Valsalva, with extravasation of blood between intima and adventitia and leakage into the pericardial cavity. Dr. C. W. Burr exhibited a specimen of "A Brain with Thrombosis," presenting wasting in the left motor area. During life there had been right hemiplegia, with total loss of common and special sensibility on the same side for several years, replaced by the appearance of the sensory changes on the opposite side, which disappeared before death, but without other hysterical stigmata. Dr. Burr was therefore unwilling to consider the derangement of sensibility as hysterical, although unable to offer any other macroscopic explanation. Dr. Burr exhibited also a specimen of "Hemorrhage into the Pons Varolii."

German Evasion of Military Service.—A number of physicians and others were convicted recently at Elberfeld, Germany, of administering drugs to young men with the purpose of fraudulently enabling them to evade military service. The heaviest punishment imposed was seven years' imprisonment and the deprivation of civil rights for five years more.

Stock-Market Speculation and the Death Rate.—In a recently issued report of the Chicago board of health, an increase in the death rate among persons over sixty years of age is attributed to the excitement attending stock speculation. Of 566 deaths during the week, 124 were of persons sixty years old or older. This is an increase of 26 per cent. over the previous week and of 24 per cent. over the corresponding week of 1900.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy, for the week ending May 11, 1901. Assistant Surgeon J. S. Taylor detached from the *Manila* and ordered to the naval hospital, Yokohama, Japan. Assistant Surgeon F. L. Benton detached from the naval hospital, Yokohama, and ordered to duty on the Asiatic station. Medical Director E. Z. Derr detached from the Naval Academy and ordered home to wait orders. Surgeon F. W. F. Wieber detached from the San Juan naval station and ordered to the Naval Academy May 6th. Surgeon C. H. T. Lowndes detached from the *Lancaster* May 11th and ordered to the San Juan naval station *via* the *Mayflower*. Passed Assistant Surgeon E. S. Bogert ordered to the *Lancaster* May 11th. Surgeon L. W. Curtis detached from the *Vermont* May 11th, and ordered home to be in readiness for sea duty. Surgeon G. Pickrell ordered to the *Vermont* May 11th. Surgeon C. F. Stokes detached from the Asiatic station and ordered home *via* mail steamer.

College of Physicians of Philadelphia.—At a stated meeting held May 1st, a discussion was held on "The Relation of Diseases of the Heart to Surgical Operations, Especially in the Use of General Anæsthetics." Dr. W. J. Mayo, of Rochester, Minn., by invitation, read a paper entitled "Pre-Existing Heart-Disease in Reference to Surgical Operation." He emphasized the fact that the greatest importance is to be attached to the condition of the myocardium and to the state of compensation. Dr. H. A. Hare made a communication entitled "The Safest Anæsthetic to use in Organic Diseases of the Heart and Vessels." He pointed out the disadvantages resulting from inability to know how much of the anæsthetic the patient actually inhales, and how much is lost. He expressed the opinion that a source of danger resides not alone in the failure of the heart, but also in that of the vascular system, and he contended that even more is to be feared in the presence of disease of the

vessels than in that of disease of the heart alone. Perhaps less importance is to be attached to the anæsthetic itself than to the care in and manner of administration. The question of personal idiosyncrasy must also be taken into consideration. Ether he held to be in general the safest anæsthetic except in the presence of disease of the respiratory passages, some of the complications resulting from which may at times be averted by a preliminary dose of atropine. Dr. J. M. T. Finney, of Baltimore, Md., by invitation read a paper entitled "The Cardiac Complications which may Arise during an Operation," and Dr. Alfred Stengel one entitled "The Cardiac Complication which may Arise after Operation." Dr. A. J. Ochsner, of Chicago, also made some remarks in the discussion.

Obituary Notes.—Dr. Charles Rice, one of the leading apothecaries of the country, and for twenty years chemist of the New York charities department, died in Bellevue Hospital on May 13th. Dr. Rice was born in Munich, Bavaria, in 1841, and was educated in Vienna, Munich, and Passau, acquiring a thorough mastery over several Oriental languages, the classics, and modern tongues. He came to America in 1862, and entered the navy as surgeon's steward during the Civil War, serving until 1865. He then entered the service of the department of charities and correction. He became a member of the New York College of Pharmacy in 1867, and served as one of its trustees. He became chairman of the pharmacopœia committee of the American Pharmaceutical Association, and also chairman of the committee on revision of the United States Pharmacopœia Commission. He received the honorary degree of Doctor of Philosophy from the University of New York, an honorary fellowship from the New York Academy of Medicine, and was recently made an honorary member of the Philadelphia College of Pharmacy.

Dr. George C. Jarvis, of Hartford, Conn., died at his home in that city on May 7th of pneumonia, at the age of sixty-seven years. He was graduated in arts from Trinity College in 1855, and in medicine from the University of the City of New York in 1860. During the Civil War he served as surgeon to the Seventh Connecticut Regiment.

Dr. James Hayes, a retired physician, died at his home in Plainfield, N. J., on May 12th. He was born in Newark, his father being Dr. Samuel Hayes of that city, and was graduated in arts from Princeton in 1841. Later he studied medicine and received his degree from the College of Physicians and Surgeons in this city in 1854. He practised medicine for several years in Brooklyn and then removed to Plainfield.

Dr. E. Stanley Perkins died on May 6th, at Philadelphia, at the age of fifty-nine years. He was graduated from the medical department of the University of Pennsylvania in 1859, and at the outbreak of the Civil War he became a surgeon in the United States navy. He was for several years a demonstrator of surgery in the Medico-Chirurgical College, and since 1893 one of the examining physicians for the local pension board.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WAR HONORS—VOLVULUS—URETERAL CALCULUS—ANTENATAL THERAPY—TOXIC EFFECT OF ANILINE OIL—PLAGUE—RICHMOND HOSPITAL—METCHNIKOFF AT MANCHESTER—OBITUARY, DRS. MOORE, TANNER, STONE.

London, April 26, 1901.

A long list of honors and promotions for services during the war has been issued and comprises a considerable number of medical names. These rewards are all for services in South Africa up to November 29, 1900. Subsequent services will be dealt with in a later gazette. The civil surgeons who went out receive recognition in the Order of the Bath, while those of St. Michael and St. George and the Distinguished Service Order are utilized for the Royal Army Medical Corps, as is also promotion in the corps. There is a curious omission in the list—the name of the director-general of the department. I should have thought the time had arrived for recognizing the man on whom the onus of the medical provision fell and who has been commended in all directions. Perhaps his honor is delayed to make it the higher.

Dr. J. H. Bryant brought a case of volvulus of the ileum accompanied by severe hemorrhage before the Clinical Society. The nature of the case was not diagnosed during life, as hemorrhage is so rare in any form of intestinal obstruction except intussusception. The patient was a man aged twenty-one years, admitted with severe pain. Next day he became collapsed and passed about a pint of bright red blood with a mass of undigested food. The hemorrhage recurred during the night, and he died the day after. The volvulus extended over 100 c.c. of the bowel, the wall of which was thickened. The torsion was from left to right, the color deep red, and the peritoneal coat covered with recent lymph. Dr. Bryant had been able to find only one case of volvulus of the small intestine in which much blood was recorded to have been passed per anum.

Mr. Zum Busch said he had seen a case of hemorrhage accompanying obstruction from hernia and one from strangulation by a band of adhesions. Mr. Symonds described a similar case of volvulus operated on in 1882, but the patient died. Dr. Sidney Coupland remarked that the reason of hemorrhage in intussusception was that obstruction is incomplete. He thought possibly in Dr. Bryant's case intussusception preceded the volvulus.

Dr. Dalton said they must distinguish between strangulation of the bowel and of the vessels, and Dr. Bryant, in his reply, mentioned that in his case the blood-vessels were completely obstructed, but the bowel was only incompletely so.

Mr. F. J. Steward reported at the same meeting a case of ureteral calculus simulating vesical calculus. The bladder was sounded without a stone being found, and two radiographs which were taken revealed nothing. The bladder was inflated with air and opened above the pubes. Then a calculus could be felt impacted in the right ureter, two inches from its orifice, but it could not be moved down, so the wound was closed. By a second operation the abdomen was opened and the stone pushed up to a point just above the common iliac artery and the ureter incised. The stone was thus reached and removed. No leakage took place, and the patient was soon convalescent.

In some remarks that followed it was suggested that the stone might possibly have been felt per rectum; a case was mentioned in which a radiograph seemed to show a stone in the bladder, but it was really in the lower end of the ureter; it was suggested that leakage might be dangerous, but another speaker questioned whether normal urine was in itself dangerous to the peritoneum. Mr. Steward admitted as much, but said in this case there had been pus in the urine for some time before the operation.

Dr. Brook, of Lincoln, brought before the Clinical Society the case of a hæmophilic lady to whom he had given calcium chloride and other drugs during her pregnancy with the hope of increasing the coagulability of the blood. Delivery took place at term without complication, and the child had exhibited no tendency so far to hemorrhage, not even at vaccination, but his brothers had shown symptoms at this age, and of course he might yet suffer later on.

Dr. Coupland thought that the mother might have benefited, but this could scarcely be said of the fœtus. It would require many observations to prove the treatment of value.

Dr. St. Clair Thompson then read notes of a case of poisoning by aniline oil, used as a vehicle for cocaine in the auditory meatus. Reference was made to other cases showing that the oil might be absorbed by the skin. The dark-blue color was characteristic, but subsided next day. The cardiac dilatation also passed away and no murmur was produced.

On Saturday the new Richmond Surgical Hospital, in Dublin, was opened by the Lord Lieutenant of Ireland. The new building, I am assured, is equipped with every modern improvement, and must therefore be a great advance on the old Richmond, which had done long and noble service under a succession of most distinguished doctors.

The daily papers have been circulating a report of a case of suspected plague in London. A lad in St. Bartholomew's exhibited some suspicious symptoms and was seen by the medical officer of the County Council, who has been employed to watch for such an occurrence. The patient was removed to the hospital for infectious diseases; contacts were disinfected, and all precautions taken. Dr. Klein undertook a bacteriological investigation, but was unable to certify the case as plague. The patient is getting well, but he seems to have had some form of minor illness which might well suggest plague and would pass as such in an epidemic. The question arises, What was its nature?

The deaths in London fell last week to one hundred and sixty below the decennial average. Only eleven were due to diphtheria, the lowest number for twelve years. Influenza is still on the increase, thirty-one deaths being registered as due to that disease. Scarlet fever has fallen to one.

Manchester had the pleasure of entertaining Professor Metchnikoff on Monday, when he received the Wilde medal and delivered the Wilde lecture. He spoke in French, which was a disappointment to some of those present. His subject, microbes, is sufficiently difficult when treated in one's native tongue. By way of reconciling the existence of the toxic microbes with evolution, according to which they should have long since been eliminated, he remarked that the organs which chiefly supported them were useless. The capillary follicles only represented the hair of our ancestors. The appendix vermiformis was a vestige, and so on. He even went so far as to speak of the stomach as a mere reservoir, observing that four persons were living from whom it had been removed. Surgeons might therefore assist the slow process of evolution. We could do very well, he thought, with a third of the present length of intestine. I doubt not that surgeons in this instance also will be ready to do their share, but if evolution depends on such arguments if must be in a bad way. I feel almost as disrespectful to the doctrine as the learned lecturer is to the alimentary canal.

Dr. William Moor, of Dublin, died on the 17th inst., aged seventy-five years. He was long physician in ordinary to Queen Victoria, and had been appointed to the same position to the king. He served at one time as crown representative on the Medical Council. At Trinity College he was king's professor of medicine and examiner in clinical medicine. He will be greatly missed in Dublin, where for the best part of half a century he was a leader of the highest character for uprightness. You may remember his treatise on "Typhus and Typhoid," or his lectures on "Aneurism." Here he was regarded as a sound physician and worthy representative of the Irish school of medicine, whose friendship it was an honor to enjoy.

Dr. Tanner, M.P., died on the 21st inst. You will remember that his career has been rather political than medical, and a stormy one at that. But he was for some time on the staff of more than one Cork hospital, and a demonstrator of anatomy in Queen's College.

Mr. George Stone, of Liverpool, held a very high rank among otologists. He was for many years ophthalmic and aural surgeon to the infirmary, but for some years past had confined his practice to aural cases. He was a scholar and linguist, and much respected. His translation of Politzer's "Anatomy of the Ear" is well known. He succumbed to an attack of pneumonia on the 21st inst., aged fifty-two years.

Dr. Rolleston, of St. George's Hospital, is going to South Africa to succeed Dr. Washburn at the Imperial Yeomanry Hospital.

Mr. Stonham has returned and is already at work again at the Westminster Hospital.

Mr. F. C. Dwyer succeeds the late Sir W. Stokes as professor of surgery in the Royal College of Surgeons of Ireland.

OUR PARIS LETTER.

To the Editor of the Medical Record.

COCAINE INJECTIONS: REMARKS BY TUFFIER—THEIR USE IN THERAPEUTICS: MARIE, DEBOVE, ACHARD—INJECTIONS OF MERCURIAL SALTS: BROCQ, BESNIER, SABOURAUD—QUININE IN CANCER—THE MICROBE OF BUBONIC PLAGUE; ITS REAL DISCOVERER—HAYEM'S TREATMENT OF GASTRIC ULCER.

Paris, April 22, 1901.

Sir: In connection with the letters written recently by Professor Reclus and Dr. Tuffier to the *Presse Médicale*, the following remarks made by Dr. Tuffier to the Society of Surgery seem to be a disclaimer of the fact that patients had died as the result of injections of cocaine. Dr. Tuffier said that he used a needle with a short point and made the injection above the sacro-lumbar space. The two-per-cent. solution was better indicated, as it was not necessary to inject so much. The injection should be done very slowly. Vomiting and headache were sometimes caused by this method, but no death had taken place during the operation, the eight deaths cited by Dr. Reclus being in no wise the result of the method used.

Cocaine as a therapeutic agent is talked about more and more. At a meeting of the Medical Society of the Paris hospitals, held on the 19th of April, Drs. Marie and Guillain spoke of a case of lumbago cured instantaneously by an intrarachidian injection of 5 mgm. of cocaine. The patient had begun suffering three days before the treatment was tried, and when seen found it difficult to walk and was obliged to stay bent forward. As in a prior case of sciatica 5 mgm. of cocaine were injected, and three minutes afterward there was a notable change. Two minutes later the patient was able to get up and dress without any help, and on returning home he found he was quite cured. Dr. Marie remarked, however, that in a case of scapulalgia, as well as in one of subacute rheumatism of the lumbar region, he had obtained no tangible result with this treatment.

In the course of the discussion which followed, Professor Debove cited the observation of a patient of his service, who was suffering from a severe attack of gastralgia such as is seen in locomotor ataxy, and who was instantly relieved by a simple lumbar puncture, by which 30 gm. of cephalo-rachidian fluid was removed. Professor Debove remarked that he had been led to try this treatment because he considered a large number of crises of visceral pain were due to an increase of pressure in the rachidian canal. Dr. Achard said he had tried this treatment for a case of abdominal zona in which some relief was obtained, and also for a man suffering from priapism accompanied by pain, who was cured by this treatment.

The treatment of syphilis by injections was the subject of discussion at the Society of Dermatology and Syphiligraphy. A case cited by Dr. Brocq gave rise to it. He had been trying a new specialty put on the market called cypridol, which is supposed to contain one centigram of biniodide of mercury for every cubic centimetre of sterilized oil, and when the third injection was made the patient, who was a woman aged thirty-one years, suffering from a papular eruption, complained of severe pain, and the gluteal region, where the injection had been made, became very much swollen. Later, escharification took place, and the piece of mortified flesh which came away was 13 cm. long, 8 cm. wide, and 5 cm. deep. Dr. Brocq stated he thought it best to be rather reserved in the use of injections in the secondary period of syphilis, and to employ them only in severe cases and especially in the tertiary period.

Dr. Barthélemy seemed to consider that such an accident must have been due to there being some effusion of blood, some vessels having been torn. He favored the method by injections. Dr. Besnier sided with Dr. Brocq, and said he considered the method was useless if not often injurious, as it seemed to cause such accidents as iritis in some cases. Dr. Gaucher said he preferred using soluble salts, and he did not care to make deep injections. Dr. Sabouraud remarked that the liquid used might be of some importance. He had found that oil caused in some cases ulcerations.

At a meeting of the Society of Neurology Dr. Allard said he had examined ten patients who were subjected to intrarachidian injections of a two-per-cent. solution of cocaine. In nine cases he found there was an increase in the faradic and galvanic excitability of the muscles and nerves. As for sensibility to the electric shock, he found that it was still present, which is the opposite of what has been said so far.

The use of quinine in the treatment of cancer has been again brought to the fore by Dr. Jaboulay at the last meeting of the Medical Society of Lyons. He presented two patients suffering from a recurrence of cancer of the breast, the tumor being accompanied by œdema of the upper arm. There was marked improvement in both cases by 1 gm. of quinine being given daily. The œdema diminished as well as the pain, and the movements became possible. In one case, in which there was an ulceration near the axilla, an ointment was used containing quinine in the proportion of 1:10. There was rapid transformation of the ulceration and the odor disappeared. In both cases the glands of the axilla diminished in size. In such cases 1 gm. of quinine should be given daily and replaced two days in the week by Fowler's solution. Some patients, however, can take it continuously without ill effects. When there is gastric intolerance, the drug should be given hypodermically, as the rectum does not tolerate solutions of quinine.

It has generally been thought that the first to discover the microbe of plague were Yersin and Kitasato, who were sent to Hong-Kong in 1894 by their respective govern-

ments. It must be remembered, however, that the description given by Yersin does not tally at all with that furnished by Kitasato. The microbe of Yersin is motionless, does not coagulate milk or cloud bouillon, is not colored by Gram's method, and is found specially in the lymphatic glands. All these characteristics are the reverse of what Kitasato described. To judge from a report published by Tatsusaburo-Yabé, surgeon in the Japanese navy, the microbe of Kitasato would seem to be a species of pneumococcus which is found when septicæmia exists. Yersin would therefore be the real discoverer of the microbe of the bubonic plague.

Gastro-enterostomy as a treatment of ulcer of the stomach is not looked upon with as much favor in France as two years ago. In a recent clinical lecture given by Professor Hayem at the St. Anthony Hospital, he said he would consider it useful in case there were symptoms indicating pyloric stenosis, but generally he preferred the medical treatment, which consists for Professor Hayem in the following indications: Absolute rest in bed, and suppression of all food by the mouth. The patient may be allowed to swallow daily from a quarter to half a litre of water daily, given at the temperature of the room. All food should be given by the rectum, which should be first washed out with an enema of water or oil, after which the following enema may be given two, three, or four times daily: A glassful of water, two large spoonfuls of peptone (salted), two yolks of eggs. All this should be well beaten up and given with a syringe. As for various inert or alkaline powders Professor Hayem considers it best to try to suppress their use. Gastro-enterostomy should be done only when there is extensive hemorrhage.

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 9, 1901.

The Fevers of the Philippines.—Joseph J. Curry says that typhoid fever exists among our troops in the Philippine Islands to a considerable extent. The death rate is less than fifteen per cent., due in part to the early recognition of the disease as typhoid. The author reports sixteen cases of Malta fever, the clinical history of which was that of a long-continued fever with periods of apyrexia, not influenced by quinine administration in large amounts. Typhoid symptoms were absent; neuralgic and rheumatic symptoms were usually present with a general glandular hyperplasia. Malarial fevers are widespread, the types being the æstivo-autumnal, the tertian, and the quartan. Out of 20,000 medical cases, 4,643, or twenty-three per cent., were diagnosed malarial fever. Mosquitos are very thick and extremely active in the Philippines. There are many undetermined tropical fevers, which may be satisfactorily studied when the conditions in the islands resume a peace basis. Hepatic fever sometimes occurs in Europeans and Americans, usually in the first year of their stay in the tropics.

Early Diagnosis of Typhoid Fever by Isolation of Bacillus Typhosus from Stools; Conclusions of Dr. T. Remy Based on the Use of His Asparagin-Lactose-Carbol Gelatin.—Calvin G. Page describes this process as used by Rémy, who in 1889 made thirty-one examinations of stools from twenty-three cases of typhoid fever, and isolated the typhoid bacilli from every case. Early in the disease they are present in relatively small numbers. They increase considerably during the second week, and may sometimes be almost the only bacterium present. During the third and fourth weeks the number diminishes steadily. The presence of the typhoid bacillus with its specific characteristics is the only sign that, taken by itself, will justify the clinician in making a certain diagnosis. It is also the only sign that cannot fail.

Some Reported Cases of Typhoid Fever Attributed to Contaminated Oysters, with Certain Facts Concerning this Means of Infection.—By Charles Harrington.

Means of Infection in Typhoid Fever.—E. N. Whittier reports a case of infection by means of contaminated oysters at Marion, Cape Cod.

Experience with the Widal Reaction in Typhoid Fever.—By Charles F. Withington.

The Widal Reaction in Typhoid Fever.—By George B. Shattuck.

New York Medical Journal, May 11, 1901.

Primary Chancre of the Nose.—W. Freudenthal, after a review of the general subject of extra-genital infection and an allusion to the rarity of primary infection of the nasal passages, gives the history of a case belonging to the latter category. The patient was a physician aged thirty-two years, who noticed a small sore on the right side of the nasal septum. The principal symptoms at first were a dryness and a closing up of the naris. One month later the occipital glands and those on the top of the head began to swell and ache. There was some fever and the case was at first regarded as one of influenza. The spot in the nose looked like the commencing perforation so often seen in those who pick the nose with the finger. The glands down the side of the neck began to swell, the sore became a definite ulcer, and gradually assumed the character of a specific lesion. Meanwhile the glands on the other side of the neck became involved. A rash later appeared and the disease ran its usual course. The physician, who had the habit of picking the nose, remembered having examined per vaginam a woman who later showed specific evidences, and it is probable that this was the mode of contagion.

Atonia Gastrica and a New Method of Treatment.—The therapy of this condition consists in the attempt to give tone to the abdominal wall or to find a substitute for the loss of tone in some kind of a bandage. A. Rose advocates for the latter purpose the use of rubber plaster, the preferable variety being the so-called Unna's zinc-rubber plaster or the india-rubber plaster with zinc of Dieterich. The strapping is applied as follows: A piece, of the average size of thirty-six by twelve inches, is cut as follows: The large piece is applied as tightly as possible around the abdomen, drawing it well upward, the two ends meeting or overlapping at the spine. The plaster should not include the crest of the ilium, but should run closely along and above it. The support of the abdominal walls is made perfect by the additional application of the two side-pieces of the plaster, extending from the hypogastrium over the inguinal and iliac regions and reaching also to, or near, the spine. In applying the side-pieces we may use considerable force.

Acute Strangulated Femoral Hernia on a Porto Rican Hillside.—By P. R. Egan. The writer, a United States army surgeon, narrates the case of an ambulance driver who was the victim of the accident named, the latter coming on while the ambulance was out on a mountain road several miles from a village. Taxis was applied without success. The patient was taken several miles to a village, where some chloroform was secured and taxis finally successfully tried. An old truss was applied and in an hour the man was again at work. An operation was deemed unadvisable, as under the surroundings it meant, in the doctor's opinion, sure death.

The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Skin.—By J. A. Fordyce.

Syphilis of the Nervous System.—By B. Onuf (Onufrowicz).

What Constitutes Sexual Intemperance?—By W. J. S. Stewart.

Journal of the American Medical Ass'n, May 11, 1901.

The Diagnosis and Treatment of Injuries of the Head.—J. H. Dunn enumerates the different classes of injuries and the symptoms peculiar to each, together with indications for treatment. Familiar ground is traversed and nothing especially new mentioned. Concerning the replacement of trephine buttons, the author notes two objections to the practice: (1) Especially in traumatic cases these pieces often undergo necrosis and have to be removed, and when they thus delay union they excite connective-tissue proliferation and, in addition to failing in their object, leave a less favorable cicatrix. (2) Histological observations, after bone implantation, show that pieces of bone which have been separated entirely from their anatomical surroundings, when returned to their former place, or placed in another defect in the human skeleton, indeed may grow, yet in all cases undergo necrosis. For plates for skull defects he inclines to the common view that celluloid is the best material. In cases of rupture of the middle meningeal artery, osteoplastic resection of large bone flaps has its advantages. The chisel is the best instrument for this purpose. Advocacy is also made of the use in surgery of the skull of the Gigli saw, for the following reasons: (1) Exceeding simplicity and cheapness; (2) very considerable rapidity; (3) the saw-cut is exceedingly fine, doubtless the finest that can be made by any method, and may be cut as bevelled as desired, so that the resected piece of bone fits back more accurately than if cut by any other method.

Tropical Abscess of the Liver.—E. F. Robinson calls attention to the fact that the acquirement by the United States of tropical possessions renders it necessary for American physicians to be on the lookout for diseases not hitherto brought to their notice. The paper is based upon personal experience in the Philippines. Natives rarely take the disease, but it is frequent among Europeans, whose mode of living leads first to amœbic dysentery, which is

followed by abscess of the liver. Of the author's thirteen cases five were single and eight multiple. The right lobe was most commonly affected. In only two instances was the left involved. Five cases of abscess of the liver came under his observation clinically: three were of multiple abscesses in which nearly the whole liver substance was destroyed; two were of large single abscesses. All five were operated on, and only one recovered. In tropical abscess the symptoms are of but little value in establishing diagnosis. We must rely on local signs and the detection of pus by aspiration.

Medical Treatment of Actinomycosis.—J. L. Sawyers relates a series of cases, the diagnosis in all but one being confirmed by the microscope. The author notes that the disease is frequent in agricultural communities, and lays down the following propositions: (1) That actinomycosis is not an uncommon disease. (2) That, when pure, it is a non-suppurative, afebrile, comparatively painless, slowly progressing disease. (3) That the clinical signs and symptoms are often pathognomonic. (4) That the club-shaped bodies, single and in asters, are often absent, the threads more frequently present, and the coccus-like bodies most constantly present. (5) That combined surgical measures and the administration of the iodide of potassium give the best results. (6) That iodide of potassium administered internally cures a large percentage of cases. And, finally, that the interstitial injection of iodide of potassium into the infected tissues exerts a strikingly salutary influence over the disease.

Remarks on the After-Effects of Operation for the Removal of Adenoid Tissue at the Vault of the Pharynx.—E. L. Shurly says that the untoward effects of these operations may be either immediate or remote. Under the former heading he includes hemorrhage, injury to the pharynx, reactionary inflammation affecting the pharynx, larynx, tonsils, ear and accessory cavities, and sepsis. Remote effects comprise subacute disease of the pharynx, chronic diseases of the ear, diseases of the accessory sinuses, and tuberculosis. Remarks are made under each of these headings.

Suppurating Mastoiditis, with the Report of Cases (Suppurating Otitis Media, Both Ears; Suppurating Mastoiditis on the Right Side, Abscess Extending into the Deeper Tissues of the Neck, and Extradural Abscess).—By J. H. Bryan.

The Rational Use and Limitations of Therapeutic Measures Intended to Promote the Absorption of Exudates within the Eyeball; Medicinal Measures.—By Randolph Brunson.

I. Union following Pathological Fracture of the Femur due to Secondary Carcinoma. II. Spontaneous Disappearance of Carcinoma of the Lip.—By Leonard Freeman.

Four Cases of Calculi Impacted in the Ureter (Nephro-Ureterectomy. Abdominal Uretero-Lithotomy. Vaginal Uretero-Lithotomy).—By B. R. Schenck.

The Relation and Position of Pelvic Organs; Examination of Patients.—By Franklin H. Martin.

Differential Diagnosis of Ectopic Pregnancy.—By H. N. Vineberg.

When Should We Operate in Appendicitis?—By D. C. Moriarta.

The Prevention of Insanity.—By D. R. Brower.

Operating under X-Rays.—By J. F. Baldwin.

Medical News, May 11, 1901.

Studies in the Bacteriology of Typhoid Fever, with Special Reference to its Pathology, Diagnosis, and Hygiene.—Philip Hanson Hiss, Jr., concludes that during the course of typhoid fever, usually after the first week, typhoid bacilli can frequently be obtained from the blood, spleen, rose spots, urine, and fæces, and in rarer instances, it is claimed, from the secretions or exudations of the mouth, throat, and lungs. After death they have been found in these and other locations and lesions, such as the lymphatic tissues of the intestine, the mesenteric glands, bone marrow, lungs, liver, gall bladder, kidneys, etc. The bacilli do not seem to thrive or live long in the circulating blood. But they can live and multiply at some of the points where they are deposited, thus forming bacterial foci in the tissues. Morphological examinations show that some of the lesions undoubtedly occur at points remote from the bacilli. It is probable, too, that the bacilli are closely associated with many of the lesions. Certain lesions probably occur only at points of localization of the bacilli. Typhoid fever is an infectious disease, during which various tissue changes take place, some necrotic, others hyperplastic. There is a close connection, in time at least, between the appearance in and disappearance from the intestinal contents of the bacilli and the appearance and repair of the intestinal ulcers. The organisms are only very rarely demonstrable in the stools before the first days of the second week, and disappear with the fall of the fever. When intestinal tissue destruction is most active, they can be isolated with great regularity. When they are continuously absent in typical cases, there probably is a scarcity or absence of intestinal lesions. The urine in a certain percentage of cases contains the bacilli. The urine should always be disinfected. The neglect of bacteriological examination of the urine often leaves unguarded a source of infection. Fæces should be disinfected at all stages of the disease. The expectoration should be disinfected, as well as all eating-utensils, etc., used by the patients.

Rupture of the Right Kidney; Nephrectomy; Recovery.—G. R. Trowbridge reports the case of a man aged forty-three years, a laborer. He was struck by a coal car and was brought five miles to the hospital. Immediately on admission he passed nearly one and a half pints of bloody urine. In about twenty minutes he passed three pints of bright arterial blood. The man was quickly prepared and a lumbar nephrectomy performed. The kidney was found torn about three-quarters through, and in its removal the rupture was completed, the organ being removed in two pieces. Several ligatures were applied, the wound was cleansed and closed throughout two-thirds of its extent, the remaining one-third being packed with iodoform gauze. The patient made an uninterrupted recovery. After-treatment consisted in sweating, decinormal salt solution injections, hypodermic stimulation, and considerable quantities of drinking-water. He now seems in perfect physical condition. The writer believes that exploratory operation should be done in cases of trauma of the kidney, for by this means alone is it possible to learn the extent of the injury.

Restoration of Useful Vision in a Complicated Case of Acute Inflammatory Glaucoma of Ten Days' Duration, with Visual Acuity Reduced to the Perception of Light.—By C. A. Veasey.

Practical Food Prescribing.—By Floyd M. Crandall.

Philadelphia Medical Journal, May 11, 1901.

The Doctor's Fee; a Plea for Honorable Dealing.—John B. Roberts declares that if the sincerity, humanity, generosity, and truthfulness of an action cannot be readily seen, while its selfishness, cupidity, and necessary secrecy are recognizable, the physician may be quite sure that it does not meet the requirements of professional standards. The writer then speaks of various schemes such as the following: A certain mineral springs company has recently, it is said, offered its stock to physicians, so as to induce them to advocate the use of its water by their patients. Life insurance companies seem to the writer to have a code quite unlike that which the true medical profession believes to be honorable. He gives an experience in which he was asked to disclose professional confidences to one of these companies. Some doctors, it is believed, make a fee by accepting money from manufacturing drug companies for statements certifying to the excellence of their secret nostrums. These certificates are then published and distributed as advertisements. What is more despicable than the action of that operator who demands his fee before he will undertake the operation for which the patient is ready? Then, again, take the system of paying commissions to the family physician who refers cases to the consultant. The family physician should undoubtedly charge more than his usual fee when he has to call a consultation. In regard to the consultant, if the patient is unable to pay, it seems only right that he come to the assistance of his brother physician for a small fee, or for no fee if it is not obtainable. The amount of a doctor's fees should be based on his experience and skill. A well-to-do patient should be willing to pay a generous fee. But this fee should not be increased in the case of a wealthy patient.

The Etiology of Arrested Mental Development.—Pearce Bailey states that idiocy, imbecility, and feeble-mindedness are varying degrees of the same condition. They are all the psychological expressions of infantile cerebral pathology. Their causes include all factors that interfere with the development of the child's brain. They may be classed as: (1) Those occurring before birth; (2) those occurring at birth; (3) those occurring during infancy and childhood. 1. More than fifty per cent. of all cases of idiocy and feeble-mindedness are congenital, and in a large proportion of this number defective nervous systems on the parts of parents or near relatives exist. Tuberculosis in the parents as a cause of degeneration is well recognized. Alcohol is the most important factor in acquired degeneration. Hereditary syphilis causes organic brain disease in infants. The eradication of degeneracy has its brightest hope in increased education and better State care. Diabetes is really a moral disqualification for conception. The various fœtal diseases and twin pregnancy are also causes of feeble-mindedness. 2. The various factors which complicate delivery stand in prominent rela-

tionship to idiocy and imbecility. 3. All causes, whether traumatic, toxic, or nutritional, which act on the developing infant brain have a place in this category. Chronic alcoholism and its effects in infants are becoming better and better known. This comes from parents giving wine and beer to their offspring. The study of any one of these causes will be of use to those who desire children or to those who have them to care for.

Ephemeral Insanity, with Report of Two Cases.—Charles J. Aldrich reports these cases. The first was that of a girl aged eighteen years, who had always been well before. She awoke one morning with the most insane notions on religion. She thought the world was about to end, and she talked incoherently. In a few hours this condition passed away and she has never shown any signs of the same since, although two years have elapsed since the occurrence. The other case was in a man aged forty years. He was suddenly seized with the idea that two of his co-laborers were plotting to kill him. He was taken to the hospital, where he was kept quiet for a few days. He absolutely recovered.

Purulent Choroiditis, following an Attack of Mumps; Diagnosis, Metastatic Choroiditis, Revised by Study of the Enucleated Eyeball.—By John T. Carpenter.

Abscess of the Orbit from Disease of the Ethmoid; Curetting through the Orbit and Drainage through the Nose.—By George C. Harlan.

Spontaneous (?) Rupture of the Spleen; Laparotomy; Death; Report of a Case.—By D. C. Howard.

Cataract Extraction.—By Edward Jackson.

American Medicine, May 11, 1901.

A Preliminary Note upon Hydrocyanic Acid as a Disinfecting Agent.—John S. Fulton believes from the results of experiments that hydrocyanic acid may be found a reliable agent for house disinfection by boards of health, especially serviceable in maritime disinfection, and alone, or in combination with other gaseous germicides, very effective against certain infectious diseases. In bactericidal power hydrocyanic acid is inferior to formaldehyde, but the latter is not more effective against diphtheria bacillus and the non-sporulating bacilli generally. It offers a slight advantage over formaldehyde for house disinfection in that it is generated without fire. It seems evident that against organisms no hardier than bacillus diphtheriæ and bacillus typhosus, hydrocyanic-acid gas is about as effective as formaldehyde, though a greater amount of gas is needed, and perhaps a longer exposure. One gram of cyanide per cubic foot of space is probably the correct proportion. No claims for great power of penetration can be made for hydrocyanic acid as against bacterial life. A gaseous germicide with great penetrating power is as yet a chimera. Against animal life this acid has strong diffusive energy. It does not seem unlikely that hydrocyanic-acid gas may to a great extent meet the need of a gaseous germicide which shall also be destructive of animal life.

Aneurism of Ascending Aorta of Great Size; Treatment by Gelatin Injections and Electrolysis, with Effect of Coagulating Most of the Contained Blood.—By W. W. Johnston.

The Necessity for Greater Conservatism in the Use of Vasodilators in Certain Cases of Cardio-vascular Disease.—By Louis Faugères Bishop.

A Case of Double Bladder, Each with a Separate Ureter; a Study of the Urine from Each Kidney.—By E. P. Hershey.

Post-partum Metastatic Panophthalmitis, with a Clinical and Pathological Study of a Case.—By Walter L. Pyle.

The Food Value of Alcohol, and Professor Atwater's Experiments and Teaching.—By John Madden.

Litholapaxy in a Child Four Years Old, with an Improvised Evacuator.—By Gwilym G. Davis.

Transfusion, Infusion, Autotransfusion.—By G. W. Wagoner.

British Medical Journal, May 4, 1901.

Some Remarks on the Inheritance of Acquired Immunity.—George Ogilvie reviews some experiments by Ehrlich on animals which show that the offspring may derive immunity from its mother in a twofold manner, by either the blood or the milk—that is, by the placental circulation or by suckling. It is self-evident that in these cases it is not the immunity which passes from the maternal organism to that of the child, but the antitoxin, and that the passive immunity of the offspring thus produced cannot be considered an acquired character transmitted by true inheritance. These results were obtained by experiments made on mice with vegetable poisons. Yet in rabbits and in guinea-pigs, as well as in mice, a certain degree of blood or placental immunity is conferred by the mother on the child with regard to both the tetanus and the diphtheria toxins. Ehrlich's experiments have of late been made use of to explain all sorts of real or imaginary phenomena of clinical medicine. In truth, however, up to the present day no clinical observations exist pointing to a similar transmission of immunity in the human race. If there is nothing to prove that immunity as an acquired character—that is, active or histogenic immunity—is ever transmitted to the next generation by true inheritance—that is, by the germinal cells—the placental or the suckling immunity also has, so far as we know, no exact parallel in human pathology. That such a thing as germinal transmission exists in maternal infection we can only presume from analogy, because, as said before, germinal and placental syphilitic infections do not differ in the nature or succession of the clinical symptoms they produce. If no clinical proof exists to show that placental immunity is ever transmitted by the germinal cells to the next generation, there still remains the possibility that such transmission takes place all the same, only to such a minute extent that it escapes detection by the rough and somewhat clumsy methods of clinical observation. As to the accumulation theory, until we have at least some clinical or experimental proof that infectious diseases lead by themselves to a gradually increasing immunity in the offspring, this theory as an explanation of racial immunity will remain an unsubstantial hypothesis.

The Treatment of Two Cases of Nerve Leprosy in which Recovery Took Place.—George Thin reports these two interesting cases. The first was in a boy aged eleven years, suffering from fully developed and severe nerve leprosy. This had afflicted him for seven years. The main line of treatment prescribed was the use of chaulmoogra oil, which was applied externally and given internally. This treatment resulted in a perfect cure, and thirteen years later he presented himself for examination, and the only evidence he showed of his once having had leprosy was the mutilation of the hands and feet, and the incomplete restoration of sensation on some parts of the limbs. The other case was in a youth. The treatment consisted in the external application of five-per-cent. pyrogallic acid, and the internal administration of a drachm of gurjun oil twice a day, and two minims of Fowler's solution twice daily. Later, the strength of the ointment was increased to seven and a half per cent., and so continued. As there was an idiosyncrasy against the arsenic, it could be given only occasionally and in small doses. This patient also made a perfect recovery.

An Unusual Symptom in Secondary Syphilis.—A. A. Scot Skirving has noted the symptom of itching in the throat in secondary syphilis. One of the patients was in the habit of scratching his throat by swallowing entire portions of the crust of the "brodchen" which he ate. In both cases the itching appeared very shortly after the onset of the sore throat—about eight weeks after the appearance of the chancre. This symptom seems quite remarkable in these instances, since with the exception of small papular syphilides, specific cutaneous eruptions seldom itch much—often, indeed, not at all.

Whooping-Cough Cured by Irrigation of the Nares.—Ed. Marten Payne gives an account of his method of treating pertussis in a boy aged nine years. Ten to twenty ounces of carbolic lotion (1 : 40) were injected by a syringe through the nostrils, being allowed to go up one and down the other, the operation being repeated three times a day. At first the irrigation caused a good deal of sneezing and coughing and the ejection of considerable mucus. This soon wore off, and the cure was complete in about a week. These irrigations must be thorough to insure success.

Hibernation of Mosquitos.—E. A. O. Travers states that a large number of mosquitos—Culex pipiens—were recently found in a state of hibernation in a village near Bedford. They were discovered in a damp cellar during the last week in February. They were kept for some time at ordinary room temperature and were fairly lively, but would not bite, and seldom fed on fruit placed in their cage. They were all females, but they laid no eggs, nor did they show any further development.

Note on the Results Obtained by Antityphoid Inoculations in Egypt and Cyprus during the Year 1900.—By A. E. Wright.

A Case of Secondary Anæmia Becoming Pernicious; with Detailed Examination of the Blood.—By Wilfrid Edgecombe.

On the Centralization of Medical Education by the University of London.—By A. D. Waller.

On Operating on the Subjects of Exophthalmic Goitre.—By J. Delpratt Harris.

A Case of Descending Landry's Paralysis in a Child.—By Leonard A. Rowden.

A Clinical Lecture on Functional Nerve Diseases.—By George E. Rennie.

Case of Erysipelas Treated with Antistreptococcus Serum.—By J. W. Gill.

Case of Leucocythæmia with Large Spleen.—By G. W. H. Tawse.

Formalin in the Treatment of Lupus.—By W. Scatchard.

Two Cases of Severe Frontal Herpes.—By C. Higgins.

Bed Sores.—By S. Guise-Moores.

The Lancet, May 4, 1901.

A Case of Recovery after Operation for Diffuse Peritonitis from Perforation of the Appendix.—By R. Coombe. The patient was a boy aged fourteen years. Operation was done on the fifth day of the disease. The abdomen was opened by an oblique incision reaching as far down as the deep epigastric vessels. On division of the peritoneum at the upper part of the wound, the operator came upon an abscess extending upward outside the ascending colon toward the liver. The pus, which had a strong fecal odor, was carefully sponged out of this. The edge of the omentum, which lay on the inner side of the wound between the large bowel and the parietes, was not disturbed at the upper part, as there was a little gluing together of the peritoneal surfaces, but in the direction of the pelvis there was not the faintest attempt at any barrier and the fingers passed right down into the pelvis to the roof of the bladder, a large quantity of dirty brown-tinted blood welling up as the coils of intestine were separated. This fluid was sponged away as it welled up, and when this ceased the sponges were continually passed down into the pelvis until they returned dry. Two large drainage-tubes were then inserted, one going to the subhepatic pouch, the other down into the pelvis. The appendix itself was not seen. During convalescence an abscess formed in the scrotum; otherwise recovery was uneventful.

Some Further Investigations upon Rheumatic Fever.—By J. Poynton and A. Paine. The article is in continuation of previously reported observations of the authors upon the bacteriology of rheumatic fever. The first part of the paper refers to the isolation of a certain diplococcus from rheumatic nodules. The following is a summary of the writer's experiments: (1) They have demonstrated the diplococcus in three rheumatic nodules taken from two cases of rheumatic fever; (2) they have isolated the diplococcus from the nodule in one instance in pure culture; (3) intravenous inoculation of this culture has produced valvulitis, pericarditis, and polyarthritis in a rabbit; (4) they have isolated the diplococcus from the joint exudate of this rabbit; and (5) the nodule is looked upon as a highly characteristic manifestation of rheumatic fever, therefore they conclude that this investigation lends strong support to the contention that this diplococcus is a cause of rheumatic fever. Other points touched upon are the pathology of rheumatic chorea, the occurrence of the diplococci in polymorphonuclear leucocytes, and the incubation period of rheumatic fever. They ask, "Is fever a primary phenomenon in rheumatic fever or is it secondary to the local lesions only?" and incline to the latter view. They also discuss the experimental production of morbus cordis.

On Serous Vaccinia in Connection with Cretinism and Rickets.—By Robert Kirk. Four cases are given in detail, the constitutional states being respectively myxœdema at the age of thirty-four years, subsequent cretinism or juvenile myxœdema, serous vaccinia occurring in six members of a rickety family, one child being a cretin, and serous vaccinia with symptoms probably indicative of a myxœdematous tendency; spasmodic asthma at the age of six years. The author inquires, Is the thyroid specially concerned in the production of serous vaccinia and serous types of other affections? He would answer that the evidence seems to show that such is the case in many instances, although it would be hard to speculate on other factors which may sometimes co-operate. It would appear, further, that the condition of the gland in such cases is one in which it is prone to atrophy from exciting causes which would otherwise prove inefficient.

Note on the Results Obtained by the Anti-Typhoid Inoculations in Egypt and Cyprus during the Year 1900.—By A. E. Wright.

	Uninoculated.	Inoculated.
Average annual strength	2,669	720
Number of cases of enteric fever	68	1
Number of deaths from enteric fever	10	1
Percentage of cases calculated on average annual strength	2.5	.14
Percentage of deaths calculated on the same basis.	.4	.14

These figures testify to a nineteenfold reduction in the number of attacks of typhoid fever and to a threefold reduction in the number of deaths from that disease among the inoculated.

The Action of Arsenic as Observed during the Recent Epidemic of Arsenic Poisoning.—By T. Lauder Brunton.

A Case of Perforating Gastric Ulcer with Rigors; Operation for Suture followed Three Weeks Later by Volvulus and Acute Intestinal Obstruction Requiring a Second Laparotomy.—By A. A. Bowlby and J. E. Steedman.

The Respiratory Movements of the Præcordial Area in Health and in Disease.—By J. Aikman.

Eczema in Relation to Age.—Clinical lecture by Malcolm Morris.

Three Cases of Sarcoma of the Uterus.—By E. Octavius Croft.

On the Use of Diphtheria Antitoxin.—By T. B. Broadway.

Primary Laryngeal Diphtheria.—By E. M. Spencer.

Foreign Body in the Ear.—By L. K. Henchel.

French Journals.

Movable Liver.—Maurice Soupault believes that there are two chief etiological factors which may contribute to this condition: (1) The liver is movable because it is not well supported. (2) The liver is movable because it is deformed. Hepatoptosis from looseness of the ligaments is scarcely observed before the age of twenty years. The influence of sex is evident. In seventy-four cases, sixty-seven were in females. Pregnancy, especially when oft repeated, is among the determining causes; laparotomy, abdominal tumors, obesity, and certain general maladies like typhoid fever also play a part. In certain cases there is no local or general cause which can be definitely found, but there seems to be a general disturbance of nutrition characterized by a tendency to relaxation of the tissues—especially the fibrous tissues which certain authorities claim as the cause of this trouble. Others believe that the tight corset is most potent as a cause. Besides these, hard work, violent cough, and vomiting are sometimes at fault. As to the deformity of this organ, the corset undoubtedly has its share in producing it; as does a tumor adherent to the liver tissue or an abnormal gall bladder. In the treatment of floating liver, surgery offers great assistance. It is indicated when the mobility of the liver is so great that dorsal decubitus does not reduce it; when serious troubles result from this condition, *e.g.*, stenosis of the pylorus; when, after sufficiently prolonged medical treatment, general troubles still persist as well as great pain. Less radical treatment consists in attention to the general state of nutrition. Repose in bed for some days is often beneficial. Electricity is used, also a support for this organ in the form of a binder. Hydrotherapy is also made use of. The digestive disturbances should be most carefully looked after—many of which are neurasthenic in variety. Troubles of nutrition should be treated. The results of surgical treatment have been very brilliant.—*Gazette des Hôpitaux Civils et Militaires*, April 13, 1901.

Anæsthesia by Cocaine.—G. Juillard states that he prefers ether as an anæsthetic. He believes that statistics do not give all the fatal cases in the administration of chloroform, and it may be the same way with cocaine. The status of this alkaloid cannot yet be determined, since statistics concerning it are not sufficiently complete. Great care must always be taken with alkaloids, especially when they are injected directly into the central nervous system. The writer has had over nine thousand cases of anæsthesia with ether without accident. Ether is the least dangerous of all the anæsthetics. Nevertheless, the analgesia of cocaine has a great advantage; it permits the operation to be performed without pain and with the preservation of complete consciousness, which is sometimes most valuable. The intrarachidian method will not become the general method, but will probably remain the exceptional one.—*Revue Médicale de la Suisse Romande*, April 20, 1901.

Concerning the Technique of Operation in Appendicitis (Appendicitis in the Abscess Stage).—Phocas concludes that this operation is one which offers a certain mortality. This mortality can be diminished by limiting the operation to the mere opening of the abscess without hunting for the appendix or touching the adhesions. But in these cases the operation is incomplete and brings a tendency to post-operative accidents—fistula, hernia, recurrence. It is better to run these risks, however, than to expose the patient to the risk of death. Therefore, operation should be confined to the opening of the abscess. In every possible case it is better to wait and perform the operation later after the patient has recovered, if it is then deemed advisable. In this way the patient recovers without surgical treatment, and later he can submit to the operation, which can then be performed without danger.—*Le Nord Médical*, April 15, 1901.

Aphthous Fever and its Treatment.—M. Nocard, according to Jarre, reports that when this disease is scourging the country it is well to give the sickness to all the animals in the infected stable at one time. This can be done by swabbing the mouths of the healthy animals with the sa-

liva of those affected. The duration of the disease is much diminished, for the buccal form of the affection is the least grave. The affected animals must have their mouths washed with antiseptic lotions, as well as the udders and the feet. This should be repeated as often as possible. Any food requiring long and complete mastication should not be given. Food should not be forced on the animals. Laxatives and diuretics should not be given. The udders should be emptied of milk, which should be boiled before being used by man or animal.—*Bulletin de l' Académie de Médecine*, March 26, 1901.

Cancers of the Large Intestine, Rectum not Included.—According to Goullioud, cancers of the large intestine present anatomical conditions favorable for surgical intervention. These conditions are: (1) The patients are as a rule operable when they come to consult the surgeon, because the symptoms of this trouble are very precocious. (2) The tumors are movable, often extremely so. This characteristic is due to the fact that they are developed at the expense of the mucosa, the muscular tissue forming a sort of barrier against them. If a large resection is made, including the mesentery, at least the first set of lymphatic ganglia can be raised with the tumor. Surgical intervention suppresses all the painful symptoms—vomiting, pain, and phenomena of obstruction.—*Lyon Médical*, April 21, 1901.

Pyonephrosis of Typhoid Origin.—Garnier and Lardennois conclude that typhoid fever can cause renal suppurations assuming the form of pyonephrosis frank or latent. It is only during convalescence that the diagnosis can be clinched. It will be founded on the existence of pain in the lumbar region, the presence of a tumor of the kidney more or less large, and in certain cases an intermittent pyuria. The treatment is, before all else, surgical. It should be prompt. Nephrotomy ought to be sufficient and should give excellent results with few risks. But nephrectomy will often be indicated secondarily when there are numerous abscesses badly drained, and if the operator is certain of the integrity of the other kidney.—*La Presse Médicale*, April 13, 1901.

Deutsche med. Wochenschrift, April 18, 1901.

An Unusual Case of Hysteria.—J. Arneth describes a very dramatic case of hysterical spasm of the depressors of the epiglottis in a girl aged twenty-three years, whereby this appendage was maintained in close apposition with the glottis so that expiration was difficult and inspiration almost impossible, and a condition of extraordinary dyspnœa resulted. Occurring at intervals of from a few minutes to half an hour were attacks of complete apnœa with unconsciousness and every indication of imminent death from asphyxia. All therapeutic measures, suggestion, electricity, baths, etc., produced not the slightest effect till some liquor ammonia was held under the patient's nose at the conclusion of one of the attacks. The effect was instantaneous; the respiration became better almost immediately, and it was found that through the irritation of the ammonia so much congestion of the epiglottis had been produced that it was impossible for it to resume its former valve action. Complete recovery finally followed the use of intimidating measures, the patient being threatened with a repetition of the introduction of the stomach tube, which was intensely disagreeable to her, unless the attacks of dyspnœa ceased.

Contributions to the Knowledge of Cardiac Neuroses.—A. Schmidt has observed that cardiac neurasthenics are especially prone to exhibit fluctuations in pulse frequency and force during forced respiration. These may in part be explained by the effect of the changes in intrathoracic tension so produced acting on a vascular system under low pressure, but not wholly, for the momentary complete cessation of pulsation, change in form of the individual pulse curve, and the appearance or disappearance of arrhythmia require some more general cause for their production. Löwit has suggested that there may also be reflex nerve influences originating in the distended pulmonary alveoli, and the author concurs with this view. A second point to which he calls attention is the zone of distended venules marking the limits of the attachment of the diaphragm and the cardiac dulness, and most often observed in those suffering from chronic cough. This appearance is also frequently associated with heart neuroses, and the author thinks has a causal relationship with the abnormal cardiac mobility and habitual constrained position at the writing-table that are so often found in this class of patients.

The Freezing-Point of the Blood in Typhoid Fever.—By Waldvogel.

The Applicability of Plant Albumin as a Food Stuff.—By E. Roos.

Incomplete Sugar Oxidation in the Organism.—By P. Mayer.

The Origin of Acetone from Albumin.—By L. Schwarz.

Münchener med. Wochenschrift, April 16 and 23, 1901.

The Treatment of Lobar Pneumonia.—Hornung gives the result of his observations, which show that damage of the vasomotor centre is followed by acute dilatation of the heart. Such weakening, particularly of the right ventricle, is one of the greatest dangers in pneumonia, in which the toxins of the disease itself are continually tending to break down the integrity of the vasomotor centre, and therefore chloral, ether, and most of all alcohol, which have this same property, are to be wholly condemned, for since the formation of the specific pneumonia poisons is out of our control it is of the greatest importance not to augment its action by artificially introduced toxic agents. Even in alcohol habitués, when it is thought that the drug must be continued to obviate the occurrence of delirium, repeated observation has shown that the only rational plan is to cut off the stimulant and substitute plentiful feeding, for the alcoholic delirium is simply a manifestation of inanition and must be combated as such. Of other stimulants, in spite of contrary opinions, the author holds that digitalis is not so slow in its action as is generally believed, and that though the typical pulse may not appear for several days, still a considerable reduction in size of the heart occurs speedily after the first dose. Camphor is highly praised as a rapidly diffusible stimulant. A heart tonic of undoubted value is to be found in cardiac faradization, which may be performed by placing one pole of an ordinary induction coil over the heart, while the other is passed over as much of the surface of the body as possible for ten minutes at a time. The effects of this electrization are manifold, for the vasomotor centre is stimulated, the rapidly repeated contractions induced by the current produce a very desirable form of massage, almost a "cell-massage," whereby circulation is facilitated, and finally general muscular tone is stimulated.

The Duration of Disability after Internal Disease.—R. Landau says that in considering internal diseases from this point of view they may be divided into acute and chronic, the former being further subdivided into febrile and afebrile. No hard and fast rules are possible, but it may be said that all patients with pyrexia, and for at least a week after its disappearance, are incapable of working, but the nature of the disease, the length of duration of the fever and its height, the complications and possible sequelæ, especially those affecting the heart, as after diphtheria and influenza, the necessity for continuing dietetic precautions, as after typhoid, the severity of accompanying pain, insomnia, etc., all need to be taken into account. Furthermore, the patient's age, sex, constitution, heredity, and the nature of his employment are also of great importance. Acute afebrile diseases usually disable only as long as the symptoms are present; for example, as soon as the pain and nausea of an acute gastritis have vanished and the appetite begins to return, the occupation may be resumed. Chronic conditions require much thought in their management and are very varying in the degree of disability they produce. In general, those subject to acute exacerbations, as pulmonary tuberculosis, need more careful watching, and more success is to be obtained with those doing their work at home than with factory hands, with whom any discrimination in the severity of the labor is usually impossible.

Acute Serous Meningitis.—J. Hegener reports two cases running almost parallel courses. Both patients were young men who since childhood had suffered from chronic middle-ear disease, which at the time of admission was undergoing an exacerbation and accompanied by signs of meningeal involvement. In the one case immediate improvement followed the clearing out of the diseased areas by a mastoid operation together with an exploration of the subdural space and of the brain itself for abscess. During the succeeding days the dressings were saturated by the enormous serous exudate of cerebrospinal fluid, which persisted for nine days and then ceased, the patient making a perfect recovery. In the other case at the first operation the meninges were not explored, and the improvement that followed was only temporary, so that a week later the temporo-sphenoidal lobe was exposed by an osteoplastic flap and the membranes were incised. No pus was found either in the meninges or the brain substance, but a copious serous exudate continued to flow for three weeks after the operation. It is interesting to note that in this case, nine days after the drainage of the subarachnoid space had been instituted, choked disc developed and persisted for four weeks, evidently pointing to a progression of the disease after it had been checked at its starting-point.

Disability in Skin Diseases.—J. Neuberger, writing from the standpoint of the lodge physician, states that in most cases of skin disease the patient is to be allowed to continue at his work. The principal essential is accurate diagnosis, whereby an innocent itching affection like a universal seborrhœic eczema is differentiated from a more

serious disease, such as lichen ruber, for the former does not require the complete rest that the latter does. Another point of importance is the selection of appropriate plans of treatment, for in case of the laboring man forms of dressings, applications, etc., that would ordinarily be employed have to be discarded in favor of, perhaps, not quite so efficacious but less hampering measures. The sort of work performed has also to be considered; a standing occupation is bad for patients with leg ulcers, for example, and sometimes a change of trade is necessary before a cure can be effected, as in some cases of eczema. Finally, the point of infectiousness must be thought of, and the possibilities of the transmission of the disease to the patient's fellow-workers not overlooked, though there are but few conditions that require more than ordinary care in the use of utensils, towels, etc.

Manual Perforation and Extraction of the Fœtal Skull after Avulsion of the Trunk.—By H. Cramer.

Report of the Royal University Polyclinic for Pediatrics in the Reisingerianum.—By C. Seitz.

The Treatment of Intestinal Obstruction with Belladonna Preparations.—By R. Gahtgens.

Acute Intestinal Occlusion at the Juncture of Duodenum and Ileum.—By Bäumler.

Severe Intestinal Obstruction Cured with Atropine and Olive Oil.—By Adam.

A Case of Intestinal Obstruction Treated with Atropine.—By Middeldorpf.

The Treatment of Rachitis with Adrenal Extract.—By M. Honigsberger.

The Atropine Treatment of Intestinal Obstruction.—By Bofinger.

The Removal of the Head Left Behind in the Uterus.—By L. Knapp.

Badly United Fractures and their Treatment.—By C. Beck.

The Treatment of Gout with Quinic Acid.—By Salfeld.

The Theory of Fermentation.—By C. Oppenheimer.

Blood Poisoning and Amputation.—By H. Doerfler.

Gastric Lavage in Childhood.—By I. Steinhardt.

The Treatment of Tuberculosis.—By E. Klebs.

Addison's Disease.—By L. Huismanns.

Norsk Magazin for Laegevidenskaben, April, 1901.

Infectious Aortitis with the Formation of Aneurism.—Peter F. Holst reports the case of a young man suffering from gonorrhœa and arthritis. This condition improved under treatment. He was taken with chills at irregular intervals, his temperature rising to 104° F. Physical examination revealed an enlarged spleen, hemorrhagic nephritis, and a diastolic murmur at the base of the heart. After a sudden attack of hæmatemesis the patient died. The autopsy revealed a sacculated aneurism about the size of a hen's egg, near the aortic valves, and a smaller one just above it. The calibre of the aorta was narrowed by a diaphragmoid projection. Microscopical examination showed a diffuse cellular infiltration in the media and adventitia of the aneurism, together with many diplococci and cocci in chains stained by Gram's method. The author believes this to be a case of non-luetic, infectious aneurism following gonorrhœal rheumatism.

A Case of Purpura Fulminans.—This is reported by P. Voss. A five-year-old girl had been ill about a week, complaining of pains in various parts of the body which were taken to be rheumatic. For the first few days she had been up and about, but for two or three days had been confined to the bed, complaining increasingly of the pains. She was well nourished but pale. Each of the lower extremities presented a spot the size of the palm of the hand, of purple color, and there were also smaller spots with a parchment-like feel, and surrounded with a red circle about one line in width. Spots of similar color appeared later on the soles of the feet. There was no albumin in the urine. The child was admitted to hospital, but died the same night.

A Case of Purpura Fulminans.—Thomas Bargen reports the case of a child aged two years who was suddenly taken ill, and covered with ecchymoses. Death occurred in two days. At the autopsy there was found a condition of general anæmia, with swelling of the tonsils, glands of neck, and bronchial glands. Abundant quantities of streptococci were obtained from the spleen, the blood of the heart and glands, and sections of mucosa from the pharynx and the glands. Inoculation with these cultures produced death in animals. The author considers the case to have been a violent streptococcopyæmia accompanied by the hemorrhagic diathesis.

Some Data in regard to the Treatment of Tuberculosis in the Sanatorium of Reknes.—By Edward Kaurin.

Are There at the Present Time Indications for Reclination in Catarat?—By S. Holth.

Society Reports.

THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Fifteenth Annual Meeting, Held at Old Point Comfort, Va., April 30, May 1 and 2, 1901.

THE PRESIDENT, SAMUEL ALEXANDER, M.D., OF NEW YORK, IN THE CHAIR.

Address by the President.—DR. SAMUEL ALEXANDER, of New York, after calling the attention of the association to the death of Dr. Fessenden N. Otis, a former president of the association, presented for their consideration the subject, "The Treatment of Intra-Peritoneal Traumatic Rupture of the Bladder by Laparotomy and Suture." Including his own experience, this report comprised forty-five cases with twenty-three deaths and twenty-two recoveries. The first part of his paper was chiefly historical, and then followed a critical examination into the causes of death. He next took up the etiology of intra-peritoneal rupture. The following questions were then considered:

1. How can we prevent delay in operating upon these cases? He believed that valuable time was lost because of the routine methods usually employed in order to insure positive diagnosis. Much time was lost in differentiating between an intra- and extra-peritoneal rupture. The injection test and the inflation test he believed to be decidedly harmful. He did not see the necessity of making a positive differential diagnosis between these two conditions, for both required operation. The operation should be begun by exploring the prevesical space; if this was found to be healthy the incision might be extended upward and the abdominal cavity opened.

2. How shall we treat the peritoneal cavity to obtain the most thorough asepsis? He thought the best results could be obtained by most thorough irrigation of the cavity with hot decinormal saline solution, not only at the beginning of and immediately after the opening of the abdominal cavity, but repeated after the rent in the bladder had been sutured.

3. How can we most effectually close the bladder wound? The question was not so much the material of which the suture was made as the manner in which the suturing was done. In the case he reported the material used was silk, and the rent was first closed with a layer of interrupted Lembert sutures, and these were reinforced by a second layer of mattress sutures.

DR. J. P. BRYSON, of St. Louis, said that in intra-peritoneal rupture he began the operation by slitting the mucous membrane, and dissecting away a small part of the muscular coat, so that when the sutures were introduced and drawn taut they would throw the mucous membrane into ridges and make really a valve.

DR. JAMES BELL, of Montreal, said that infecting lesions in the lower part of the abdomen spread upward relatively slowly, and he thought there was some risk of disseminating infection by general irrigation. Swabbing offered certain advantages.

DR. CABOT, of Boston, was apprehensive as to the use of certain ligatures on account of the liability to stone formation. In bad cases of rupture he would be inclined to use silk ligatures because they held; in extensive ruptures he would use catgut, but outside the catgut he would use silk in order that the strain might be taken off.

DR. CHISMORE, of San Francisco, reported an instance of a patient who had been operated upon for inguinal hernia some five years before the speaker saw him. He came under Dr. Chismore's care for stone in the bladder. The speaker removed the stone and

then found two silk ligatures. He then learned that the surgeon who had operated on the hernia had made a mistake and excised a portion of the bladder and sewed the incision up with silk ligatures. The man recovered and the silk ligatures had remained.

Report of a Case of Nephrectomy for Adeno-Carcinoma; with Remarks on Combined Cystoscopy and Segregation as a Guide to the Earlier Surgical Intervention.—Dr. John P. Bryson, of St. Louis, made a report of such a case. Looking to the history and the physical examination up to the point of cystoscopy, there was only the absence of a vesical symptomatology to justify exclusion of the bladder as a source of the hemorrhage, and this was far from exclusive. A vesical papilloma situated behind and above the trigone might have produced the same kind of manifestation. Urethral and prostatic hemorrhage was easily excluded, and the vesical symptoms accompanying the entire hemorrhage were referable to the clotting of blood in the bladder. There was entire absence of a history of renal symptoms during the whole attack. The first satisfactory step in the location of the source of mischief was in cystoscopy. This revealed a normal bladder and two normally situated ureteral orifices. While it was true that the injection of the left orifice and the gradual clouding of that part of the cystoscopic field as the observations progressed raised a strong suspicion of the source of the bleeding, and while it was equally true that subsequent and more extended observation might have given more conclusive evidence in the way of a blood spirt when the bleeding was more active, the real and practical value of the cystoscopy was in excluding the bladder as the source of the bleeding and preparing the way for a segregation. Segregation with the Harris instrument was easily and almost painlessly done, and gave evidence of the highest value in determining the justification, not to say the necessity, for doing an exploratory operation. In looking at the tables presented he thought that one could easily conclude that (1) the two specimens came from the same kidney; (2) the right kidney was functionating normally; (3) the left kidney was the source of the hemorrhage, and (4) the left kidney was in such a state of irritation as to determine a unilateral polyuria, albuminuria, mild bacteruria, and pyuria. The lower specific gravity, the greater quantity, and the amount of albumin out of proportion to the amount of pus and blood, tended strongly to eliminate the ureter and pelvis as the seat of the mischief and thus to carry it quite into the renal parenchyma. It would be noted that no tests were made to determine the epithelial adequacy and the renal permeability—omissions which might to-day be open to criticism. With cryoscopy he had not yet had much experience, but he instituted a phloridzin test with a lively appreciation of its practical value. In at least three cases it had been of excellent service, and he was impressed that it was, in connection with the separation of the urines (F. Tilden Brown), capable of greatly enlarging our field of direct observations of renal capability. In the effort to determine the relative adequacy and permeability we had been accustomed to give the greater weight to the quantity and specific gravity of the separated urines. The ascertaining of the relative functional capabilities of the two kidneys did not give us all the information required in regard to the kidney which was to remain and do the whole work of excreting. The matter of the relative excretion of urea might have been too much overlooked, but we could not readily tell how well a kidney might be doing until we knew what the blood brought to it; and the antecedents of urea in the blood were, so far as we knew, influenced by so many and varying conditions that it was difficult to bring the subject within a working formula. Cryoscopy might be of service in this matter, but the phloridzin test appeared to have the greater value. If relative urea excretions varied so greatly as to affect the value of the observation, which covered but one-forty-eighth of the time of daily kidney function, the permeability was quite as much affected by varying conditions of the other viscera. The heart, arteries and lungs, the brain and nervous system, and organs concerned in digestion, all had to do with the permeability of the kidney. It would be but a one-sided pathology and too narrow specialism which should fail to take into account the relationship of the condition and functional activity of other important organs as their changes affected the kidney and its work.

The Value of the X-Ray in the Diagnosis of Renal Stone: Report of Four Cases.—Dr. Paul Thorndike, of Boston, made a brief report of these four cases, not in order to show beautiful *x*-ray plates of kidneys containing calculi, but because the cases were studied by the same people under the same conditions and showed results, partly negative in character, which the writer deemed of enough interest to justify their presentation. It seemed to be true that stones which contained mineral salts were much more readily photographed than others, and yet two of these calculi were made up of layers of uric acid, and in both cases distinct shadows were evident, while in one of them the stones were shown with considerable clearness, probably due to the admixture of urates in the former and of calcic phosphate in the latter case. It would seem that there was something to expect from *x*-ray photography in connection with the diagnosis of renal stone; for in those cases, even when there was every clinical reason for thinking that a stone if present was composed of uric acid, it evidently needed only a small amount of urates or some other mineral salt to give a shadow which, although it did not show for much on the plate, was still capable of being recognized with some degree of precision by properly experienced observers. In conclusion he referred to the various methods of exploring a kidney. Some time ago he was present at a lecture and heard reference made to the lifting the kidney on to the loin and then splitting it along its convex border in such a way as to expose its whole interior to easy examination. The lecturer said he had never been able to do this, and had tried many times. The speaker's experience with renal cases was not large (probably fifteen cases would cover all the strictly exploratory operations he had ever done, not of course, including among them the operation for drainage of pus); but he had been able to carry out this exploratory technique in six instances and had never had the least trouble from hemorrhage or otherwise, either during or at any time subsequent to the operation. In some stout people it was a practical impossibility to carry out this method of investigation, and efforts to do so should not be persisted in; but in many patients of average weight the procedure was not difficult and could be accomplished with no undue tension upon the renal vessels. It was the author's belief that in cases in which it could be done it was far less likely permanently to injure the renal tissues than the less certain and far less satisfactory method of exploring the kidney with the finger through an opening made in the kidney substance or in the convex border. It was the author's practice to endeavor so to expose the kidney in every exploratory operation he performed, and it was satisfactory to realize how often it was easily possible to do.

Rupture of the Urethra: a Report of Cases.—Dr. James R. Hayden, of New York, read a paper in which he reported three cases, as follows:

Case I.—A man, thirty-six years of age, about thirty hours before admission to Bellevue Hospital and while in an intoxicated condition, was kicked in the peri-

neum. When he awoke the following morning he noticed blood on his shirt, and a slight bloody discharge from the meatus. On attempting to urinate he had an intense burning pain in the glans, and a feeling as if the urine were "leaking" into the perineum and penis. The stream was small, forked, and dribbling, and the patient had to strain for some time before starting it. Urination caused such severe pain that he broke out into a profuse sweat and fainted. He finally became so weak and exhausted that he entered the hospital for relief.

Examination on admission. The perineum was greatly swollen, tender, fluctuating, bluish-black, and abraded in places. The prostate and adjacent parts appeared normal by rectal touch. Slight bloody discharge flowed from the meatus. The urine was tinged with blood and contained bloody shreds, but was otherwise normal. No stricture was present. The bulbous portion of the canal was tender, bled freely, and felt roughened and lacerated when the bougie à boule was introduced. There was some compressor spasm, readily overcome by pressure.

Diagnosis and treatment. A diagnosis of rupture of the bulbous urethra with beginning extravasation of urine was made; the patient was etherized, and an external urethrotomy was made in the usual manner. The perineal tissues were found extensively infiltrated with blood clots and a thin bloody fluid having a distinctly urinous odor. The bulb of the corpus spongiosum was crushed into a bleeding and oozing mass of tissue, the bulbous urethra having ruptured longitudinally in many places on its floor, while its roof remained uninjured. The clots were turned out and all bleeding points ligated. A full-sized sound was passed and the bladder irrigated and drained by a large perineal tube which was removed permanently on the fifth day, and full-sized sounds were passed every day until the perineal wound was closed. The patient left the hospital on the twentieth day, the urine then passing normally by the meatus. No attempt at suturing the urethra was made on account of the contused condition of the tissues and the multiplicity and nature of the wounds.

Case II.—The patient, thirty-seven years of age, twenty-four hours before admission to the hospital, while at work carrying a fifty-pound weight on his shoulder fell ten feet, landing astride a two-inch gas pipe. On standing up he felt wet about the genitals, and on inspection found that he was bleeding freely from the meatus, but he had little pain. He went home in a street car and called in a physician, who failed to enter the bladder after a prolonged and painful instrumentation; then, in order to stop the hemorrhage, he tied a bandage around the penis.

Examination on admission. The patient was weak and anæmic, but not in much pain, except that due to urinary retention. The prostate and neighboring tissues were apparently normal by rectal feel. The anterior abdominal wall was very tense and rigid, and the bladder greatly distended. The penis was so tightly bandaged that it caused marked swelling of the glans, which looked almost gangrenous. When the bandage was removed a surprisingly large amount of blood spurted forcibly from the meatus, but even then he was unable to urinate voluntarily. The scrotum and perineum were greatly ecchymosed, the latter being distended, tense, and fluctuating.

Diagnosis and treatment. A diagnosis of rupture of the urethra with urinary extravasation was made, and the patient prepared for operation. Soft-rubber and silk catheters passed as far as the bulbous urethra when they apparently left the canal and entered the perineal tissues. A No. 20 F. silver catheter passed into the bladder by its tip being kept close in contact with the roof of the canal, which was apparently intact. Forty-two ounces of bloody urine and many clots were evacuated and the bladder was irrigated with hot saline solution, several ounces of which were left in. Hemorrhage from the meatus was quite free during these manipulations. An external urethrotomy was then done, the silver catheter being used as a guide. The perineal tissues were filled with bloody urine and clots, and oozing freely. When the bleeding was stopped and the parts were dried, a longitudinal rupture about two inches in length could be seen in the floor of the bulb of the urethra, whose edges when retracted exposed the silver catheter, which was then removed. A full-sized sound was passed to the bladder, which was irrigated and drained by a large perineal tube as in external urethrotomy. The perineal wound was left open and lightly packed with gauze. On the fourth day the perineal tube was removed permanently, and a No. 30 F. sound passed to the bladder. On the twelfth day the wound in the urethra was cicatrized, all the urine passing by the meatus after that day. The perineal wound was closed at the end of the third week, the patient remaining in the hospital for several weeks for irrigations, sounds, and observation. The walls of the urethra looked so swollen and boggy that no attempt at closing the rent in the canal was made. At present, a little over a year since the operation, urination is normal, the patient taking a full-sized sound with ease.

Case III.—The patient, thirty years of age, about twelve hours before admission to the hospital, and while intoxicated, landed astride a narrow board. Six hours later he found his underclothes stained with blood, and the meatus sealed with a dry clot, on removal of which urination was free but painful, and followed by bleeding, which so frightened him that he entered the hospital for relief.

Examination on admission. There was a slight and constant oozing of blood from the meatus. The urine was tinged with blood, and contained a few light bloody threads and flakes, but was normal in other respects. Urination was free but painful. The perineum was ecchymosed and slightly swollen and tender, but there were no local points of tumefaction or fluctuation. The prostate and surrounding structures appeared normal by rectal feel. A large rubber catheter entered the bladder with ease and drew clear urine. The urethra felt normal, although the bulb was sensitive.

Diagnosis and treatment. A diagnosis of rupture of the bulbous urethra without extravasation was made, and the patient was placed in bed, and given boric acid and hyoscyamus internally. He was catheterized at regular intervals with a soft-rubber instrument, and the urethra very gently and sparingly irrigated at these times with a warm sterile alum solution. The perineum was covered with a cold bichloride dressing and the temperature was taken regularly to keep informed as to the necessity for external urethrotomy and vesical drainage. All bleeding stopped on the fourth day; the urine was clear, and the perineal swelling had disappeared. The temperature remained normal since admission. On the fifth day the patient was up and about, and passing a clear urine in a normal manner. On the tenth day he left the hospital at his own request, as he felt well and was anxious to resume his occupation.

Inversion of the Tunica Vaginalis for Hydrocele.—Dr. Robert H. Greene read this paper, and said that, within the last ten years, a new operation for the radical cure of hydrocele had originated in France and its use was being advocated by a number of surgeons at the present time. It consisted in an inversion of the tunica vaginalis. About one month ago he operated upon a case of hydrocele by this method instead of the Volkmann method, the one he usually employed.

This had been called Longuet's operation by one writer on the subject, and was apparently called by the Germans Winkelmann's operation. This case was his first, the patient being an old man with an extensive hydrocele of the tunica, accompanying three small hydroceles of the cord. No complications followed. It was very difficult to say to whom the credit of having first performed this operation should be given. Dudley Tait, last March, gave a clear description of the operation, with references. It was difficult to understand why the name of Longuet should be given to the operation, for with the exception of Vautrin the credit of having reported any number of cases as first operated upon by this method belongs to Jaboulay, who began to operate in 1894 and whose cases were reported by Berard on March 24, 1895. Since 1896 several French surgeons had reported cases. In Germany Winkelmann published a paper in 1898, giving the history of twelve successful cases operated upon by this method, but he did not refer to the French surgeons as having originated it. Dr. Greene then gave a somewhat liberal translation of Winkelmann's description:

"An incision is carried down to the sac of the hydrocele. The incision of the sac is 3–4 cm. long from above downward, more toward the upper than the lower pole. After the hydrocele fluid has escaped the testicle is drawn completely out, so that the entire tunica vaginalis proper is turned inside out. The incision in the tunica then comes in relation with the insertion of the spermatic cord into the testicle, which incision may be shortened by a suture or two, so that the testicle cannot return through the opening in the tunica. The tunica and testicle are replaced in the scrotum, with the result that the entire serous surface of the tunica vaginalis proper faces outward toward the loose connective tissue of the tunica vaginalis communis, with which it may soon become fused, the testicle lying outside the tunica, between the tunica and the scrotal wall. This bloodless operation is completed by closure of the external wound in the scrotum. In the majority of cases the testicle is dislocated upward as the result of the operation."

Drainage was not required. The only complication mentioned by any of the writers on the subject was the one mentioned by Winkelmann, who says that there might follow "a slight periorchitic swelling, due probably to the saturation of the loose connective-tissue interspaces with the secretion of the serous membrane, which may persist for some time." This same method had been tried for hydrocele in connection with operations for hernia, and operations for varicocele could be performed at the same time. This operation could be performed for double hydrocele by means of a single scrotal incision, followed by an incision through the membrane separating the two sides of the scrotum. Winkelmann did not consider it necessary to confine his patients to bed.

"Conclusions. 1. This is an easy operation to perform, and that it results in the cure of the hydrocele seems undoubtedly true. 2. The fact that so many operations have been recorded with the history of no unfavorable result as regards suppuration or neuralgia of the testis offers pretty conclusive evidence as to the safety of this operation from the above complications. 3. The effect it may have in causing atrophy of the testicle or changes in the function of that organ is a subject concerning which clinical data, extending over a period of time, are necessary before final conclusions can be drawn."

A Case of Unusual Bacillus or Abnormally Behaved Gonococci.—Dr. J. P. Tuttle, of New York, described this case. The patient was a man fifty years old, who gave a history of a protracted urethritis, and who was taken with symptoms of severe cystitis, and discharged large quantities of pus and mucus in the urine. Inoculations and cultures were made in various media to establish the nature of the disease. No results were obtained from the inoculation experiments. In the culture experiments a mixed form of coccus, similar to gonococcus but resembling more the diplococcus present in cerebrospinal meningitis, was found. The behavior of this coccus was entirely different from that of gonococcus in that it was rapidly destroyed in all acid media; in an alkaline medium it thrived wonderfully. The case finally resolved itself into a very obscure form of syphilis, and under the influence of mercury the urinary symptoms gradually disappeared.

Partial Excision of the Bladder and Urethra for Carcinoma.— Dr. Tuttle also reported this case of cancer of the rectum, which involved the urethra, the prostate, and possibly the wall of the bladder. The interesting features of this case were the wide extension of the disease, the relinquishment of the morphine habit after it had been so firmly established, the relief given by colotomy, and the marvellous recuperative power of the patient. The patient was in a most emaciated condition at the time of the operation, and was taking thirty-six grains of morphine a day to relieve the pain.

Second Day—May 2, 1901.

Clinical Observations on Syphilis (Clinical and Pathological Illustrations).—Dr. John A. Fordyce, of New York, read this paper, considering it under the following heads:

Gangrene of the initial lesion. He had recently observed such a case in a patient who presented no phimosis or paraphimosis, who was in good health, and who was not addicted to alcohol. During this process the induration disappeared, but it reappeared upon cessation of the process. But little was known of the etiology of the condition, aside from the conditions of the tissues, which were due to some general cause, as diabetes, alcoholism, etc. Chlorinated soda solutions he found had an exceedingly rapid and beneficial effect, probably due to the chlorine which was set free and which penetrated the tissues. The cure was facilitated by the free use of iodoform.

Lichen planus and syphilis. A certain generalized form of lichen planus might readily be mistaken for the papular or papulo-squamous syphilide. In a case reported by him there were grouped papules with circinate or gyrate outlines having a pigmented centre and surrounding areas of pigmentation. This resembled in a very striking manner a relapsing syphilide. Pruritus was very marked in lichen planus, but not present in syphilis as a rule.

Syphilis and pemphigus. He related the history of such an instance in which it was shown that a venereal history, with relapsing eruptions with pigment changes in the skin, even when combined with mucous-membrane lesions, was not necessarily a pathognomonic sign of syphilis.

Syphilis and psoriasis. A scaling papular syphilide was generally made up of small lesions which did not tend to run together in large scaling patches as in psoriasis of some weeks' duration. In the latter affection large areas of skin were often implicated by the enlargement of single lesions and the confluence of adjacent patches.

Syphilis and lepra. He related a case to illustrate the failure of the therapeutic test as an aid in diagnosing obscure eruptions. A careful examination of the patient showed a pronounced thickening and exquisite sensibility of both ulnar nerves and atrophy of the muscles of the ball of the left thumb. These conditions, together with the eruption which one would

not expect to encounter in syphilis, pointed strongly to lepra—an opinion which was confirmed by the presence of lepra bacilli in a piece of tissue excised from one of the infiltrated patches. Mercury administered into the muscles caused a disappearance of the eruption. Crocker and others had noted the rapid disappearance of leprous nodules after intramuscular injections of soluble salts of mercury.

Syphilis and lupus. The late superficial serpiginous syphilides of the skin might at times closely simulate lupus vulgaris, and while the differential diagnosis was usually not difficult, an exceptional case might come under observation which taxed our diagnostic powers to the utmost. In syphilis the inflammatory foci were scattered here and there throughout the derma, while in lupus the infiltration was continuous, looking more like a new growth than an inflammatory deposit. The connective-tissue reticulum in lupus was more pronounced, and was woven in and about the granulation tissue in a very characteristic manner. In syphilis the exudation cells were grouped about certain vessels, which early showed obliterative changes.

A Case of Prostatectomy.—Dr. James Bell, of Montreal, read a report of such a case, which presented the following points of special interest: (1) The atrophy of the left testicle fifty years before operation, and the demonstration at the time of operation that practically the whole of the prostatic enlargement, at least such as was pathological, was in the left side of the prostate gland. (2) The perfect restoration of function, which had not been usual, at least in his personal experience of prostatectomy. (3) The peculiar kind of prostatic enlargement in this case demonstrated something of the uncertainty which must always be an objection to the Bottini operation, which was now so much in vogue. Of the usual Bottini incisions made into the prostate only one could have had any effect upon the enlarged portion of the prostate.

What I Have Learned from One Hundred and Sixty-One Operations for the Relief of Senile Hypertrophy of the Prostate Gland.—Dr. Orville Horwitz, of Philadelphia, read this paper. The various operations he performed were classified as follows:

Vasectomy: Twenty-eight cases with no deaths. The results obtained led him to the following conclusions: (1) As a curative measure vasectomy was of little value, and was not to be recommended. (2) The operation appeared to be most effective when performed on patients between fifty and sixty years of age, in whom the prostatic enlargement was of the soft glandular variety. The genital organs of patients of this age were usually in a healthy condition, and the individuals usually objected to any operation that was liable to interfere with their sexual functions. (3) The operation was serviceable in those cases in which the physical condition of the patient rendered him unfit to undergo surgical procedure, in patients who would not submit to a more serious proceeding, who had to depend upon the frequent use of the catheter, or who suffered from periodic attacks of orchitis. (4) Sexual vigor was not diminished by the division of the vasa deferentia. (5) Atrophy of the testicle did not result from the operation.

Castration: Forty-four cases, two deaths. The following deductions he thought were warrantable: (1) In selected cases, bilateral castration would always hold a place in genito-urinary surgery as a means of removing the obstruction caused by prostatic hypertrophy. (2) The operation was indicated in men of advanced years, whose sexual powers were lost, the overgrowth of the prostate being glandular in character, or who had reached that period of life when the passage of a catheter became difficult and retention of urine not uncommon, or if advanced disease of the bladder and kidneys did not preclude a serious operation. (3) The primary effect of castration on the glandular prostatic hypertrophy was, first, to relieve congestion, and secondarily, to cause atrophy. (4) When the prostatic enlargement was fibrous in character, no benefit was derived from the operation, and its employment under these circumstances was not to be recommended. (5) Orchidectomy in very old subjects with extensive disease of the bladder and kidney was attended by a large mortality, and was a very serious operation.

Suprapubic cystotomy: The indications for a suprapubic cystotomy in prostatic hypertrophy might be summarized as follows: (1) When retention existed and it was found impossible to evacuate the urine by the usual methods that were employed for the purpose. (2) As a temporary palliative means in those patients who had reached the "breakdown period of catheter life," whose resisting-powers had disappeared, and who suffered from secondary involvement of the bladder and kidneys, and whose condition was such as to preclude the resort to any more serious operation, but required immediate relief from the symptoms caused by the obstructing prostate gland. (3) In feeble old men, in whom the enlargement of the prostatic growth was fibrous in character, which rendered the introduction of a catheter difficult and the passage of the Bottini cautery-knife impossible, in whom there was long-standing chronic cystitis, with probably diseased kidneys, which precluded a prostatectomy, suprapubic cystotomy might be selected as the least dangerous and most satisfactory operation which could be employed.

Prostatectomy: His conclusions he summarized as follows: (1) With the exception of ligation of the internal iliac arteries, prostatectomy was the most dangerous of all operations that had been recommended for the relief of prostatic obstruction due to hypertrophy. (2) Suprapubic prostatectomy was the safest method, especially if combined with perineal drainage. (3) The best period to select for the performance of this operation was early, before the breakdown of catheter life and serious complications had supervened. (4) An atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs or pouches, was a contraindication for the operation. (5) A partial prostatectomy was indicated in those cases in which a valve-like lobe existed, which interfered with urination, or when there was partial hypertrophy of one of the lobes. (6) A complete prostatectomy was indicated when a hypertrophy of the three lobes had taken place, especially if the condition was associated with tumor formation, projecting well back into the bladder, or had given rise to a stenosis of the prostatic urethra. (7) Perineal prostatectomy was best suited for those cases in which the enlargement of the lateral lobes had a tendency to grow toward the rectum or obstruct the urethra. (8) In the performance of a perineal prostatectomy the semicircular incision advocated by Pyle, or the transverse cut of Nicoll, was the most satisfactory. (9) The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route was a very difficult operation. There was danger of extirpating not only the entire gland but the prostatic urethra as well.

Bottini operation: From the results obtained by the experience that he recorded in his paper he felt warranted in forming the conclusions as follows: (1) Success following the Bottini operation depended on having perfect instruments, a good battery, the necessary skill, and the employment of a perfect technique. (2) In suitable cases the Bottini operation was the safest and best for the radical cure thus far devised for the relief of prostatic hypertrophy. (3) It was often very efficacious in advanced cases of obstruction as a palliative measure, rendering catheterism easy and painless,

relieving spasm, lessening the tendency to constipation, and improving the general health. (4) It was of special service in the beginning of obstructive symptoms, due to hypertrophy of the prostate gland, and might be regarded as a means of preventing catheter life. (5) It was indicated in all forms of hypertrophy except when there was a valvular formation, or when there was an enormous growth of the three lobes, associated with tumor formation, giving rise to a pouch, both above and below the prostate gland. (6) When the bladder was hopelessly damaged, together with a general atheromatous condition of the blood-vessels, associated with polyuria, results were negative. (7) Pyelitis was not a contraindication to operation. (8) The character of the prostatic growth had no bearing on the results of the operation.

Some of the Conditions following the Bottini Operation for Prostatic Obstruction.—Dr. L. Bolton Bangs, of New York, read this paper, in which he presented some of the conditions following the operation which appeared to him to have physiological and pathological significance. He brought out three points, which he considered of importance: (1) The muscular impediment which almost immediately followed the removal of the instrument, and which was most surprising. This muscular impediment usually subsided after three or four days, when ordinary catheters could be readily introduced. In order to overcome this difficulty previous to this time he had made a series of metal catheters, patterned after the Trendelenburg searcher, and with solid tips, in order that the instrument might be rendered sterile. (2) The process of repair, as witnessed with the cystoscope, began and proceeded as under ordinary aseptic conditions. A specimen, removed from one of his patients, was then shown, which demonstrated that the grooves made had immediately relieved the mechanical obstruction. In his opinion, the spontaneous urination which followed the operation was due not only to the formation of the grooves but to contraction of the cicatrices, and to atrophy of the gland tissue. (4) The decided necessity for after-treatment was emphasized. Patients usually came with chronic catarrh of the prostate, seminal vesicles, bladder, and urethra; and the after-treatment should be continued until all foreign material had been excluded from the urine. As an explanation of the three deaths which occurred among forty-two cases operated upon, he gave "bad judgment in operating." In one case there was a parenchymatous prostatic abscess which could not have been diagnosed. In another case, death occurred in a delicate old man who insisted upon the operation being performed.

Contracture of the Neck of the Bladder.—Dr. C. H. Chetwood, of New York, read this paper (see page 767).

Officers Elected for the Ensuing Year.—*President*, Dr. W. T. Belfield, of Chicago; *Vice-President*, Dr. Paul Thorndike, of Boston; *Secretary*, Dr. James R. Hayden, of New York; *Member of Council*, Dr. William K. Otis, of New York. Next place of meeting, Atlantic City.

Nitroglycerin in the Treatment of Epilepsy.—Romano Pellegrini has found this remedy, given in 1:100 alcoholic solution, very efficacious in diminishing the frequency and the severity of the attacks. The prodromal symptoms were also notably diminished. No injurious effects were noted in patients subjected to this treatment for three months' time. The author thinks it well to alternate nitroglycerin treatment with bromide treatment, if for no other reason than to avoid the special and general disorders induced by too protracted administration of bromides.—*La Riforma Medica*, April 8, 1901.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, Held in Baltimore, Md., May 7th, 8th, 9th.

First Day—Morning Session.

Immediately after the executive session, the president, Dr. Roswell Park, of Buffalo, presented his address, entitled:

Some Phases of the Cancer Question (see page 761).

The Early Signs of Carcinoma of the Uterus.—Dr. Thomas S. Cullen, of Baltimore, spoke extemporaneously on this topic. He began by saying that he had little to bring forward which had not been already published, and with this preface he threw upon the screen a series of beautiful microphotographs, the most important points of which he showed to be as follows: From the three varieties of uterine epithelium as many distinct types of carcinoma developed. Positive diagnosis of carcinoma could be made in its earliest stage by curette scrapings. The presence of large, coal-black cells was pathognomonic of carcinoma.

Brief Consideration of the Cases of Cancer of the Breast Treated at the Johns Hopkins Hospital Since 1889.—Dr. W. S. Halsted, of Baltimore, presented this paper. He spoke of the unremitting efforts which he and his colleagues had for years been making to secure true pictures of the carcinomata, and of their failure to succeed in this direction. So subtle were the differences between the growths that he felt it to be wellnigh hopeless. Of three hundred and fifty cases of mammary carcinoma operated on by him, one hundred and fifty had been done in the last three years. These he would not report. Of four hundred and fifty breast tumors of every type, he had found but three sarcomata. One of these was primary, two were secondary; one from the uterus, one from the tonsil. This was considerably below the usual average given for sarcomatous infection. He spoke of the invariable malignant change which came about in the adenoma-carcinomata, and felt that the name "comedo-carcinomata," as suggested first by Bloodgood, was singularly appropriate. Dr. Halsted regretted the difficulty of establishing statistics, because of the vast differences of opinion which existed as to the carcinomatous types. In a series of elaborate charts he tabulated his cases in general as follows: (1) Those in which the cervical and axillary glands were removed at the first operation. (2) Those in which the axillary glands were removed at the first operation; the cervical at the second. (3) Those in which the cervical glands were not removed. In the first class, local recurrence occurred in eleven per cent.; in the second, in twenty per cent.; in the third, in nine per cent. The cured cases, those more than three years beyond the operation, gave the following percentages: Class 1, forty-five per cent.; class 2, thirty-three per cent.; class 3, forty-three per cent.

Late Results in Inoperable Sarcoma Treated with the Mixed Toxins.—Dr. W. B. Coley, of New York, presented these statistics. He had nothing new to add touching the preparation of the toxins. Continued observations by a number of other investigators, as well as by Dr. W. T. Bull and himself, confirmed the statement that patients affected with spindle-cell sarcoma responded best to this treatment. Nevertheless, the results were by no means discouraging in the round-cell form. It was now very definitely shown that if there was no response to the treatment at the end of three or four weeks—ample injections having been made—there was no use continuing; the case might be considered hopeless. There was practically no risk from the injections: in a series of two hundred cases he had two deaths, but these occurred before the technique was perfected. Dr. Coley advised its exhibition in hopeless cases of sarcoma only, but felt that there

might be a very broad field for his treatment as prophylactic after every case of operated sarcoma. His cures he tabulated as follows: Three to four per cent. in the round-cell sarcomata; fifty per cent. in the spindle-cell sarcomata. The melanotic forms and the lympho-sarcomata were negative. The toxins were specially indicated in cases of parotid sarcoma, because of the involvement of the seventh nerve. If given with care, the treatment could safely be continued over a period exceeding one year. In conclusion, the speaker said: (1) He advised the routine injection of the toxin in all post-operative cases. (2) It was rarely curable in carcinoma. (3) He indorsed the parasitic theory, and felt that the action of the toxins gave it substantial support.

The Influence of Mental Depression on the Development of Malignant Disease.—Dr. Joseph D. Bryant, of New York, read this very interesting paper. He traced the history of malignant disease as it had been handed down to us from the days of ancient Greece, and noted that the early observers were more prone to ascribe to physical agencies rather than to mental the development of neoplastic growth. Ambrose Paré, 1510, was probably the first to suggest a psychopathic etiological factor. Said Paré: "Anger makes cancer more fierce and raging." Others, contemporaneous with him, mentioned vigils, emotions, poignant sadness, etc. No less an authority than Sir Astley Cooper championed the psychical theory; indeed, his list of etiological factors Dr. Bryant felt to include all the mental ills that flesh was heir to. Velpeau denied it, but Virchow and Rokitanski, although qualifying it, admitted its probability. So recently as 1898 Crookshank claimed that certain cutaneous affections stood in interesting relation to mental disease. The fact that Napoleon and Grant suffered extreme mental agony might have had something to do with the cause of their deaths. After the siege of Strasbourg there was no doubt that cancer increased to an extraordinary degree. These and other factors led Dr. Bryant to investigate the relation existing in death by cancer between the mentally normal, the melancholics, and those afflicted with other forms of insanity. His conclusions in general were as follows: Of forty-four hundred and fifty-eight insane patients, there were four hundred and two female and three hundred and forty-three male melancholics. Of these, one male and four females died of cancer. This was less than one per cent. Statistics from England, Scotland, Wales, Paris, and New York showed, in over two million general deaths, cancer in 4.73 per cent. males; 8.18 per cent. females; almost double—an average of 6.42 per cent. These facts showed that melancholics suffered from cancerous infection much less frequently than the general public. Again, at Ward's Island, of the females suffering from melancholia but one-twenty-fifth of one per cent. had cancer, while in other forms of insanity it rose to one-half per cent. Dr. Bryant concluded that extreme mental depression could scarcely be considered a factor in the etiology of malignant disease.

Afternoon Session.

Cancer and Mental Depression.—Dr. J. Collins Warren, of Boston, opened the discussion. He felt that a flood of light was about to be focussed on the dark problems which had been presented in the morning papers. All over the land laboratories were springing into being for the express purpose of discovering the cause of cancer. He cordially agreed with Dr. Park that there was no doubt of the infectious nature of malignant disease. He warned the section, however, that Koch's laws should not be forgotten. In the search for the cancer parasite, how far have they been followed? Most of the experimental work had been done in inoculating animals. There was a danger that this might be a sort of grafting process; an artificial metastasis. Another important consideration was the culture of the parasite. All efforts in this line had been negative at Harvard. It was possible that when inoculation was successful it might be due to contamination. The blastomycetes had been differentiated by Plimmer's technique, and, although but little was known of them, they had, in the hands of San Felice and others, produced granular connective-tissue growths, but these might have been endothelial. We should approach the protozoon theory with great care. Dr. Warren agreed that cancer might vanish of its own accord, the degenerative changes taking place faster than the constructive. Touching Dr. Halsted's paper, he felt that prognosis was yet impossible because of the lack of statistics. These could not be obtained till a proper classification was reached. He suggested the division of cases into three classes: A, favorable; B, unfavorable; and C, palliative. In conclusion, he said that Coley's fluid afforded the only ray of hope in certain cases, and that, though it had not yet been generally successful, its use should be encouraged, particularly for the palliative treatment of post-operative sarcomata.

Dr. Thomas S. Cullen, of Baltimore, opened the discussion of Dr. Park's paper. He said that, while he had had the pleasure of seeing some of Dr. Gaylord's sections, and while admiring their beauty, still he felt there were certain limitations to their final acceptance. That Dr. Gaylord had confirmed the results of others there was no doubt; the question remained as to whether he has done more.

Dr. Roswell Park, in a few well-chosen words, said, in closing, that he had not asked for acceptance of the protozoon theory of malignant disease; there was much to follow, and full reports from Buffalo might soon be expected.

Blood Examination as an Aid to Surgical Diagnosis.—Dr. J. C. Bloodgood, of Baltimore, presented this paper. The question which he sought to solve was, In abdominal contusions complicated with intestinal rupture, were there hæmic conditions which occurred with sufficient promptness and certainty to constitute a guide for or against operation? By a series of extensive charts, he showed that as yet we knew of no such conditions. Another question he had tried to cast light upon by a study of the leucocytosis remained also unanswered: the differentiation of shock and internal hemorrhage. Of very definite import, however, was the hæmoglobin estimation prior to operation. In cases in which surgical intervention was not imperatively called for, fifty per cent. or less should contraindicate the administration of a general anæsthetic. An anæmia which exceeded this percentage constituted an undoubted danger. Should the case call for a general anæsthesia, the operation must be made as short as possible. Because of the infinite number of factors which served to vary the leucocyte count, it was difficult to speak authoritatively, but the speaker felt confident that post-operative leucocytosis was an assured fact. Leucocytosis was most important in the diagnosis of intestinal obstruction. Peritonitis showed also a constant rise—except in cases of profound depression—but it was here of little use as compared to the former condition, in which early operation would save life. In conclusion, he said that even a very great leucocytosis was in no way a pathognomonic sign. But it was at least as important as temperature, pulse, and respiration, and doubtless of more value than any single one of the three. Twenty thousand leucocytes, twenty hours after the onset of an attack, was a very sure guide to operation, no matter what the clinical symptoms might be.

The Clinical Value of Blood Examinations in Appendicitis.—Dr. J. C. Da Costa, Jr., of Philadelphia, made a report of one hundred and eighteen cases operated upon.

Blood Examinations in Relation to Surgical Diagnosis.—Dr. J. B. Blake, of Boston, read this paper on behalf of himself and his two colleagues, Drs. J. C. Hubbard and R. C. Cabot, of Boston. He first considered the leucocyte count during ether anæsthesia, and detailed a series of observations which led the authors to conclude that the effect of ether was *nil*. Post-operative leucocytosis disappeared in thirty-six hours. In simple fractures the count was rarely about 12,000. After operations for malignancy, the hæmoglobin gained, which was contrary to the usual belief. The blood in relation to typhoidal perforations afforded nothing that was reliable. The so-called "wave" was due to extraneous causes. The condition of the blood after prolonged muscular exertion approached that found in certain diseases. In the so-called Marathon races, recently held near Boston, the leucocytosis was in most cases up to 20,000; the polymorphonuclear cells increased seventy-three to ninety per cent.; the eosinophiles were absent, the lymphocytes diminished.

The Effect on the Blood of Ether Used as an Anæsthetic.—Dr. J. Chalmers Da Costa, of Philadelphia, read this paper. So much just criticism had been made of previous reports that all the patients on whom he had recently worked had been subjected to the most careful preparation, particularly purgation and diaphoresis. He found that under ether there was an increase of the red cells, a diminution of the hæmoglobin, and a reduction of the color index. The erythrocytic increase he felt to be due to a loss of the fluids of the blood. He concluded as follows: Etherization produced marked increase of hæmolysis. He set forty per cent. of hæmoglobin as the limit for operation. If below seventy per cent., there should be as little purgation as possible prior to operation.

Examination of the Blood in Relation to Surgery of Scientific Value, but too Often of No Practical Value and May Misguide the Surgeon.—Dr. John B. Deaver, of Philadelphia, read this paper. He said that blood counts had been forced too freely down the throat of the operator. They were useful within very narrow limits, but were of greater value to the surgeon than any other laboratory information. He vigorously denied that anæmia of any degree should offer a bar to operation, if such were demanded, and cited a case in which he had operated when but twenty-seven per cent. of hæmoglobin existed, the patient doing well. The heart and kidneys often contraindicated much more strongly than any anæmia, and yet we operated! Bedside observations were of greater value than any reports from a mere laboratory man.

In the discussion which then opened, Dr. B. F. Curtis, of New York, expressed very great surprise at the reports from Boston. From a long series of observations in his service at St. Luke's Hospital he had concluded that leucocytosis of a considerable degree existed during ether anæsthetization, without regard either to the operation or to the patient's condition. In three cases of intraspinal anæsthesia a progressive increase, due to the cocaine, was noted in from one to four or five hours. At St. Luke's, operative leucocytosis was a fixed factor, and often persisted so long as seriously to interfere with the use of the blood count to foretell a possible wound infection.

Second Day—Morning Session.

Bedside Work in Johns Hopkins Hospital.—The section convened in the general amphitheatre of the Johns Hopkins Hospital with a view of observing some of the special methods employed in teaching at this school.

Dr. Osler spoke first of the paramount import of bedside work. He declared the patient to be the teacher, and felt that didactic lectures, except the lecturer be extremely gifted, availed but little. But before the student could profit from bedside work he must be acquainted with the normal; hence, early in the course special attention was given to a demonstration of the physical signs in health. This was supplemented by a special course in history-taking. Without doubt, peculiar to the institution was the so-called "observation class: a modified seminar." Here the students answered such questions as "Who was Corrigan?" It virtually amounted to research work in the history of medicine. The class had no recitations save on those diseases which were rarely met with. Every case of pneumonia and of typhoid was carefully tabulated; there were special student committees to care for this; the collected data were reviewed in a monthly "round up"; and at the year's end these eight reports were woven into one. In the fourth year, for two months at a time, each student was given absolute charge of six beds under the care of the "house" physician. In closing, Dr. Osler said that just as the family practitioner learned his art by daily routine contact with the sick, so he felt that the student should begin to gather his store of knowledge by ceaseless vigil at the bedside.

The Use of the Cystoscope.—Dr. Kelly next gave a demonstration of the use of his cystoscope, calling attention to the fact, as he deftly catheterized the patient's ureters, that it was attention to the little details which made the process an easy one. The knee-chest posture; the position of the arms and of the face; the emptiness of the stomach, especially in fat women; the importance of allowing air to fill the vagina—these were some of the factors to which he drew particular attention. He spoke of the great value of cystoscopic observations in cases of pyuria, and cited a recent case in which he had been enabled to effect a cure by excision of a portion of the bladder wall which had obstinately refused to heal. He urged the use of the proctoscope in every case of supposed colitis, and cited numerous cases in substantiation of this view.

The next demonstration proved particularly interesting. Within three and one-half minutes, and under local anæsthesia, Dr. Young catheterized the ureters in a male patient whom he had not previously seen. He used Caspar's new device, one of the distinguishing features of which was that the second ureter might be catheterized without a primary removal of the instrument. Another point was that, because of its exquisite fineness of make, it effected no trauma, and hence the view was not obscured by blood. Dr. Young then demonstrated the various mechanisms by which effort had been made to reach the male ureters, and closed by saying that Caspar's new instrument seemed very nearly perfect.

Laboratory Teaching.—Dr. Welch then spoke of the scope of the laboratory teaching at the Johns Hopkins. In short, it was made as comprehensive as possible, for the knowledge the student won in this manner was a life-long possession. There was much danger of losing sight of fundamental general principles; he urged that laboratory work must be very diligently supplemented by reading, lecture, and recitation.

Demonstration Chamber of Anatomical Department of Johns Hopkins Hospital.—At noon the members were escorted to the demonstration chamber of the Anatomical Department, where Dr. Oscar H. Allis, of Philadelphia, exhibited the practical workings of his leverage appliance for the artificial fracture of bones. He had greatly improved its powers within the last year, particularly by the addition of a metal

knee cap, by which he was now able to produce many of the rarer forms of fracture.

Stellate Fracture of Acetabulum.—Of particular interest was the very successful production of a stellate fracture of the acetabulum by direct pressure from the knee. This simulated conditions in which falls from a height produced long-enduring disability; no doubt often an acetabular fracture, which was most difficult to diagnose. Not less interesting was the graphic demonstration of the wonderful elasticity of the femur. It was shown to spring fully an inch from its normal line without fracture. The third point, shown with remarkable clearness, was the relative strength, in the young adult femur, of the neck and the shaft. It was almost impossible to fracture the neck by direct downward pressure, applied between the head of the bone and the femoral condyles. When the pressure had risen to exceed a half-ton weight, the shaft snapped with the report of a pistol.

Second Day—Afternoon Session.

Pancreatitis, with Special Reference to Chronic Pancreatitis.—Mr. A. W. Mayo Robson, F.R.C.S., of Leeds, Eng., presented this paper. It was astonishing, he stated, how much had recently been written touching the surgery of the pancreas. Pancreatitis in every form had been described, but we were still sadly in the dark as to its etiology, and even more so as to its diagnosis. Until very recently pancreatitis was never differentiated from affections of the gall bladder, and even now it was difficult, even with the best methods at hand and in the presence of an open operation, to differentiate it from carcinoma of the head of the pancreas. It seemed strange that although stones had been successfully removed from the common duct for more than ten years, we were only just beginning to realize that whatever obstructed this duct might also block the pancreatic outlet. Inflammatory conditions of the pancreatic duct had been ignored, but they occurred just as in the biliary passage and presented precisely the same variety of type. The most important symptom of pancreatitis from a non-operative standpoint was an astounding and very rapid loss of weight. Operatively, of course, the well-known but equally little-understood fat necrosis could not be considered pathognomonic. For other aids to diagnosis, aside from the physical examination of the tumor, he looked to physiological chemistry. He had observed certain peculiar yellow crystals, arranged in rosettes. These could be obtained from the urine through the action of phenyl-hydrazin in jaundiced cases in which the pancreas was involved. Mr. Robson did not know what they might be, but hoped to be able by their aid to differentiate pancreatitis complicated with icterus from simple catarrhal jaundice. Just as the ducts of these two great glands were similarly involved, so the parenchyma of the pancreas suffered the same inflammatory changes as the liver. Other less valuable diagnostic points were pale-colored stools and glycosuria, but these when present occurred too late to be of note; lipuria was very rare. Etiologically, germ infection had now been shown to be the most prominent factor; but cholelithiasis, malignancy, and various of the zymotic diseases were doubtless important factors. As a rule, however, the cause was enigmatic. There were three possible paths of entry for infection: by contiguity; *via* the blood; by direct ascension of the duct, this last being by far the most frequent. The author touched most interestingly on the chemistry of fat necrosis. Great quantities of this fat split into fatty acids and glycerin; the acids united with the calcium of the blood and were deposited. This was of paramount import, for it offered an explanation of the hemorrhages in the acute form and gave substantial ground for the treatment by the chloride of calcium. Another possible cause of the hemorrhage might be looked for in the minute anatomy of the gland, which contained so very little framework. Thus, though the pancreas was the best protected organ of the body, the very slightest trauma might lead to the so-called hemorrhagic pancreatitis. This had caused him to adopt the following conclusions and classification:

(1) In certain cerebral diseases there was a general tendency to hemorrhage from the pancreas. (2) Hemorrhage might occur with or without jaundice. (3) Acute and chronic forms of pancreatitis might occur without hemorrhage.

He would therefore classify pancreatitis into the acute, subacute, and chronic, using hemorrhagic pancreatitis only as a type of the acute form. Treatment of the acute form called for exploratory operation with the same voice as acute appendicitis, incision being made in front or behind in the left costo-vertebral angle. Treatment of the subacute form was more promising. It comprised an anterior incision for the localization of the pus, which should be drained from the rear. The treatment of the chronic form was similar, but here drainage was often indirect *via* the gall bladder. Of this form, ninety per cent. recovered.

Dr. George E. Brewer, of New York, opened the discussion. He turned quickly from the clinical side to illustrate some valuable points in the surgical anatomy of the pancreas. This could best be studied from an embryological standpoint. About the fifth week of fœtal life two buds branched out: one into the anterior mesenteric fold to form the liver; one posteriorly to develop into the pancreas. This bud branched and rebranched till the characteristic acinous form was produced. Early in its development two ducts might be traced: one above, one below—the lower became the canal of Wirsung, the upper that of Santorini. To this last Dr. Brewer had given very special attention. It had been generally supposed that this canal became obliterated, but such was undoubtedly not the case; in fact, its patency probably was a very large determining etiological factor in pancreatitis. The pancreatic ducts were very variable; they might be: 1, double; 2, Santorini's duct might be patent and might empty into the bile duct; 3, there might be one, two, or three openings into the duodenum. The second point Dr. Brewer considered was the anatomical conditions which tended to determine the direction chosen by the pus of pancreatitis. This had been found to be always in the direction of the left kidney and descending colon. This was determined in part by the fact that the pancreas was retroperitoneal, in part by the rotation of the stomach which cast three layers of peritoneum posteriorly; these, being useless, fused and merged into areolar tissue. It was along this tract and into the fatty capsule of the kidney that the pancreatic pus most readily and frequently burrowed. In closing, he offered a suggestion as to the hemorrhagic etiology. Might it not be the result of a sort of auto-digestion?

Gall Stones and Acute Pancreatitis.—Dr. E. L. Opie, of Baltimore, spoke of the relation existing between gall stones and acute pancreatitis. The common bile duct in passing down to the duodenum received the pancreatic duct. From this, for some little distance, it was separated by a delicate membrane. Prior to entering the gut, they coalesced to form a sort of cloaca. The mouth was the narrowest portion of the tract, and here the stones lodged. Calculi from 3 to 5 mm. gave very different conditions from those of larger size—the small stones blocked the mouth of the papilla, leaving the orifices of the two ducts patent. There was thus established a free path for the bile direct from the liver to the pancreas. Large stones

blocked all three openings and produced very different conditions. One hundred per cent. of dogs whose pancreas was injected with bile developed a more or less grave pancreatitis.

Dr. George R. Fowler, of Brooklyn, rose to say that every case of pancreatitis should be reported. In citing three cases of his own he wished to call particular attention to an interesting symptom which he believed had as yet been overlooked. It was the sudden advent of a condition simulating grave shock which came without warning and without apparent cause. One of his patients had had three of these singular attacks, each one of which rendered her condition very grave. He operated after the third attack, established drainage, and was successful. His third patient had jaundice, which was absent in his first two, and suffered similarly from these singular collapses. He questioned whether they might not be symptomatic of the disease.

Dr. H. L. Carson, of St. Louis, cited another case, that of a very stout young woman whose important symptoms were pain, jaundice, and loss of weight. She recovered after marsupialization of the gall bladder.

Dr. W. T. Estes, of Easton, Pa., cited a case in which the diagnosis of cholelithiasis had been made, but on operating no stone was found. The head of the pancreas being much enlarged led to the diagnosis of malignancy, but complete recovery showed this case to have been one of subacute pancreatitis. His second case illustrated the tremendous fall in weight so often seen: from one hundred and sixty to ninety-five pounds.

Mr. Robson, in closing, agreed that stones were probably the great etiological factor in the interstitial form of pancreatitis. Dr. Fowler's series of relapses were of great interest and should receive attention. Dr. Opie's conclusions as to the bile being an etiological factor rested on splendid experimental ground. But must it not be infected bile? He paid graceful tribute to Dr. Brewer's work on the duct of Santorini, and felt that it doubtless, in many cases, gave path to pancreatic infection.

Treatment of Chronic Ulcer of the Stomach.—Mr. A. W. Mayo Robson, F.R.C.S., Leeds, Eng., contributed this paper. Chronic ulcer was a grave menace to human life; its treatment, therefore, was of paramount importance. Three-quarters of all cases of ulcer yielded to medical care in from four to five weeks. The remaining quarter was now cared for surgically with a mortality of but a little over five per cent. Prolonged preliminary treatment was unnecessary; antiseptic mouth washing and lavage served to clear the stomach of germs in two days if the food be aseptic. In considering the possible procedures he felt that gastro-enterostomy, which had the lowest mortality, was the best of all. He preferred the posterior operation, and with his decalcified bone bobbin it could be done in fifteen minutes. Out of one hundred and seventy-seven patients operated on one hundred and sixty-three recovered.

Gastro-Enterostomy.—Dr. J. W. Mayo, of Rochester, Minn., made gastro-enterostomy the subject of his remarks. In most cases it was distinctly the operation of choice. There were two classes of cases: (1) ulcers in the pylorus in dilated stomachs; (2) ulcers in the pylorus in small stomachs. He preferred the anterior operation, and had used Murphy's button in sixty-one cases with about one per cent. of deaths.

Dr. T. A. McGraw, of Detroit, spoke of the value of his elastic ligature in these cases. It was clean, could be quickly inserted, and would surely cut through within seventy hours.

Dr. W. G. McDonald, of Albany, had had experience with two cases of gastro-enterostomy, which, cured for the nonce, terminated within a year in carcinoma. This led him to feel that all scars should, if possible, be excised.

Dr. Rodman, of Philadelphia, agreed with the last speaker when the ulcer was situated anteriorly.

Mr. Robson, in closing, thanked the society for the hospitality and courtesy extended him.

Discussion and Remarks on Pulmonary Insufflation for the Prevention of Surgical Pneumothorax, with Demonstration of New Apparatus for Artificial Respiration.—Dr. R. Matas, of New Orleans, presented this paper. He emphasized the value of intubation, stating that by this direct method there was no danger of pumping air into the stomach, which often happened through the use of the face mask. He pointed out some of the weak points of the Fell-O'Dwyer apparatus; cited its failure in the hands of Dr. Keen in a recent pneumototomy, and exhibited an instrument which he felt to be a distinct improvement. Its importance and characteristics were: a mercurial manometer which would prevent the pressure rising above 6 mm., above which point traumatic emphysema was apt to occur; an ingenious automatic cut-off which regulated exactly the amount of air insufflated. These were the two details which he considered of the greatest importance in this branch of pneumonic work.

Third Day—Morning Session.

Resection of the Chest Wall for a Large Sarcoma; Successful Use of the Antistreptococcic Serum.—This paper was presented by Dr. W. W. Keen, of Philadelphia. The author gave the details of the operation in full, and in conclusion made special reference to the following details: (1) His method of separating the tumor from the chest wall. (2) The anterior and posterior division of the ribs prior to the opening of the pleura. (3) Fell's apparatus with mouthpiece was not satisfactory; he preferred the Bloom-Matas instrument. (4) The suture of the lung to the chest wall was followed by no untoward result and abolished post-operative pneumothorax. (5) The results of the antistreptococcic serum seemed to be quite striking. (6) Blood examination was of the utmost value, a streptococcus septicæmia having been proven by it.

A Case of Arterio-Venous Aneurism of the Right Subclavian Artery and Vein, Involving the Artery within the Scaleni. Division of the Artery between Ligatures Placed on the First and Third Divisions. Detachment of the Anastomosis (Gunshot Perforation). Lateral Suture of the Venous Orifice, after Osteoplastic Resection of the Clavicle. Recovery with Partial Loss of Hand and Forearm from Arterial Ischæmia.—Dr. R. Matas, of New Orleans, presented this paper. This was the fifteenth recorded case, but seen in the light of modern surgery it might be considered the third or fourth. The points of greatest interest in the operative technique were: (1) The failure of Rivington's traction loop to control hemorrhage. (2) The use of local anæsthesia for the first two hours of the operation. (3) Lateral phleborrhaphy of the anastomotic orifice with re-establishment of venous circulation. In conclusion, the speaker said that though there had been primary union, there occurred within a few days a sloughing of portions of the muscular tissues of the hand and forearm from arterial ischæmia. He then demonstrated his new apparatus for massive infiltration anæsthesia by which several ounces of a 1 : 3,000 or 1 : 5,000 cocaine solution were injected.

Dr. A. D. Bevan, of Chicago, in discussing this paper, spoke on the following details: (1) The possibility of proximal and distal ligation of artery without ligation of vein. (2) The need of including as little

of the artery as possible. (3) Hemorrhage from the vertebræ was to be expected. (4) Prognosis without operation in these cases was surprisingly good, particularly so in the neck. (5) Two-per-cent. gelatin injections might improve.

Dr. W. S. Halsted, of Baltimore, praised Dr. Matas' infiltration apparatus, and said how important it was to use as weak a solution as possible.

Dr. T. A. McGraw, of Detroit, stated that the question of origin of the aneurism was of great import in deciding whether or not to operate. The traumatic aneurisms were commonly stationary; those due to atheroma were progressive.

The following papers were read by title: "Subtrochanteric Osteotomy," by Dr. E. H. Bradford, of Boston. "Operative Intervention in Tumors of the Liver, with a Report of Cases," by W. G. McDonald, of Albany. "Congenital Sacrococcygeal Tumor of Large Size," by Dr. Charles A. Powers, of Denver. "Vicious Circle After Gastro-Enterostomy," by Dr. T. A. McGraw, of Detroit. "A Case of Splenectomy for Myelogenous Leukæmia," by Dr. M. H. Richardson, of Boston. "Congenital Anterior Dislocation of the Tibia, Treated by Arthrotomy," by Dr. J. B. Roberts, of Philadelphia.

Phlebitis following Abdominal Operations.—Dr. A. Vander Veer, of Albany, read this paper. Considering the trauma sustained by the great abdominal veins, it was a wonder that phlebitis was not more common. He had recently had four cases, one closely following the other; he was at a loss for any explanation of their etiology. Maybe phlebitis was of septic origin; perhaps too tight abdominal bandaging was a factor. In all his cases there was primary union of the abdominal wound; at no time was the patient's position a constrained one. It was possible that the distribution of the left abdominal veins favored phlebitis, just as in varicocele, for the disease appeared almost always on the left side.

Dr. George R. Fowler, of Brooklyn, said that the importance of this lesion varied with the frequency of its occurrence; with its percentage of mortality; with the duration of ensuing disability. In the past fifteen years he had operated on some three thousand cases, from a study of which he found that sixteen, or 0.59 per cent., developed phlebitis. Two were double and ten followed cases of appendicitis, in which marked infection was present; the rest developed in pelvic cases not septic. The clinical history of his cases was as follows: 1. Advent in from ten days to three weeks after operation. 2. Rarely ushered in by a chill. 3. Dull pains in the femoral region and in the parts just above Poupart's ligament. 4. Often an increased pulse rate without rise of temperature. 5. Palpation revealed the rope-like vein. 6. Œdema of the extremity was not marked if the patient was prone; it developed on standing and was much aggravated by walking. The prognosis as to life was good; there was more or less disability in periods ranging from three months to one year. The treatment comprised rest and counter-irritation. Dr. Fowler deprecated the excision of a vein which experience showed would ultimately undergo complete restoration of function.

Dr. W. J. Mayo, of Rochester, discussed twelve cases. Of these, three had pulmonary embolism. One patient died; he had a good, strong pulse to the last moment. In the two cases of recovery the pulse was exceedingly weak. This factor saved their lives. One-half of his cases were on the right side.

An Operation for the Radical Cure of Umbilical Hernia.—Dr. W. J. Mayo, of Rochester, read this paper. The extreme attenuation of the recti in advanced cases made muscle transplantation necessary, but under certain conditions he had found that extremely good results could be obtained by an overlapping operation, which he described in detail. The wound was closed in a transverse line rather than from side to side.

Dr. A. J. Ochsner, of Chicago, mentioned three customary methods of closing these lesions, and felt that Mayo's operation was of special use when the atrophy was not too marked.

Dr. De Forrest Willard, of Philadelphia, cited a case in which the patient weighed over five hundred pounds; he had successfully operated through eight inches of fat.

Dr. W. B. Coley, of New York, urged conservatism in very fat cases.

Dr. J. C. Warren, of Boston, spoke of the etiology of umbilical hernia. It might be due to the large fold of fat, which, tugging on the umbilical cicatrix, might predispose to rupture. He suggested the removal of this fold as prophylactic after operation.

Dr. Mayo, in closing, said that he removed as much of the omentum as was extruded.

"Excision of a Part of Three Ribs and a Portion of the Diaphragm for Sarcoma," by Dr. C. B. Porter, of Boston, was read by title.

The Prevention and Cure of Post-Operative Hernia.—Dr. James E. Moore, of Minneapolis, remarked that such herniæ were rare; indeed, it was an accident which cast a considerable slur on the care or the skill of the operating surgeon. The closure in tiers of the abdominal wound by absorbable sutures was of greater importance than anything except asepsis.

Dr. A. D. Bevan, of Chicago, agreed with the reader in the use of absorbable sutures; he had found formaldehyde catgut very satisfactory. He wished to impress on the section that we were as yet too prone to forget that there were in the abdomen typical and atypical incision lines, and that the latter should be followed as infrequently as possible. He mentioned an "autosuture": a ribbon frayed from the fibres of the transversalis aponeurosis some four inches long, which seemed to give excellent results in Bassini's inguinal hernia operation.

Fractures and Dislocations of the Spine.—Dr. S. H. Weeks, of Portland, read this paper. Although an exceedingly rare injury, he stated, dislocation of the vertebræ without injury did sometimes occur. It was almost invariably found in the lower half of the cervical region, and was usually caused by an extreme hyperflexion. It was rarely in any other direction than forward. The most prominent symptom was paralysis, which usually supervened at once; if not, its advent heralded the approach of degenerations or inflammatory exudations in the cord. The treatment of every case was immediate laminectomy, the surgeon regarding the operation purely as an exploratory one. The objections which had been raised against this course—hemorrhage, difficulty of exposing the cord, hopeless nature of injury, infection, danger from the anæsthetic—were not for a moment to be considered. Whether the dura should be opened was a question more difficult to answer in the spine than in the brain. It should usually be done, but there were certain exceptions; if opened, it should be carefully closed.

Dr. S. J. Mixter, of Boston, favored early operation, even in the cervical region. He did not sew up the dura, feeling that thus better drainage was secured.

Radical Cure of Inguinal and Femoral Hernia, with a Report of Eight Hundred Cases Operated upon from 1891–1901.—Dr. W. B. Coley, of New York, presented this paper. After dealing with generalizations, Dr. Coley spoke with special reference to inguinal hernia in the male. So perfect had the technique become that nowadays the indications for operation in the young adult were so very broad as practically to include all. He advocated a very slightly modified Bassini operation, and agreed with the gen-

tlemen from the Northwest, who so strongly advocated the use of easily absorbable suture material. The use of rubber gloves had reduced the percentage of infection from about four to one-half. In children the indications for operation were fraught with greater limitations. He rarely, if ever, advised operation in a simple case in a child under four years of age. Up to this age they could almost invariably be cured by a suitable support. From four to fourteen, he urged the faithful use of a truss for one year. If at the end of that time there was no cure, he operated. He had operated on one hundred and fifty cases of femoral hernia in women; of his technique he was unable to speak, but his results had been admirable.

DR. J. C. WARREN, of Boston, said that the modern tendency was to operate too freely on children. Trusses would often cure, up to the twenty-first year, although those cases were apt to recur. He questioned the absolute value of the absorbable suture because of his excellent results with silk.

DR. W. S. HALSTED, of Baltimore, emphasized the two factors which, at the Johns Hopkins Hospital, were considered of paramount importance: the removal from the cord of supernumerary veins, and the use of local anæsthesia. In two hundred and twenty-seven appendectomies over one thousand wire sutures had been used; in only four cases was there need of removal.

DR. COLEY, in closing, said that he did not usually advise operating on patients over sixty or under four years. Of the non-absorbable type of suture, silk was the least irritating. He emphatically objected to silver.

Pneumonotomy with Exhibition of the Patient.—DR. W. J. HEARN, of Philadelphia, presented this case. It was one of lung abscess, which had been successfully drained by a resection of the seventh rib in the axillary line. The difficulty now presenting itself was that the opening communicated with a large bronchus.

The Use of Silver Wire and Electricity in the Treatment of Aneurisms.—DR. LEONARD FREEMAN reported two cases of thoracic aneurism, in one of which there was apparently a perfect cure; in the other the walls were now nearly an inch thick; it was proceeding very satisfactorily. He spoke of the use of local anæsthesia and of the need of scrupulous asepsis. He had made considerable inquiry into the disposition of the wire within the sac, and conducted the following ingenious experiment to determine this point. Feeling that the coiling of the wire in Hunter's glass bulbs scarcely simulated its behavior in the aneurismal sac, he hollowed out the interior of a large turnip and fed the wire into it. This experiment had led him to believe that the soft, malleable silver wire was much to be preferred to the hard, drawn kind recommended by Hunter. As to the amount of wire used, he believed that literally the more the better, even up to two hundred odd feet. He used a current of low amperage for a half-hour.

DR. J. M. T. FINNEY, of Baltimore, opened the discussion of this paper by citing eight cases. His results were as follows: In two, there was an apparent cure; in two, death was hastened; in two, the pain was relieved; in two, the operation was as yet too recent to give report, but they promised well.

DR. WILLARD, of Philadelphia, related a case which was greatly benefited; he considered the treatment a very valuable addition, and recommended a moderate amount of wire and a very weak current.

DR. MATAS, of New Orleans, had studied this question from the standpoint of abdominal aneurism. Here the problems were much more difficult of solution because of the branches, particularly the cœliac axis. In giving the indications and limitations of the operation, he drew attention to the fact that the cure of the aneurism might kill the patient by obliterating the main trunk. For success, the aneurism must be (*a*) sacculated, (*b*) unilocular; (*c*) its walls should not be too thin; (*d*) there should be no atheroma; (*e*) the lumen must be small. Unfortunately these factors could not be discovered during life.

Movable Kidney: its Cause and Treatment.—DR. M. L. HARRIS, of Chicago, read this paper. From a series of very elaborate measurements in women, men, and children, Dr. Harris demonstrated that the location of the kidney bore a definite relation to the body form. Dividing the abdomen into three zones, he found a very constant relation between prolapsed kidneys and those body forms in which the nephric zone was abnormally small. He felt that the etiological factors commonly given bore but little if any causal relation to movable kidney. The object of the operation should be not to lift the kidney from the lower zone into the middle, which was too small for it, and there sew it fast, but rather to obliterate the excess of space in the lower zone, and, without anchoring it absolutely, limit its nefarious excursions.

Two Cases of Abdominal Contusions.—(1) Fracture of spleen—splenectomy—recovery. (2) Fracture of kidney—nephrectomy—recovery. DR. S. J. MIXTER, of Boston, cited these two cases. The important considerations were that early operations were indicated in these grave, crushing injuries, and that the conservative treatment was the ablation of the injured organ rather than any attempt at its repair.

Nephrolithotomy on Both Kidneys.—Dr. S. J. Mixter, of Boston, read this paper. The distinctivee fature consisted in a demonstration by the *x*-rays of the enormous quantity of stones which might for years reside in both kidneys without causing either suppuration or serious interference with function.

New Method of Closing Defect after Thorough Removal of Breast.—Dr. S. J. Mixter, of Boston, presented this paper. He dwelt only on the technique; by an ingenously devised incision he slid the normal breast to the mid-line, thus closing the operation site, without tension, with one continuous line of suture.

DR. J. C. WARREN, of Boston, felt that the æsthetic side of this operation must be considered. While admirable in many respects, Dr. Mixter's operation would tend to make the woman pigeon-breasted.

DR. W. H. CARMALT, of New Haven, had had excellent results from the use of this technique, and felt that Dr. Warren's criticism did not invalidate its utility.

The following officers were elected for the ensuing year: *President*, Dr. De Forest Willard; *First Vice-President*, Dr. Robert Abbe; *Second Vice-President*, Dr. R. Matas; *Treasurer*, Dr. George R. Fowler; *Secretary*, Dr. Dudley P. Allen; *Recorder*, Dr. Richard H. Harte.

Meeting-place, Albany, N. Y., May 20, 1902.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 11, 1901:

	Cases.	Deaths.
Tuberculosis	254	156
Typhoid fever	29	10
Scarlet fever	676	49
Measles	315	8
Diphtheria and croup	314	52
Smallpox	107	19
Chickenpox	74	0

To Arrest a Cold, rinse the nose thoroughly with a weak solution of potassium permanganate.—NASSAUER.

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Original Articles.

ORCHITIS AND EPIDIDYMITIS IN TYPHOID FEVER.*

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IT is not intended in the present paper to do more than to record the clinical histories of two cases illustrating a rare complication or sequel of typhoid fever.

Orchitis or epididymitis occurring as a complication or sequel of typhoid fever was first alluded to by Velpeau[1] in 1844. An incomplete case was reported by Chedevergne in 1868,[2] and the first complete case by Hanot[3] in 1873. Westcott[4] in 1898 had collected thirty-two cases, and in the same year Eshner,[5] after a thorough search through the literature, was able to find only forty-four cases, which have been analyzed by him in an interesting paper. The rarity of the lesion is also indicated by the fact that in Pierre Do's Thèse de Lyon,[6] 1899–1900, on epididymo-orchitis of typhoidal origin, the statistics of complications occurring in 14,738 cases of typhoid fever drawn from French and German sources show no record of any instance of epididymitis or orchitis. In Osler's[7] series of eight hundred and twenty-nine cases of typhoid fever published in 1900, orchitis or epididymitis was observed only in two instances, both unattended with suppuration; and in the eight hundred and eighty-nine cases treated in the Presbyterian Hospital from 1892 to 1901 in my colleagues' services and my own, this lesion was noted only in the two instances related in the present paper.

It is probable that the frequency of this complication is greater than the statistics indicate. Aside from cases which presumably have not been reported, the fact that in the forty-four cases collected by Eshner[5] five occurred after the second week of convalescence, one of these as late as the ninth week, suggests the presumption that cases occur in which the true origin of the orchitis is not suspected.

The two cases which form the subject of the present paper occurred nearly simultaneously in my service in the Presbyterian Hospital, during the past winter; and the interesting opportunity was afforded of studying and comparing their different clinical histories.

CASE I.—D. S——, male, age twenty-four years, was admitted to the Presbyterian Hospital in my service on January 30, 1901, apparently on the seventh day of his illness. The previous diagnosis of typhoid fever was confirmed after admission. There were enlargement of the spleen, and a characteristic eruption; the leucocyte count was 8,000 on the day of admission. The Widal test gave a positive result on the tenth day of the disease. The infection was of a moderately mild type: the maximum temperature did not exceed 104.5°; there was only slight mental disturbance. The treatment was the customary one, viz., the cold bath. The illness was an uneventful one, without complications. The morning temperature was normal on the twenty-first day of the illness, and both morning and evening temperatures were normal on the twenty-third day. The leucocyte range was unusual both during the course of the fever and later in convalescence, in the presence of a sequential lesion. On admission the leucocyte count was 8,000 and remained at about this point until the fifteenth day of the patient's illness, when it rose to 14,000. There was then little variation until the eighteenth day, when the count was 11,000, and from this date it gradually but continuously receded to 7,000. The increase in the number of leucocytes occurred without any appreciable cause, and the decrease continued in the presence of a lesion during convalescence.

The urine was examined every other day during the patient's stay in hospital. A faint trace of albumin was present from admission until the 21st of February, the twenty-ninth day from the beginning of the illness, but at no time were casts found. The catheter was not used during the patient's stay in hospital, and there was at no time any urethral discharge. There was no history or evidence of gonorrhœal infection in the past.

On the fifth day of normal morning and evening temperatures, the patient complained of slight pain in the right groin, and on examination what appeared to be a swollen gland could be detected. The temperature rose to 101°. On the following day, the apparent swollen gland was found to be the cord, enlarged, hard, and sensitive, in the inguinal canal. The following day the swelling had reached the external ring, and in the course of the succeeding twenty-four hours the morbid process had extended to the epididymis and testicle. The cord could now be palpated, swollen, hard, and sensitive, throughout the inguinal canal into the scrotum to the epididymis. The epididymis and the testis proper became markedly swollen and very sensitive. There was no effusion into the tunica vaginalis.

Almost simultaneously with the appearance of the swelling of the cord, pain and tenderness were developed in the upper portion of the long saphenous vein. The phlebitis gradually extended throughout the course of this vein to the lower part of the leg, and was attended with moderate swelling of the leg and thigh.

The swelling and tenderness of the cord and testicle gradually subsided, and on discharge from hospital, on the sixteenth day after the first appearance of the symptoms, the only evidence of the testicular lesion consisted of a trifling induration and sensitiveness of the epididymis. The temperature remained slightly above normal until the eleventh day after the development of the orchitis and phlebitis of the saphenous vein. There were still sensitiveness along the course of the saphenous vein and moderate swelling of the leg and thigh on the patient's discharge.

The study of other cases of orchitis occurring in the convalescence of typhoid fever indicates that the lesion is, as a rule, attended with little constitutional disturbance. The persistence of the fever in the present case was attributed to the concurrent phlebitis of the saphe-

* Read at meeting of the Association of American Physicians, Washington, May 1, 1901.

nous vein. Bacterial examination of the urine was not made.

On examination of the patient on April 20th, ten weeks after discharge from hospital, all physical signs of a lesion of cord, epididymis, and testicle were absent. The leg and thigh were still slightly swollen, but tenderness on palpation along the course of the saphenous vein had disappeared. The patient complained, however, of pain along the course of the vein and of tenderness in the testicle after much standing or walking.

CASE II.—A. S——, male, age thirty-four years, was admitted to the Presbyterian Hospital, in my service, December 18, 1900, apparently on the fourteenth day of his illness. On admission, the Widal test gave a positive result; the spleen was palpable; there was a copious and characteristic typhoid eruption; the leucocyte count was 8,000; there was no history of venereal disease in the past; there was no urethral discharge, and a catheter was not used during the patient's illness.

The infection was of a mild type. The maximum temperature was 104°. There was no mental disturbance, and a normal morning temperature was reached on the tenth day after admission, apparently on the twenty-fourth day of the illness. Both morning and evening temperatures were normal on January 2d, the thirtieth day of illness.

The urine on admission contained a small amount of albumin and a few hyaline and granular casts; and similar conditions were noted until January 10th. On December 31st, a very considerable number of leucocytes were found in the urine, and a slight degree of pyuria continued to be present until January 10th. From this date, examinations of the urine were negative until the discharge of the patient from hospital, January 30th.

With the development of the pyuria, there was a rise of temperature, maximum 102°, which persisted during its continuance. From January 10th there were normal morning and evening temperatures until January 14th, when the evening temperature rose to 101°. Two days later the temperature was normal and remained so until the patient's discharge from hospital.

Coincident with the last rise of temperature, the patient complained of pain in the right testicle. On the following day the scrotum was reddened; the epididymis and testis proper were both involved, being greatly swollen and acutely sensitive, the epididymis being especially affected. The cord apparently was not implicated. The inflammatory symptoms rather rapidly subsided, and on January 30th, the date of discharge, the only remaining sign of the lesion was a slight tenderness and induration of the epididymis. The urine was not examined for typhoid bacilli.

The patient was readmitted on February 26th. A week after discharge from hospital there was a recurrence of pain in the right testicle, which again became swollen and sensitive. These conditions persisted until his readmission.

On admission, the temperature was normal; the right half of the scrotum was reddened and greatly swollen. On palpation, both the epididymis and testicle were found to be swollen, hard, and exquisitely sensitive. At one point over the testis proper, fluctuation was appreciable; there was no effusion into the tunica vaginalis. The cord, double its normal size and very hard to the feel, could be traced from the epididymis to the external ring and throughout the inguinal canal.

On examination by Dr. Tilden Brown, the seminal vesicles were found to be insensitive and apparently of normal size. The prostate was enlarged but not sensitive on palpation. The ordinary urinary examination was entirely negative, and bacteriological examination of the urine failed to reveal Eberth's bacillus.

Aspiration at the point of fluctuation was made and a small amount of pus was obtained. The bacteriological examination of the pus by Dr. Tuttle, the assistant pathologist of the hospital, demonstrated the presence of Eberth's bacillus in pure culture.

The swelling and sensitiveness of the testicle, epididymis, and cord have only very slowly subsided. The cord, two months after the readmission of the patient, can be palpated as far as the internal ring; it is hard, nearly double the size of the cord of the opposite side, and slightly sensitive. Both the testicle and epididymis are still very hard to the feel, and a small sinus leads to the body of the testis, through which minute shreds of necrotic tissue are occasionally extruded.

In the fifty-three[8] cases of testicular inflammation occurring in the course or during the convalescence of typhoid fever, which comprise the literature of the subject, suppuration developed in thirteen. Bacteriological examination demonstrated the presence of Eberth's bacillus in pure culture in the pus from six of the cases.[9] In a single instance,[10] pyogenic cocci alone were found. The remaining six cases[11] were reported prior to or about the date of Eberth's discovery of the specific bacillus of typhoid fever.

In one non-suppurative case,[12] Eberth's bacillus was found in pure culture in the sero-sanguinolent fluid obtained from an aseptic puncture of the testicle.

In view of the bacteriological findings, the usual origin of orchitic lesions in typhoid fever cannot be doubted. Apparently only exceptionally is the infection due to other micro-organisms than Eberth's bacillus. It remains to consider the probable channels of infection.

It is probable that the bacilli reach the testicle both by the blood stream and from the urethra through the intermediary of the vas deferens. That Eberth's bacillus in great numbers is found in the urine in a large percentage of cases of typhoid fever is now well known.

In Case I. of those whose clinical histories have been given, the pathological process evidently originated in the cord within the inguinal canal or at a point above it, and thence gradually extended to the epididymis and the testicle.

It will be recalled that it was possible to trace the gradual progress of the lesion, the epididymis being affected only forty-eight hours after the cord was palpable (swollen, hard, and sensitive) in the canal. The prior implication of the cord suggests an original infection either of the vas or of the spermatic veins, producing a phlebitis with thrombotic formation and a secondary implication of the vas by contiguity. The nearly simultaneous development of a phlebitis of the internal saphenous vein suggests the possibility of a similar lesion of the spermatic veins. It will be recalled that the internal saphenous vein receives the external pudic, which crosses the spermatic cord.

In Case II. the infection affected the epididymis and testicle to the exclusion of the cord in the first attack. It was acutely involved in the recrudescence.

It may be of interest to analyze briefly Eshner's forty-four cases[8] and the nine additional ones[9] which I am able to add, of orchitis and epididymitis occurring in the course or during the convalescence of typhoid fever, comprising all cases found in the literature of the subject which give sufficient detail to be of value.

Sixteen cases developed during the course of the fever. Of these, one occurred during the second week, six during the third week, two during the fourth week, one during the fifth week, one during the sixth week, two during the seventh week, two "at defervescence," one at a time not definitely stated.

Thirty-five cases developed during convalescence. Of these, eleven developed during the first week, seven during the second week, three during the third week, one during the fourth week, one during the fifth week, one during the sixth week, eleven at a time not definitely stated. In two cases the date of development is not given.

In two cases the inflammation affected both sides, in forty-five it was unilateral, and in six cases no statement is made of its localization.

Of the unilateral cases, twenty-two were on the right side, twenty-one on the left, and in the remaining two it is not stated on which side.

The epididymis only was involved in seven cases; the testicle only, in sixteen cases; both epididymis and testicle, in twenty-six cases; and in the remaining four, a distinction is not made between the testis proper and the epididymis.

There was effusion into the tunica vaginalis in nine cases; in ten, it is noted that such effusion was absent; and in thirty-four no statement is made on this point.

Suppuration occurred in thirteen cases, partial necrosis in five cases, complete necrosis in two cases, and death in two cases, but without apparent relation to the complication.

Recovery with residual nodules in the epididymis is noted in seventeen cases; the subsequent histories of these cases would be of interest.

The bacteriological examinations of the pus in the suppurating cases have been given earlier in this paper.

A study of these cases justifies the following conclusions:

1. Epididymitis or orchitis occurring in the course or during the convalescence of typhoid fever is a rare lesion and is of typhoidal origin.

2. Only very exceptionally is it due to secondary microbic infection.

3. It develops at a late period in the disease or during convalescence.

4. The lesion, although as a rule unilateral, may be bilateral; and involves either the epididymis or testicle or both, and not infrequently the cord.

5. Effusion into the tunica vaginalis is rare.

6. Termination most often is by resolution.

7. Suppuration occurs in twenty-five per cent. of all cases.

8. Localized necrosis and extrusion of testicular tissue is not uncommon.

9. Exceptionally there is destruction of the entire testicular structures.

10. Atrophy of the testicle occurs, but is a rare sequence.

11. The lesion gives rise to little constitutional disturbance.

12. Death as a direct result of the lesion has not been noted.

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THE OPERATIVE TREATMENT OF UMBILICAL HERNIA IN ADULTS.*

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IT has seemed to the writer that the advances in the treatment of umbilical hernia have been sufficient to warrant the presentation of the subject to a general meeting such as this.

Although the chief subject of this contribution is the operative treatment of the more severe forms of umbilical hernia, yet at the same time it is well to review what can be accomplished in the less advanced cases, for, if more early operations were done, there would be less hesitancy in invoking operative interference; also, since the cases differ so in the anatomical and pathological features they present, it will be necessary to enter into a brief consideration of their etiology, course, and pathology.

The usual classification divides umbilical hernia into three groups: 1. Congenital hernia of the cord. 2. Infantile umbilical hernia. 3. Adult umbilical hernia.

The first of these had perhaps better be termed "hernia into the cavity of the cord," inasmuch as in these cases no umbilicus is present, the cavity being the persistence of a well-recognized early embryonic condition.

The second class occurs in infancy and childhood. Berger[14] places the dividing line between it and adult umbilical hernia at fifteen years. This form is due to a weakness in the umbilical cicatrix, and is usually quite amenable to treatment by a simple pad or truss. According to Berger,[14] it forms 22.42 per cent. of all herniæ occuring in male children under fifteen years, and 65.34 per cent. of all herniæ in female children at the same period.

The third class, adult umbilical hernia, according to the same author, forms 2.15 per cent. of all herniæ in males over fifteen years and 22.16 per cent. of all herniæ in females over fifteen years; the preponderance in females of three to one under fifteen years, being changed to over ten to one over fifteen years of age. This marked relative increase in women must be attributed chiefly to pregnancy and parturition, and, furthermore, we find that at about the age of forty years, according to the same statistics, umbilical herniæ are more common in women than any other form.

In the majority of these cases in women, especially when attributable to multiple pregnancies, we also find other conditions present, namely, separation of the recti muscles and often loose or pendulous abdominal walls.

The stretching of the abdominal wall is apparently the precursor and cause of the hernia at the umbilicus.

The desirability of subdividing the class of adult umbilical herniæ at once suggests itself, namely, into those without and those with separation of the recti muscles. This is especially desirable from the operative standpoint, inasmuch as the conditions to be met and overcome differ widely.

Adult umbilical herniæ without separation of the recti present practically the same anatomical features as do infantile umbilical herniæ. The sac is gener-

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ally comparatively small, and if operative treatment is indicated, the radical cure may be readily accomplished by uniting the borders of the recti by the methods now usually employed for closing median cœliotomy wounds.

The other cases, however, with separation of the recti muscles, present a much more difficult problem, and it is to the consideration of these cases that your attention is especially called.

In the first place, it is well to review briefly the causes and development of the conditions found.

The recti muscles under normal conditions undoubtedly do much to support the linea alba and protect it against the strain of the lateral abdominal muscles. The splitting, as it were, of the insertion of these muscles to include the recti is apparently a provision of nature in this direction. The recti may be likened to bowstrings, which, by their tension, resist lateral deviation.

Any cause acting to diminish the contractile power of these muscles, or to prevent their acting in straight lines, must be a factor in producing lateral stretching of the linea alba and their consequent separation. Lack of muscular tone and fat diminish their contractile power, and the presence of abdominal tumors, such as the pregnant uterus, not only weaken them by stretching, but vitiate their line of contraction, so that, instead of protecting the linea alba, they actually help to stretch it. Having commenced to stretch, the linea alba naturally tends to increase in width, especially if additonal pregnancies supervene.

Fig. 1.

The recti being fixed at their extremities, the linea alba becomes elliptical in shape, the greatest separation of the recti being at about their middles; hence, the maximum stretching of the tissues is at the region of the umbilicus, and its potential weakness usually determines the site of hernia, although hernial protrusions may take place above or below it, usually below it. Such herniæ should be placed in the same category as umbilical herniæ of this class, and present the same conditions in regard to operative treatment.

The recti may be separated for a considerable distance. Sapiejko[13] operated successfully upon a case in which the separation was 15 cm.

The stretching process is not confined to the linea alba, but the sheaths of the recti also participate in the process; and in extreme cases the muscles may become a flattened sheet of muscular fibres, so that it is difficult in operations to recognize their mesal borders.

In advanced cases the abdominal walls are loose and are often pendulous, and do not afford adequate support for the viscera. The patients not only suffer from the hernia symptoms proper, but also those of enteroptosis. At the same time the flaccid abdomen precludes the employment of an efficient truss.

Small umbilical herniæ do not give, as a rule, many symptoms, but they tend to increase in size, especially if the causes which produced them are still operative.

The symptoms in the larger herniæ may be classified into those arising from the size of the hernia and those due to complications. The size of the hernia is a cause of inconvenience. It may ulcerate on account of the poor nutrition of its coverings, and it may produce intestinal and gastric symptoms from the inclusion of large amounts of viscera or from dragging on account of adhesions, etc. Pain is often a marked and serious symptom. The total effect is not infrequently almost if not complete invalidism.

The chief complications are adhesions, causing irreducibility, obstruction, and strangulation. In many of these cases a history of intermittent obstructions may be elicited which have not persisted, but which have been a serious menace to the life of the individual. In regard to strangulation, it is generally stated that it is less common in umbilical than in femoral or inguinal herniæ. According to Berger,[14] in every one hundred cases of strangulation there are fifty inguinal, forty-four femoral, and six umbilical herniæ.

Umbilical herniæ form 7.45 per cent. of all herniæ occurring after fifteen years of age; thus there is apparently a slight difference in their favor as regards strangulation; but if we eliminate those occurring in the male, and the small cases, in which cases strangulation is infrequent, and should confine ourselves to the larger cases, we would probably find that it is comparatively frequent. It has been found impossible to obtain statistics upon this point.

Irreducibility from omental adhesions to the sac is exceedingly common and seldom absent in the larger herniæ. Its presence, of course, precludes the employment of a truss and increases the chances of strangulation, besides often being the cause of other symptoms.

In regard to the prognosis without intervention, we may say that in the male, and in some cases in women, in which it is possible to employ an effective truss, the prognosis seems perfectly good, and operation is not indicated. In women, as a rule, however, the prognosis is not so happy. There is a marked tendency to increase in size, especially in herniæ occurring during the child-bearing period. With the increase in size come the distressing symptoms and complications and the ever-lessening chance of a complete radical cure. If strangulation occur, the prognosis is more grave than in either inguinal or femoral hernia (Bull and Coley[10]).

According to Gibson,[2] in gangrenous hernia the mortality of umbilical hernia is sixty-seven per cent., of inguinal hernia twenty-six per cent., and of femoral hernia thirty-seven per cent.

Operative Treatment.—In regard to operative treatment it must be confessed that the results have been disappointing, so much so as to warrant the general dictum that, unless the symptoms absolutely indicate interference, operation is not indicated. This is especially true in regard to operations upon the larger herniæ; but is not in the small and early cases, as the statistics show.

Statistics in regard to the results obtained in umbilical herniæ are of little value from either point of view. On the one hand, many cases reported are isolated, as it were, and we do not know how many failures are behind each successful one. On the other hand, many operations have been done by defective methods, and have invited recurrence. According to Berger,[14] relapses occur in about thirty per cent. of operations on large herniæ, fifteen per cent. to twenty per cent. on those of moderate size, and practically none on those of small size. In cases with suppuration sixty per cent. relapsed. These figures are probably too good. In thirty-four cases operated upon for large hernia in the Hospital for the Ruptured and Crippled in this city, twenty-one were traced with twelve relapses, *i.e.*, in the neighborhood of fifty per cent. These operations were by skilled operators, and the results are more probably nearer the actual facts. There is naturally no comparison between the results obtained in small and large herniæ, inasmuch as the small herniæ, as before stated, present very little greater difficulties than are encountered in closing an ordinary cœliotomy wound.

The mortality, according to Bull and Coley,[10] in irreducible cases, is not far from five per cent., increasing or diminishing with the size of the sac and the extent of the adhesions. In strangulated herniæ, the mortality is in the neighborhood of sixty per cent. In small herniæ the mortality should be *nil;* another strong argument for operation before increase of size and advent of complications. Rather than wait for indications, we should operate in all cases in which there is a probability of increase in size.

Before considering the operative methods it is well to review the conditions which have to be met and overcome in large umbilical herniæ with separation of the recti muscles.

First: There is present an amount of separation of the recti muscles, which is as great, if not greater than the width of the neck of the sac. The absolute futility of approximating the border of the hernial opening and leaving the remaining separation of the muscles untreated is evident, inasmuch as the line of suture will have to bear almost the entire strain of the lateral abdominal muscles. Disregard of this fact alone is responsible for many failures.

Secondly: The lateral stretching and thinning of the recti and their sheaths render it difficult to find sufficient muscle fibres for approximation.

Thirdly: Tension is one of the chief difficulties encountered in approximating the borders of the muscles or their aponeuroses after excising the margins of the ring. This could possibly be overcome to a certain extent in obese patients if sufficient time before operation were to be had to reduce the amount of intra-abdominal fat.

Other conditions, such as extensive adhesions, large masses of irreducible omentum, and conditions of general vitality, are difficulties which are common to all operative procedures, and have no bearing upon any particular method.

Operative Methods: The essential parts of the radical cure in the repair of the abdominal wall and the description of methods will be confined to it alone.

It will be of interest to review some of the methods which have been employed, not alone from their bearing upon the subject in hand, but also from the fact that they have been more recently exploited as presumably new in the closure of ordinary cœliotomy wounds. More space, however, will be given to a method which is comparatively recent, and which was supposed by the writer to be new when first employed by him, but was later found to have been already advanced as a new method by Sapiejko[12] in France, and by Piccoli[8] in Germany, who published their articles within a month of one another.

The different methods may be divided roughly into five categories:

1. Lineal approximation of margins of fascia or fascia and muscle.

By far the greater number of operations fall within this group.

The first operations were done with the through-and-through suture of all layers after removal of the sac.

To Condamin[4] the credit is given of excising the ring and suture of peritoneum, aponeurosis, and skin in separate layers. Socin devised the method of splitting the sheaths of the recti. This was perfected by Sanger,[7] who published his memoir in 1890. He sutured the peritoneum, the dorsal sheath with part of the rectus, the ventral sheath with the remainder of the rectus, and the skin, in separate layers. Gersuny[6] sutured the margins of the muscles themselves together and the skin so that the lines did not coincide.

The objections to the methods in this category are the difficulty in overcoming the separation of the recti, in accurate approximation of the layers, the superimposition of the suture lines, and the chances for the inclusion of properitoneal fat in the lines of apposition of the muscular and aponeurotic tissues, thus preventing accurate union and predisposing to relapse. Tension is also overcome in some cases with great difficulty, and numerous sutures have to be introduced.

The method by splitting the sheaths of the recti and union in several layers is the best, and, moreover is probably the most applicable of these operations to the cure of small herniæ.

2. Interlacing of fasciculi of the inner portions of the recti after splitting their sheaths was devised by Dauriac.[13] This method brings up the question of the vitality of transplanted muscle fibre. It is difficult to see its advantages over the method of simple approximation of the bare muscle.

3. In order to overcome the separation of the recti muscles, Lucas-Championnière[9] devised a method of involuting the abdominal wall in the middle line, by a method resembling the Czerny-Lembert method of intestinal suture; thus approximating the ventral surfaces of the recti sheaths over a greater or less area, depending upon the amount of relaxation of the abdominal walls.

4. Flap operation. By this method the hiatus in the abdominal wall after the removal of the sac is closed by reflecting flaps from the sheaths of the recti

muscles. No attempt is made to approximate the muscles. The method depends upon the intimate fusion which exists between the ventral and dorsal sheaths of the rectus at its mesal border, thereby allowing the dorsal sheath to be pieced out, as it were, by reflecting a flap of the ventral sheath with its attached border at the mesal border of the rectus, *i.e.*, in continuity with the dorsal sheath.

The credit of first proposing this method seems to belong to C. P. Noble,[1] of Philadelphia, who used it in 1896 in closing a ventral hernia. It was also used by two Russian surgeons at about the same time (Diakonoff and Starkoff [10]).

The flap may be taken from one side and united to the margin of one of the sheaths of the opposite rectus (Heinrich [9]), or a flap may be taken from each rectus and be united to one another either by apposition of the edges or by lapping (Hagen,[8] Ferguson[11]).

The chief objections to this method are, first, that the flap of sheath, when removed from the muscle, is deprived of its nutrition, and is liable to necrose, or at least atrophy; second, that the method cannot be used in the lower part of the abdomen, where the dorsal sheath is deficient; and third, that the removal of the flap weakens the insertion of the lateral abdominal muscles. However, several very good results by this method have been reported.

5. Lapping the abdominal wall. This method is particularly applicable to the cases in which there is stretching of the linea alba, with separation of the recti. It consists of the division of the linea alba above and below the sac in the median line for the necessary distance, with or without excision of the ring and a portion of the linea alba. The entire wall on one side is then lapped in front of the other, and there sutured, so that the ventral surface of one side is in contact with the dorsal surface of the other.

This method first suggested itself to the writer in an operation for umbilical hernia in this past month of September. Two additional cases since then have been operated upon by the same method, with modifications to suit the particular conditions found. Inasmuch as these cases illustrate very well the possibilities of the operation, the details as far as necessary will be given.

The first patient was a multipara of thirty-eight years, who first noticed bulging at the navel two years before, immediately following a miscarriage. On account of the rapid increase in size of the hernia in the preceding six months, the occurrence of pain, and the fact that it was irreducible, operation was advised. The following conditions were present: The abdomen was large, the walls were rather lax, the subcutaneous fat was abundant; the hernial sac was the size of an orange, the omentum adherent, the ring being one and one-quarter inches in diameter. Diastasis of the recti was present for a distance of a little over one and one-half inches, and for some distance above and below the hernia. The fact being recognized that if attempts were made to unite the recti muscles the linea alba would have to be excised for a considerable distance above and below the sac, and that approximation would then be very difficult on account of tension, only a portion of the sac was excised, and the linea alba with the peritoneum divided for two inches above and below the ring in the median line. The peritoneum was then separated for about two inches on either side of the wound, the separation being carried farther to the left than the right, and sutured in the median line. The ventral surface of the right half of the stretched linea alba and adjoining rectus was then carefully cleaned of fat. Mattress sutures were then passed through the free margin of the right half of the linea alba and corresponding portion of sac in a dorso-ventral direction, and then in the same direction through the left rectus muscle and its sheaths, and tied on the ventral surface of the sheath. In this way the ventral surface of the right rectus sheath and linea alba was applied to the dorsal surface of the left. The free edge of the left abdominal wall was then tacked to the ventral sheath of the right rectus. In this way a total lap of one inch and a half was easily obtained without undue tension, thus giving a lap of the muscles of three-quarters of an inch. The greatest width of the lapping was made at the hernial site, tapering away to nothing at the extremities of the incision; thus the lines of suture formed an elliptical figure (Fig. 1). Healing occurred per primam, and the result so far is perfectly good. By leaving the margin of the sac, a handle, as it were, is provided in applying the sutures; but it is unnecessary if the abdominal walls are lax.

The second case operated upon illustrates a modification in regard to the treatment of the peritoneum. The patient was a woman seventy-nine years of age, who had had her hernia for twenty years. Five years previous to operation it had become strangulated, but was successfully reduced by taxis. The operation was done on account of strangulation, which had existed eleven hours. The patient was very large and obese. The same operation as described was performed, with the exception that in order to save time no separate suture of the peritoneum was made, but instead the peritoneum was scarified and scraped on the dorsal surface of the left rectus, where the ventral surface of the right rectus was applied. The peritoneum is intimately connected with the dorsal sheath in this region, there being little or no intervening fat, so that firm union can be obtained. The same measure has been recommended by Piccoli.[5] The patient made an uneventful recovery; there was no shock, and the wound healed per primam. The abdominal wall is strong. The result was especially pleasing, since the operation was done in a small, dark room, with very few conveniences.

The third case was operated upon on the 24th of last November. It illustrates the application of the method to another condition, namely, hernia through the linea alba below the umbilicus, with marked separation of the recti and pendulous abdomen. The patient was a multipara of forty-three years. Her condition was a source of pain, discomfort, and digestive disturbances. The hernial protrusion proper reached from just below the umbilicus to within two inches of the pubes. The recti were separated for a distance of three inches at the umbilicus, and were very wide, being thinned out to a mere sheet of muscle fibre. The technique was much the same as in the first operation—*i.e.*, separate suture of peritoneum, lapping of recti, and suture of skin—except that the wound was much more extensive, being twelve inches in length, and the lapping greater. The entire linea alba and sac were trimmed away, except for a border of a little over an inch left on the left rectus, and the muscles themselves lapped for a distance of three inches. The skin and subcutaneous fat, which was two inches in thickness, were removed in an ellipse, which was twelve inches long and eight inches in width.

The patient made a good recovery, the wound healing per primam. There was rather excessive vomiting for the first thirty-six hours, which caused some worry in regard to the holding of the stitches, but no bad results followed.

In all three cases the suture material used was plain catgut for the peritoneum, No. 2 chromicized gut for the aponeurosis and muscles, and silkworm gut and silk for the skin. Two points in the technique should be emphasized, namely, the absolute cleansing of fat from the rectus sheath, which is to be applied to the back of the opposite rectus, and the insertion of the

mattress sutures, so that they will be in the course of the muscle fibres and not strangulate them. It has been found more convenient to have the mattress sutures threaded on two needles. The sutures include about one-third of an inch of the tissues, and are placed about five-eighths of an inch apart.

The cases operated on by the writer are too recent to deduce the ultimate results, but demonstrate the success of the immediate results.

The fact that such broad surfaces are united almost negatives the chances of future separation; also experiments in regard to this point have been made by Piccoli on dogs, and he has found that, from two weeks up to four months after the operation, the union was firm and intimate, even under the microscope. Piccoli's article was published in January, 1900. His results have been satisfactory. His method is much the same as that employed by the writer, the chief difference being in the use of silk and in the insertion and tying of the sutures.

Still better proof of the efficacy of the method is afforded by the results of Sapiejko,[12] who employed the same lapping, but used continuous sutures. He operated in December, 1898, on a woman aged thirty-four years, four months pregnant. In this case there was diastasis of the recti, amounting to 15 cm. The incision reached from the xiphoid to the symphysis, and a large ellipse of skin was removed. The woman went to term and had a rapid labor, and at the time of publication—February, 1900—her abdomen presented a normal contour.

It is difficult to state to whom is due the priority in the use of the method. Piccoli does not state when his operations were done. The earliest record I can find is that of Sapiejko in December, 1898.

Some of the more apparent advantages of the method are:

1. The doubling of the abdominal wall at the hernial site.
2. The breaking of the lines of suture.
3. The broad surfaces for union.
4. The obliteration of the separation of the recti, and the reduction in the size of the abdomen. Its field is really not limited to herniæ proper, but also includes the treatment of pendulous abdomens, and of enteroptosis due to laxity of the abdominal wall.

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Researches into the Active Substances in Typhoid Cultures.—A. Paladino-Blandini from his investigations concludes that: 1. Two substances, chemically and biologically different from each other, can be isolated from cultures of the typhoid bacillus; a nuclein and a nucleo-albumin. 2. The property of agglutinating the blood of inoculated animals, possessed by typhoid cultures, is dependent upon the presence of a special nucleo-albumin. 3. This nucleo-albumin used alone is capable of conferring an agglutinating property on blood. 4. Nucleo-albumin acts only by means of the leucocytes.—*La Riforma Medica*, April 17, 1901.

THE BORDERLAND OF INSANITY: WHERE AND WHAT IS IT?[1]

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To one who has passed from normal mentality into unsoundness of mind there was undoubtedly a moment distinctly dividing these two conditions—a moment which was bounded upon one side by that state medically denominated as sanity, and upon the other, and immediately following, that condition which is loosely comprehended by the term insanity. This is true, although those about the invalid may not have been able to fix the time or to name the condition or circumstances of advent of the latter state referred to. Years may have elapsed between the time when, upon one hand, reason, as apparent to all, was in control, and that, upon the other, when mental defectiveness ruled the individual. During this interregnum the most learned alienists, if called upon to decide, might have differed in their opinions as to the sanity or insanity in such a case.

Insanity, it has been said, strictly speaking, is not a state but rather a complex of symptoms, and even in its looser and current acceptation much might be gained by using, in a general sense, the term insanities. In a paper of the scope of the present one, there is no need of opening up the wide field which a discussion upon definitions of insanity beget; but for the purposes of practicability that wide area of mental territory situated between those known regions, of what is generally recognized as sanity upon one hand, and upon the other unsoundness of mind of such a degree that it is evident to the ordinary individual, has been and is known as the borderland of insanity.

The traveller in this region, generally a person harmless in character and habits, yet sometimes a menace to his family, friends, or society, and often a terror to his doctor, is known as the border-liner. At times near the boundaries of mental healthfulness, and again close to the line of mental darkness, he goes thus, perhaps months and years, hither and thither in this shadowy land, until circumstances, favorable or unfavorable, lead him out of it upon one side or the other. This region should not be considered as containing only those who are in the *stadium incipiens* of insanity, for an individual within its confines to-day generally is not, and in the future more often, if favorable circumstances attend upon the patient's suffering, may not be insane. This much as to where this land is. Let us now examine in some of its details as to what it is, beginning with the understanding that but a fraction of its features can be reviewed in a single paper upon so vast a subject.

No attempt will be made to cover the early manifestations of general paresis, although symptoms will be here given sometimes also found in that state. General paresis, as we well know, is deemed incurable when fully established; the belief being that at such stage destructive changes have intervened in the substance of the nervous tissue of the brain and elsewhere which have irreparably damaged the same, although in some cases, without doubt, much improvement is attainable. Harm is daily being done to persons suffering from a recoverable mental illness by a diagnosis of general paresis. The responsibility which a practitioner little acquainted with mental disorders assumes when he makes such a diagnosis is not always understood by him until what was deemed a hopeless mental wreck turns up in a restored state of mind to plague the doctor. Every institution in the land

[1] Read before the Portland Medical Society, November 21, 1900.

which receives mental diseases has many such cases upon its records. Permanent recovery did occur and evidently a mistake in diagnosis was made. The subject of general paresis is too vast, however, for the present moment, and will be treated later in a discussion to be devoted solely to that subject. The present paper will refer largely to those cases which, allowed to continue unchecked, tend to drift off into those mental disorders named by Krafft-Ebing the psychoneuroses—a class of mental disorders, even when fully developed, subject often to relief under the application of rational therapeutic, hygienic, and environal measures.

The most reasonable standpoint from which to gauge mental health is that which will permit a comparison of the individual's present methods, acts, manners, appearances, and speech with those formerly and usually held by him.

Millions of people suffer from insomnia who are not and are not to be insane. Insomnia is, in fact, we may all agree, the most distressing symptom of modern life. It is no respecter of persons or conditions, although more serious when occurring in those not of the higher walks of life. It is withal the most common prodrome of insanity, and the man who suffers from it may almost always be said to be travelling unpleasantly near the region of the borderland.

In a given case of insomnia let it first be determined how long the condition has existed. If it has been a habit of slow growth, becoming more pronounced as months and years have elapsed, and in an individual possessing no serious inherited mental or nervous defects—if in such a case the patient does occasionally get a good night's sleep and always obtains twenty-five or more hours of fairly restful sleep each week, while the physician's best efforts should be directed to the relief from the distressing features of this condition, a mental breakdown need not be greatly feared unless marked obsessions or other additional evidences of nervous impairment should be found engrafted upon the insomnia. If the patient is an elderly person, it should be remembered that many aged people sleep less than the younger, although this is not so in the more restful forms of age.

It matters not what the degree of ordinary care or anxiety upon a healthful mind may be, or how deep the grief, after a few nights of sleeplessness tired nature will re-assert herself with sufficient force to bring again to the weary brain refreshing sleep. When, therefore, an individual who has been an ordinarily good sleeper night after night for a week or more fails to obtain needed sleep, a comfortable bed and quiet surroundings having been provided, such individual is in need of a physician. If, in addition, there exists a neuropathic taint, the medical practitioner is dealing with one who, under proper care, may never become insane, yet who is now in the borderland of insanity.

There is generally present a restlessness in the borderland case of insomnia, even in the most depressed melancholic type, which is absent in other instances. There is an unmistakable sense of mental distress or the presence of an appearance of superlative pleasure in the serious cases which is quite characteristic, and which, to one acquainted with the insane, bears an omen of evil portent, clearly calling for prompt measures looking to the addition of nervous energy or the reduction of nervous tension as the individual case may require.

Many of these cases come within the pale of neurasthenia. They are true cases of nerve-cell fatigue; and while neurasthenia rarely leads to insanity, some of its phases place the victims thereto within the borderland.

The change of temperament in an individual is always suggestive of changing or changed mentality. A bookworm, somewhat abruptly and without advice from friends nor on account of any good reason, abandons his shelves. He takes long walks and spends most of his time out-of-doors. He becomes interested in baseball, goes to the races and bets his money freely. He does what in another might be a usual course of life, but which in him is unnatural and against every tenet of his social and private life. This man is operating under a new mental stimulus, and the change is too sudden to be healthful.

A man of probity and honor becomes all at once a public and notorious libertine. Heretofore careful in his manner of speech and living, he revels in obscene recitals and glories in the company of the lewd. He is in the borderland.

A gentleman was noted for his good general methods of living. He grew economical until within a few months he was denying himself the proper amount of food on account of its cost. When reproved for his habits in this regard, he gave an excuse which might have been accepted as reasonably satisfactory if the same had been adduced by one noted for parsimonious economy. He was not yet deemed mentally affected until other symptoms intervened, although he was considerably emaciated when he came under my care. In a few weeks he gained, under enforced feeding, both gastric and rectal, his accustomed weight and greatly improved in mental health, and his friends acceded to his requests for his discharge from the institution, and he returned to his accustomed labors, by no means, however, entirely recovered. His business life was an active one, for which he was not yet fully fitted, although to the uninitiated he seemed able to take up his work. His former normal manner of living, as to money matters, had been resumed. Two years later he began to spend money foolishly. He purchased unusual and unnecessary things and did not consider the cost, though this time his mental difficulty was much earlier discovered than upon the former occasion. His leading symptoms, as mentioned, were in opposite directions in the two attacks, but in both instances the change from the usual manner of living was quite noticeable.

A man began to collect oddities—nothing unusual in itself, but quite strange for this individual, who had all his life prided himself upon being a strict utilitarian. In a few months he had collected stuffed snakes, toads, and frogs to the number of several hundred, neglecting his ordinary business affairs to do so. Later he began to pick up stones of special sizes and shapes, and in a short time almost any stone he found possessed for him some peculiarity worthy of preservation. He was not obtrusive upon others with his newly found aspirations and delights, and to what an extent this habit of collecting stones had arrived was not known until complete mental breakdown ensued, when it was found that one room was nearly filled with barrels and boxes of the stones.

A man who had been a generous liver, and had always been in excellent health, one day announced himself as a vegetarian. This is a belief held by a large number of very excellent people, who, while their judgment may not meet with the approval of the greater portion of the scientific world, are not by any means considered insane. In a few weeks clothing made wholly or partially from wool, whether for under or outer garments, was discarded on the ground that as sheep were largely raised for mutton, the use of wool encouraged the raising of animals for food, and by the use of woollen clothing he became a party to "blood-drinking habits." The sentiment as to food soon developed into a desire for the reduction of all discomfort to animals generally. As animal life enters so promiscuously into the affairs of daily life, he studied

over every little matter, and suffered much for fear that in some way he was enjoying what had been a discomfort to some one or more of the lower animals. For instance, he had once seen an over-heavy car of coal hauled to the dump in a coal mine by the mule on service, and his memory of this event led him to eschew a coal fire for fear that a like experience accompanied most fuel of this kind. Wood he would burn, but he bought it in half-cord lots brought directly from the forest to his own house.

Soon this suddenly acquired sympathy for animals extended itself to the vegetable world. Wood now must have died before it should be cut and hauled for him. Grain with the germ in he would not eat. Potatoes, which became his leading food, he required should be shorn of their "eyes," the germinal elements, before he could be induced to have them cooked. The seeds of apples were carefully saved, and other like actions made his life a burden, and soon the cadaveric appearance so common in many of the ordinary vegetarian zealots passed into one of almost complete physical exhaustion and to apparent mental wreckage.

Anger as a habit is another of the symptoms of the borderland. It possesses a double import. First it is an evidence of nerve-cell instability, a condition in which the nervous organism, using a homely but striking illustration, is "set upon a hair trigger," which upon the slightest provocation "goes off"—in fact, a nervous storm ensuing, similar ofttimes to an attack of epilepsy, and in some cases coming on with like regularity.

"Anger," quotes the MEDICAL RECORD (April, 1898) from an English journal, "serves the unhappy mortal who indulges in it much the same as intoxicants constantly taken do the inebriate. It grows into a sort of disease which has various and terrible results. Sir Richard Quain said not long ago: 'He is a man very rich indeed in physical power who can afford to be angry.' It is true. Every time a man becomes 'white' or 'red' with anger he is in danger of his life. The heart and brain are the organs mostly affected when fits of anger are indulged in."

There is no man, perhaps, who is not at times provoked into anger, yet I am firmly convinced that every such attack, like one of epilepsy, tends to its own repetition, and in a like manner, under varying degrees, weakens normal mental equilibrium; that in every case it leaves its impression upon the mental armor, and not only tarnishes but also weakens it. While the majority of men can go through life without mental breakdown and yet be subjects of mental irritability and anger, some will from its influence fall if the habit is pronounced. A fit of anger, like the current against the breaking dam, tends to weaken the obstruction to its own flow, which is the second and more serious import of its presence.

There are men and women in every city who are within the shadow of the borderland as a result of the habit, and some of them are so deeply therein that it were better for others and no worse for themselves if some untoward circumstance should precipitate mental collapse, that detention and treatment might be instituted before, in one of these seizures, homicide or its attempt should occur.

I knew a man in this city who is pathologically subject to these attacks. They appear to have some regularity. The patient is morose for a day or two. His wife and children have learned to know of the approach of these fits, and sometimes by exercising the greatest care the violent paroxysm is hedged against; but usually in spite of their best efforts a vigorous passion does ensue. He curses his wife and beats his children, and in many instances has broken dishes, furniture, and windows, the unfortunate objects which have apparently acted as the climax of his complaint and ire. After the fit has spent itself he seems relieved. Sorrow follows for his violent acts. He repairs the broken furniture or replaces it with better, attempts amends to his family by presents and by supplying them with such amusements as he can find and afford, and remains fairly decent until the approach of the next attack. Formerly he could control his fits of anger if those outside the family were about, but of late years the presence of strangers scarcely restrains him. Twenty years ago the paroxysms occurred once or twice a year; now they appear as often as each month. If in one of these fits this man should kill some one, should he be held any more liable than if a like result had occurred in the post-epileptic frenzy? I scarcely believe so.

A patient is now convalescing under my care from an attack of melancholia. She is a widow, her husband having died under distressing circumstances two years ago, and over which she had constantly grieved up to the time of her full mental collapse, six weeks ago. She has been extremely difficult to care for on account of the wellnigh unmanageable character of her temper, which has necessitated a change of nurses on several occasions, and constant surveillance against accident at all times. This patient had been, when in good health, of excellent disposition, but for months before final breakdown had fairly grown quarrelsome, so easily was she provoked to anger. In fact, her friends were so thoroughly worn out in their attempts to live peaceably with her that this may have unconsciously influenced them in their determination to publicly commit her for State detention, in which the family physician, the county court, and all of her relatives except one had promptly concurred, on the ground that the case was too marked to expect cure, and that the expense of private care would be unwarrantable. The earlier anger in this case was not the indignant mental outburst of a person suffering wrong, but was the leading symptom in one who was then well into the borderland of insanity. This woman sat at home, day after day, with a picture of her lamented husband before her eyes, and anything which disturbed her mental reverie had grown to be a wilful obtrusion. If a complete change of environment had early been enforced, although perhaps necessarily against her own desire, the latter more pronounced condition almost certainly would not have occurred.

Constantly dwelling upon one theme will lead an individual into insanity. "A man of one idea" may bring success out of such theme, but it will be fortunate for him if success comes before reason takes wing. The ordinary meaning of this phrase does not imply its strictest application, but reference is had to an individual who in a multitude of plans or thoughts keeps one in the foreground. We do, however, occasionally meet a man who seems actually to have but one idea. Morning, noon, and night he dwells upon it, and finally becomes impatient when the affairs of life are forced in upon his purview. The more intricate the problem the greater the danger to reason. A young man who will talk and think of almost nothing except football will scarcely suffer, but the individual who ponders over a perpetual-motion machine, if the idea is long maintained, is wandering through the labyrinths of dark places leading to mental confusion.

The person who is subject to imperative ideas is often within the borderland. Dr. Edward B. Angell, in a paper read before the last meeting of the American Neurological Association upon the subject of "Imperative Ideas in the Sane," aptly says: "Imperative ideas are waking dreams which the feeble will is powerless to eliminate from the troubled field of consciousness; they are dependent for their mani-

festations upon a state of mental feebleness or insufficiency or cerebration, or instability of mental synthesis." While Dr. Charles H. Hughes, in a paper upon "Imperative Conceptions," would give to them their deeper psychiatric import as they increase in intensity when he says: "When such imperative conceptions pass the ordinary line of normal restraint into the uninhabitable realm of mental aberration, and become resistless expressions and acts violative of the proprieties and normal restraint of environment, and have a recognizable disease for their basis, they become evidence of insanity."

These obsessions are more common than is ordinarily believed, from the fact that the patient is generally sane and realizes that these feelings are unnatural; and their out-of-the-normal character leads often to their concealment for fear that they may be taken by the physicians as a symptom, true or false, of insanity. A patient now under my care had avoided a concourse of many people for fear that he would see some one in the company who would look like some one of his own friends; for on an occasion when such resemblance was noted he had great difficulty in restraining himself from imparting such fact to the stranger who was then before him. He never actually made a statement to this effect to any such person, but felt that the greatest self-restraint was necessary to refrain from doing so.

Upon one occasion, and once only, I was accompanied on a bicycle ride by a gentleman who was for the time being a patient of mine, who was excessively plagued by these obsessions together with a chronic fear of hereditary insanity. An imperative idea with this patient, when out-of-doors, was that he must read in full every sign which he should pass; and as artists of legitimate merchandise and of quack nostrums had been diligently seeking to outdo each other with inscriptions upon the fence-boards on the country along our path, my patient had much to do in reading all of them on both sides of the road; and although we rode leisurely, my companion was covered with perspiration on account of his efforts to prevent the escape of a single word from his view. Many times he was obliged to stop altogether to obey his imperativism. Once he appeared in tortuous agony because it had just occurred to him that he had not read completely what was written upon a small board which had been nailed upon the fence a half-mile behind us, calling attention to a carpet store, a matter of course then of no concern to him whatever. I suggested that he might read the announcement in full upon our return, whereupon he quickly mounted his wheel and rushed frantically down the road, calling back to me that he must read before going on, "for I might never live to come back this way."

These imperative concepts, compulsory ideas, or obsessions in the sane are based upon a loss of will power consequent upon a defect in the amount and force of residual nervous energy in the cortical cerebral cells. Dr. Henry J. Berkley, of Johns Hopkins, in his recent and excellent work upon mental diseases, speaking upon this subject says: "Except in extreme instances they [obsessions] are not to be regarded as evidences of insanity. The patients recognize their absurdity, and in a feeble way struggle against them, but the lassitude of will is too great to be overcome, and they return to their fears and anxieties. These fixed ideas are in contrast to those of the paranoiac, who believes all his false conceptions are true and have a basis in reality."

Recently, with Dr. Bower, of Salt Lake, I saw a patient whose obsessions took the form of fear of contaminations of the person with whom he should come in contact in shaking hands. This man felt that he should wash and scour his hands before accepting the hand of his physician or friends—quite different from nearly all who have a concept regarding uncleanliness, such individuals usually having a fear that they are themselves to receive such contamination.

The Grübelsucht of the Germans—the necessity of weighing with exact nicety both sides of every question, however trifling, before action—the disposition to count in doubles, the resistless impulse to touch or not to touch certain things, the repetition of certain words either in writing or mentally or orally, are not necessarily evidences of insanity, but indicate a condition either in or tending toward the borderland.

Needless to say, every user of opium, cocaine, and like drugs and the excessive consumer of alcohol are in the borderland, although no nervous symptoms of note may have as yet intervened. The young should be taught in school and elsewhere of the pernicious effects from the use of such drugs, although such education should not be of the character rendered in a medical course, in which familiarity seems to breed contempt; a writer having recently said that nearly one-half of all the users of opium and cocaine are found among medical practitioners, druggists, and trained nurses.

Many of those who are subject to protracted excessive masturbation are in the borderland, although this cause no doubt has been much over-estimated. The habit in boys and young men is often serious enough, but it does not seem to be as prolific of insanity as it is in girls. When we consider its very much greater frequency in males than in females, the proportionately greater influence of a mental character in the latter class becomes the more apparent. Sexual instinct is much more pronounced in the male than in the female, this fact being manifested in many ways, notably by the brothel, in which women and not men are demanded as the subjects for sexual hire. Woman as a sex is chaste, so markedly so that when one falls her weakness has a commercial value in the market place, quite different from that of her less virtuous brother. Woman is therefore the great conservator of the higher morality and of the major virtues of the race. She has a finer sensibility of the ethics of events than man. Her sexual operations are not dependent upon palpable physical expenditure. Exceptionally only does the woman enter into the sexual act with vehement completeness, and when she does do so the orgasm is largely nervous or psychical only. Fortunately for the moral integrity of the race is this true.

Because of woman's higher ethical sense the moral influence of a habit which she knows to be wrong seems to produce a much more depressing mental effect than the same habit does upon the male; therefore, although much less common in women, its effects when the habit is established seems more pronounced. How often have we seen the young man who has rather gloried in his sexual vagaries! How seldom is this noted in a woman!

As the consummation of the sexual act in a woman, normal or artificial, is largely psychical, so have I found in cases coming under my own observation that the ill effects following this habit in women have more often resulted, not from the habit itself, but from the effect upon the mind of the habitué, from constantly dwelling upon the subject. More often have I witnessed mental misery in women in the higher walks of life as a result of remorse and fear over the habit indulged but a few times, than in others of the less favored classes, in whom the habit has been carried on even to great excess. In either of these cases, however, the patient is in the borderland.

A man who had been married for twenty years during the first ten years was engaged in a business which kept him much from home, occasionally for months at a time. His wife came under my care for melan-

cholia. She said that during these first ten years she had, while her husband was absent, upon not to exceed a half-dozen occasions in all, relieved sexual excitation following menstruation by masturbation. She was in fair general health, although she had long continued to mourn over her supposed complete physical breakdown, a result of the lapses from conjugal constancy already referred to. None of us, I am sure, would attach any great importance to the lapses from marital rectitude in this case other than the physical weight which their occurrence had exerted for years upon the mind of this distressed individual.

Some years ago I was consulted by the wife of a clergyman, then three years married, who was clearly within the borderland through worry over the sinfulness of a similar habit, which had been indulged in for a few months, somewhat regularly some years before her marriage. She had lost much flesh, was sleeping badly, and felt that the decline into which her habit had brought her was the natural and unavoidable outcome of the indulgence of a few dozen times, from which she had felt no physical results until a few months before my attention was called to the case. The habit evidently had no influence upon her condition, except through her mind.

On the other hand, the extent to which some women will go in the habit of masturbation is certainly remarkable, and some of these cases go on into dementia, their habit being almost impossible to overcome. One such case under my own observation would effect her object in spite of every effort to overcome it, which seemed to be the last volitional act in her dementia, accomplishing her purpose, if no other means was possible, by the friction of one thigh against the genitalia. This woman had been twice married, but she had never ceased to masturbate. She had informed members of her own family that the normal sexual act had no interest to her, and that after submission thereto she was always in the habit of seeking gratification for her own desires by manual titillation. With her second husband she had finally required, as a condition precedent to the gratification of his desires, that he should first render such unnatural service in her behalf. She often repeated a statement in her illness, probably a delusion, that she had been taught the habit by a physician while she was a girl, he having informed her that this was advisable to relieve her sexual excitation and to prevent a worse lapse from virtue. This was either a remarkable delusion or extremely reprehensible medical advice.

Prolonged excessive sexual indulgences, no matter how normally accomplished, sends multitudes into the border land. In fact, of all who enter and yet turn aside into the field of mental healthfulness before breakdown has overtaken them, I believe that more than a majority of the travellers in this realm between mental vigor and mental decay belong to this class. Sexual excess is of course a relative term, for what would be moderation in one would prostrate another. That sexual overindulgence is a drain primarily upon the nervous system is manifested in many ways, and by none more so than by the well-known fact that ordinarily he who has much literary work of a high order to accomplish, must, whether he would or not, husband carefully his sexual expenditures.

There seems to be a wise provision of nature by which the phenomenally developed sexual individual in marriage is almost always mated with one possessing to a marked degree less power and proclivities in this direction. After the first blush of newness has worn away, the amorous individual finds that moderation must be maintained on account of the capacity or wishes of the partner thereto, or on account of numerous other reasons always present. Family trouble is almost certain to follow the weakened mental equilibrium of those who persist to sexual exhaustion, so that rest eventually comes, and generally before the mental breakdown is complete, but not always so. Excesses outside of the family state, where the opportunities are present to an unlimited degree, act even with greater force in weakening the nervous vitality, the moral effect of the surroundings accentuating the debility derived from the excessive sexual activity itself. Every physician long in practice has been consulted by some husband, who has complained that his wife has no interest in the sexual act except as one of accommodation for him, and the statement has often been advanced that such a man and such a woman were mismated. I feel that sexually mismated individuals from a neurological and psychiatrical standpoint are always found in those occasional cases where both man and woman possess strong sexual passion and capacity and little self-control, for these people almost always, sooner or later, come into the borderland of insanity.

Many of you will remember a case reported here a few years ago by two members of this society, one of whom was the physician of the man and the other of the woman in the case, the family having separated, in which the completed sexual act as to both parties had been entered into and completed upon an average of five times daily for fifteen years of their married life. These people had for years been in a mental condition closely bordering upon insanity as a result of their excesses, jealousy being the leading symptom of their respective states. The man at the time explained to me, with much shame and regret, that while his disposition was as energetic as formerly, with advancing years his ability would now no longer permit him to complete the sexual act "more than three times a night." The wife sought separation on the ground of infidelity, her only specific claim being that this failure upon her husband's part was evidence that he was expending his sexual power elsewhere. She refused to believe, using her own feelings and desires in this regard as a positive proof, that the age excuse was a valid one.

Another case of excessive sexual expenditure came under my observation last year. The woman in the case, when seen by me, was a sufferer from a pronounced nervous irritability, having lost nearly forty pounds in weight during four months of her then married life. The husband was extremely nervous, both being border-liners. The woman had lost a previous husband three years before, after a few months' illness. The present married life had been full of quarrels, increasing in intensity until she had, just before I first saw her, left her husband and returned to her mother's home.

The story which these people told regarding sexual matters, although over a much less period of time, exceeds anything of which I had heretofore ever heard. The husband stated that he had not returned to his work since marriage, but had remained at home nearly every hour, which seems probably true. He said that during the earlier weeks the number of completed sexual acts had exceeded during each night ten in number, with numerous indulgences during the daytime, and that at the time his wife left him the total sexual expenditure had become reduced to an average of ten times only during the entire twenty-four hours. He also made the startling statement that he thought that this was excessive, but that he could not do less and live in any kind of peace with his wife. The wife, who acknowledged herself the greater aggressor in this sexual contest, said that her husband had named the number of acts of coitus fully completed by both at too high a figure, and that they did not exceed eight or nine times during the twenty-four hours, although she said that occasionally she was herself

unable to complete an orgasm, and that she then required another attempt upon the part of her husband at the moment earliest possible for him to re-enter the sexual state. It seems to me probable that the truth in this matter could be reached by taking a mean figure between their respective statements, so that it is quite likely that these people had averaged one completed sexual congress every two hours for a period of four months. Claims are always to be discounted when matters of this kind are under discussion, but as one of the individuals in each of these cases had a motive in making as light of the matter as possible, it would seem probable that the figures relative to the habits in these two instances might be taken to be reasonably correct. We may wonder less at the grossly disgusting sexual excesses which they portray than at the extremely unusual capacity of the individuals referred to. The individual who indulges once or twice a month, as many times a week, or even nightly, will almost seem impotent when compared with such sexual monstrosities.

Quite in contrast with such instances, yet none the less a border-liner from sexual excess, was a man whose case came under my observation, where sexual congress entered into once fortnightly invariably would intensify nervous symptoms to a distressing extent. This individual would enjoy a comfortable state of health indefinitely so long as he would refrain from sexual expenditures exceeding once monthly, but depression would continue for several days following a more frequent act. This feeling I believe was real, not fancied, for an attempt was made for months to dispel the belief, and although other symptoms, obsessions, did disappear under treatment, medical and moral, the sexual peculiarity remained as before.

Much space in this paper has been taken up with the sexual phase of the subject, because, as before stated, I regard it as the most important causative factor touching the subject of the borderland of insanity. The erroneous belief in and out of the profession, that sexual expenditure is necessary for the maintenance of good health, is, I also believe, one of the fallacies which magnified has had much to do with the encouragement of sexual excesses. Where one individual becomes insane on account of the need of sexual intercourse, if such a case has actually ever existed, thousands become border-liners and a hundred become insane through excesses and syphilis or other resultants of the promiscuity of current habits along this line. Physicians should not neglect to impress this fact upon young men when the opportunities to do so present.

While it would not be feasible to attempt to cover in a general paper, such as this, the subject of the medical treatment for those who are border-liners, this phase of the subject is most important. These people are moving on betwixt mental health and madness, and if we shall do our whole duty by them the latter stage generally may be avoided. Something else than a word of reassurance is indicated to effect their recovery. Every case should be made an object of special investigation, and a course of treatment instituted commensurate with the extreme gravity of the situation. There will not usually be found any short cut to the normal side of the equation, for, regardless of what the cause may have been, the nervous symptoms which we find represent the result of influences so powerful or of such long duration that there is no ground for expecting such prompt results as might follow the treatment of some acute ailment.

Not only should the cause of the trouble be removed, but the patient and the environment in which the cause has been operative should, so far as possible, be separated. The very best hygienic, dietetic, and reconstructive measures should be invoked in the patient's interest. Work should generally be abandoned or changed, complacency of mind encouraged, and new currents of thought suggested and enforced. Moderation should be directed in all things.

Under these methods of care, together with such special regulations as may in each case be indicated with patient supervision of the changing condition of the sufferer's mind, leading it gently but firmly in the proper direction, we may, after a lapse of sufficient time, witness full mental vigor in one who without such treatment and training might otherwise drift into fully developed insanity.

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RECURRENT OCULOMOTOR PARALYSIS: REPORT OF A CASE, WITH REMARKS.[1]

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M. N——, born in the United States, single, twenty-nine years of age, and a type-setter by occupation, was first seen by me December 6, 1900, through the courtesy of Dr. David Webster.

She was in good health until her sixth year, when she began to have attacks of headache confined to the right temporal and supraorbital regions, which were invariably accompanied by vomiting. The attacks occurred every five or six weeks. At her twelfth year, the customary paroxysm was associated with ptosis of the right eye, from which she recovered in two weeks. The migraine continued to recur every five or six weeks.

[1] Paper read and patient shown before the New York Neurological Society, April 2, 1901.

The second attack of oculomotor paralysis took place in her nineteenth year, with the usual orbital, supraorbital, and temporal pain and vomiting. There were partial ptosis, diplopia, and inability to look upward with the right eye. Much improvement followed in three weeks, but the eye did not move upward so well as before. Complete recovery of motility ensued at the end of a few months, and she remained well save the attacks of migraine.

The third attack occurred in her twenty-second year. Almost complete ptosis was present; the eye deviated outward; diplopia existed. She was obliged to keep the affected eye covered for nearly three months. Recovery ensued in about one year.

The fourth attack came on in her twenty-seventh year (two and a half years ago), similar to the third attack, and lasted three weeks.

The fifth attack occurred three weeks ago, with headache, vomiting, and the same eye symptoms. She now complains of the eye turning outward and her inability to look upward.

Menstruation began in her fifteenth year, but the periodical attacks of headache, etc., bear no relation to this function.

Examination shows slight drooping of the right upper eyelid, paralysis of the superior rectus, and paresis of the inferior and internal recti. The right pupil is 5 mm. in diameter, and rigid; the left pupil 3.5 mm., and the reaction is normal.

There is no diplopia as she suppresses the image in the right eye. The motility of the left eye is normal.

The vision of both eyes is $\frac{20}{10}$ and the visual fields and ocular fundi are normal. The result of further examination is negative as to the internal organs and nervous system. Her general condition is that of anæmia and neurasthenia. The family history has proved unimportant. The ocular condition is practically unchanged since the first examination.

This condition has been variously described as "ophthalmoplegic migraine," "intermitting paralysis of the third nerve," "recurring oculomotor palsy," and "periodical oculomotor paralysis."

The cardinal symptoms are, the unilateral character of the headache, the limitation of the ocular paralysis to one side, the pain and paralysis being on the same side, the involvement of the same nerve in all attacks, the frequent involvement of all branches of the nerve, and the intervals of complete freedom.

The most interesting features in this affection are the comparative rarity of this type of oculomotor palsy, and its pathology.

The literature upon the subject is abundant, and shows great diversity of opinion as to the causation of the involvement of the nerve.

I have seen four other cases. My first case was that of a young woman twenty years of age, who presented herself for examination in 1886. There was complete paralysis of the third nerve, with a clear history of the accompanying attack of migraine. Electrical treatment to the eye was instituted, and she recovered in three weeks. Her mother subsequently told me that the patient had two previous attacks of a milder type, from which she soon recovered after using cold-water applications to the eye. The last attack was more severe and lasted over a week; she had, therefore, concluded to seek medical advice. I saw the patient three years later, but there had been no recurrence.

This particular instance is mentioned in illustration of the tendency toward spontaneous recovery, which is also frequently observed in certain other forms of paralysis of eye muscles, although the restitution of normal function is often erroneously attributed to some special form of treatment.

In many of the reported cases, in spite of the recurrence of the paralysis, the patients have ultimately made a complete recovery, both from the attacks of migraine and the accompanying third-nerve affection.

But the outcome is not always so fortunate; for in others the paralysis gradually increases during the intervals and ultimately becomes permanent, thus excluding the admissibility of the vague terms "reflex" and "hysterical" in the description of its etiology.

Only two authentic cases of recurrent oculomotor palsy have been studied post mortem: one by Richter in 1887 (*Archiv f. Psychiat.*, xviii., p. 259) and the other by Karplus in 1895 (*Wiener kl. Woch.*, Nos. 50, 51, 52). In the former case, a fibro-chondroma was found in the course of the nerve trunk at the base of the skull, separating but not destroying the nerve fibres. The patient was a man who developed epilepsy in the course of the affection, and died of pulmonary gangrene. In the second case, there was a neurofibroma of the motor oculi at the base. The patient was a woman who died of paretic dementia. Karplus therefore concludes that the cause of periodical oculomotor paralysis is a palpable anatomical change (probably congenital) at the base of the brain, in the region of the root of the third nerve.

It will thus be seen that patients with this form of ocular paralysis invariably suffer from attacks of migraine, which seem to be fortuitously complicated by the presence of a small neoplasm limited to the course of the nerve at the base of the skull. It has been assumed that the cerebral hemisphere (on account of its increased vascularity during the attack of migraine) presses the tumor against the unyielding cranial base, thus interfering with the conductivity of the nerve.

Without the essential history of the patient in regard to previous attacks of oculomotor paralysis, and their association with migraine, this unusual form of disease would pass unrecognized.

56 East Fifty-eighth Street.

Hydatid of Heart.—A. Jeffreys Wood reports the case of a man in apparently robust health, who died suddenly while riding a bicycle. At the autopsy, the heart was seen to occupy the greater part of the chest, neither of the lungs being visible. The pericardium was closely adherent to the surface of the heart, but with a little force was detached; toward the base of the heart on the left side a white patch showed toward the pericardium, and as the covering was lifted from this part a daughter-cyst, the size of a large marble, escaped from a large mother-cyst in the left ventricular wall. In removing the heart about a dozen daughter-cysts escaped, two of them being as large as bantams' eggs. A small cyst was found on the liver, and another in the centre of an adhesion running between the lower edge of the liver and the duodenum. The rest of the organs were healthy.—*Intercolonial Medical Journal of Australasia*, March, 1901.

Digestive Leucocytosis.—A. Japha says that three theories have been held concerning the post-digestive rise in white blood cells: (1) That a digestive leucocytosis occurs after every meal; (2) that there is a daily ebb and flood in the leucocyte tide, the maximum usually being after the main meal, but persisting even in starvation days; (3) that after a period of starvation the number of leucocytes is increased by a meal rich in animal albumin. As the result of his own observations the author concludes that while the taking of food has some effect on the leucocytosis it is in the main a periodical event occurring in the afternoon and not greatly influenced by starvation, the omission of one or more meals, or by changing the heaviest meal from the middle of the day to the breakfast or supper hour. Contrary to the older beliefs, the in-

crease is not a lymphocytosis but a simple polynuclear leucocytosis, already existing cells being evidently drawn from the cytogenic organs into the circulation.—*Deutsche Aerzte-Zeitung*, April 1, 1901.

Laceration of the Vaginal Vault during Labor.—M. Kaufman finds that about one hundred cases of this casualty have been reported in the literature. According to some authors its gravity keeps pace with its rarity, and it is to be considered more dangerous even than rupture of the uterus, owing to the fact that the latter viscus is contractile and tends to favor spontaneous apposition of the torn edges, while the lax vaginal walls afford no obstacle to the prolapse of the intestine. Regarding treatment opinions are still divided. Laparotomy, simple tamponnade, suture through the vagina, and hysterectomy have all been recommended and practised by various operators. The author believes laparotomy indicated in those cases in which the fœtus is wholly or in part in the abdominal cavity, and also when the bladder is torn or the hemorrhage cannot be checked from below. In most other cases the rent is to be sutured through the vagina, but when the application of sutures is unusually difficult or there is evidence of already existing infection, the wound is to be drained and the vagina packed with gauze.—*Monatsschrift für Geburtshülfe und Gynäkologie*, April, 1901.

Guaiacol in Gonorrhœal Epididymitis.—B. Goldberg gives this agent the highest rank in discussing the many methods of treatment that have been advocated for this affection. It is best applied in a twenty-per-cent. ointment, which may advantageously have as a base equal parts of lanolin and resorbin. This is to be used twice a day after a single preliminary sitz-bath; the dressing is completed by covering the anointed surface first with a compress, then with absorbent cotton and rubber tissue, and finally applying some form of suspensory bandage, which secures perfect fixation of the scrotum. According to the patient's general condition, he is allowed to go about his business, or is simply kept quiet, or is sent to bed, but under the guaiacol treatment the latter is never required for more than three or four days. Internally gr. xlv.–lx. of salol is given daily.—*Centralblatt für innere Medicin*, April 6, 1901.

The Bactericidal Action of the Saturated Solution of Sodium Chloride.—Francesco Testi concludes that this solution has a bactericidal action on various pathogenic germs, this action being favored by a high and constant temperature. The resistant power of bacteria to sodium chloride may be thus classified in a descending scale: Cholera bacillus, Finkler's bacillus, typhoid bacillus, diphtheria bacillus, glanders bacillus, and the pyogenes aureus. This applies when the temperature is above 36° C. The germ of contagious anthrax offers a weak resistance to sodium chloride, losing its vitality after one day's exposure to its action. The bacillus subtilis, on the other hand, offers a prolonged resistance. The skin of carbuncle does not lose its virulence even after twenty days' action of sodium chloride.—*La Riforma Medica*, April 2, 1901.

Tetanus.—Thomas C. Craig says that in the treatment of this disease the cardinal points to be kept in mind are: (1) To treat the wound locally; (2) to try to eliminate the absorbed toxin by the kidneys, the skin, and the bowels; (3) to support the vitality of the patient; (4) to select and apply remedies so as to act on the motor cells of the cord and brain, or to antagonize the action of a toxin by an antitoxin. H. C. Wood, Jr., finds that carbolic acid gives better results than does the antitoxin treatment. It antagonizes the toxin and quiets the nervous system. It should be given hypodermically and in large enough doses (0.72 gm. daily for an adult, beginning with 0.2 gm. at two and three hours' interval, rapidly increasing the dose to double and triple the quantity; a two-per-cent. solution being used).—*The Medical Examiner and Practitioner*, April, 1901.

No Specific Cure for Tuberculosis.—E. H. Smith says that change of climate has less to do with bringing about a cure than plenty of money with which to obtain everything necessary to extreme comfort. Excesses which may creep in as a result of the fortunate possession of money in plenty will defeat the cure. Change of climate at the proper time of the year, and ordered by a physician who has travelled extensively himself through the various places regarded as "health resorts," will perhaps be of benefit by toning up the appetite, interesting the mind, and giving the patient something to take up his time. To send a patient who, perhaps, possesses scanty means, to a barren country with nothing to look at but sagebrush, cactus, and bare hills; to put him in an uncomfortable boarding-house filled with other unfortunates like himself, sent there to cough out a miserable existence, is inhuman. A patient under such circumstances sees nothing but gloom and suffering. He gets improper food, a cold room, and a poor bed. He goes out weak and delicate, to rough it like a healthy laborer. Worse than all, nearly always by the advice of a doctor.—*Pacific Medical Journal*, April, 1901.

Hysterical Astasia-Abasia in a Child Aged Two Years and Four Months.—M. W. Hoge reports the case of a child two years and four months old who was ill with bronchitis for nearly four weeks, becoming considerably reduced in flesh and strength. For about a month after she asserted an inability to walk. Careful examination demonstrated the absence of any signs of organic disease which could cause such disability. She moved the legs freely when sitting, and the amount of muscular resistance which could be offered to passive movements showed that the difficulty was not due to muscular weakness; no muscular atrophies and no pain or anæsthesia could be demonstrated, nor were there any evidences of disease of the bones or joints. The tendon jerks were present in about the normal degree; no vesical or rectal disturbances occurred. When placed in a standing position, she became much agitated mentally, cried out that she could not walk, stiffened the legs and extended the feet so as to stand upon the toes, exerting sufficient strength to maintain herself in this position for a minute or more, and if supported walked with ataxic movements of the legs. While being examined, if asked to grasp something with the hand she protested an inability to do so, but ordinarily used the hands very well. As her physical condition improved the difficulty in walking diminished, and after about a month disappeared, since which time she has continued well.—*St. Louis Courier of Medicine*, April, 1901.

Inheritance of a Gouty or Uric-Acid Toxæmia in Children, with Statistics of Fifty-seven Cases.—C. N. Brandt calls attention to the apparent inheritance in children of a tendency to the retention of uric acid. He presents a table of fifty-seven cases of diverse manifestations of the retention of uric acid; the noticeable points being, first, that in all the cases an age had not yet been reached when it is probable the patient could have acquired gout or uric-acid toxæmia; secondly, that in each case either one or both parents gave histories of uric-acid poisoning; thirdly, that the cases in which there was a paternal history were just one hundred per cent. greater than those with a maternal history. The individual histories of the children showed that so long as they were properly fed and

given plenty of physical exercise, so long they remained well; but the moment any indiscretion in diet, etc., was allowed they developed a condition in which uric-acid retention could be demonstrated and which yielded promptly when the normal uric-acid excretion was again established. The various manifestations comprised eczema, indigestion, urticaria, pharyngitis, tonsillitis, joint inflammation, nasal catarrh, asthma, conjunctivitis, dental caries.—*Pediatrics*, April 15, 1901.

Albuminuria due to Constipation and Diarrhœa.—B. Stiller has for twenty years devoted much attention to this form of albuminuria. His observations show that there exists a non-inflammatory catarrh of the stomach and intestines, attended by the appearance of albumin and casts in the urine. The author holds that the loss of water by diarrhœa accounts for the albuminuria to some extent, but that some toxic influence is undoubtedly also present. There is a lessened water supply in cases of constipation, owing to diminished ingestion of foods and fluids.—*The Medical Echo, Budapest*, April 1, 1901.

Paralysis Agitans without Tremor.—Augustus A. Eshner describes the symptoms of this affection, the chief one of which is usually the tremor. It is, however, not absolutely constant, and its absence does not invalidate the diagnosis. The impairment of mobility is no less distinctive than the tremor. The author reports two cases of paralysis agitans in which the tremor was not absolutely absent, but was so inconspicuous as not to be viewed as a symptom of importance, much less of diagnostic utility. He invites renewed attention to the fact that the disease under consideration may be unattended by tremor, and further that this, when present, may be accentuated by voluntary action.—*Pennsylvania Medical Journal*, April, 1901.

The Etiology of Dysentery in Temperate Climates.—A. Castellani reviews the investigations made in this line by Celli in Italy and Krause in Germany. The former holds that a special form of the colon bacillus is the chief factor in the causation of the disease. This variety is different from the bacillus coli communis, not by its morphological characteristics, but by the properties of the toxins produced. Krause isolated from the fæces of dysentery a bacillus which he has found to be constant in all recent cases of the disease. It possesses very distinct characteristics, such as immobility; it does not liquefy gelatin, nor coagulate milk, nor produce gas in a mixture with sugar. The author holds with Krause that this bacillus is the true agent of the dysentery at present existing in Germany. Investigations in other countries should be pursued in order to ascertain whether the dysenteries of all European climates are etiologically similar.—*Rivista Critica di Clinica Medica*, April 13, 1901.

Puerperal Mastitis: its Prevention and Treatment.—Edward P. Davis declares that the most usual cause of puerperal mastitis is infection. Tuberculous infection of the female breast may be properly suspected in cases of chronic tumor with a serous discharge, in a patient of tuberculous tendencies, and in whom the tumor grows slowly but steadily. If pregnancy should occur, the tumor would probably rapidly increase, and a mixed infection with pus formation very probably take place. Suppurative inflammation of the breast may be feared in patients who have had inflammation in the breast at any time before becoming pregnant. Puerperal mastitis tends to recur with each confinement. A traumatic lesion of the mammary gland also predisposes to puerperal mastitis. Infected cracks or fissures in the nipple remain by far the most frequent sources of puerperal mastitis. The breast and nipple should be washed with castile soap and warm water, the nipple drawn out by the thumb and finger, and a suitable antiseptic ointment applied. Stasis of milk in the breast must be prevented. To preserve the nipples in an aseptic condition, boracic acid is the most available antiseptic. In neglected cases infection may travel into the axilla, and axillary abscess occur. It is sometimes better to err on the side of too early incision than to delay too long. It is undoubtedly safer not to give the child milk from an infected breast. The same germs which infect the breast may infect the intestines, and the milk should be pumped from the breast and not given to the child.—*The Therapeutic Gazette*, April 15, 1901.

The Climatology of Neurasthenia.—F. Savary Pearce says that there are two extremes to be avoided by the neurasthenic invalid, namely, a low, windy, treeless country, and one characterized by constantly quiet atmosphere, high altitude (above two thousand feet), with low atmospheric pressure. Localities where heavy storms are prevalent are to be avoided, as are districts menaced by high winds and frequent fogs; low country with continuous, non-varying, although moderate heat. A sea voyage is usually an excellent preliminary to other climatic measures. The author regards the Maine country about the Rangeley Lakes as almost ideal for neurasthenic patients, having an altitude of six hundred to one thousand feet, with a rare combination of sea and pine-laden atmosphere conjoined with plenty of sunshine, all mildly stimulating meteorological conditions. Next in order in America he places the inland country of New Brunswick and of Nova Scotia; third, the gravelly and stony country in the United States and Canada, the great lake regions of Ontario, Wisconsin, and Michigan, stretching east to the Muskoka Lakes and about Lakes Simcoe and Nippissing. The author gives a table of altitudes of some places near at hand where it is desirable to send neurasthenic convalescents. These include several places in the Adirondacks, Lake Chautauqua, Lake George, Lake Hopatcong, and Harvey's Lake, Pennsylvania.—*Pennsylvania Medical Journal*, April, 1901.

Electrolysis in the Destruction of Organized Strictures of the Eustachian Tube.—J. A. Kenefick discusses the relative advantages of this method of treatment and answers some of the objections brought against it. He concludes by saying: (1) That it cannot be foretold exactly in any given case just what result will follow this treatment, as this will depend largely on two comparatively unknown quantities, viz., (*a*) the vascularity of the tube lining and its toleration of the mechanical and electrical interference, and (*b*) on the degree of tympanic involvement; (2) that tubal obstruction is early present in the great majority of cases of so-called chronic hypertrophic catarrhal otitis media, and that progressive deafness, tinnitus, and vertigo, and many of the peculiar and distressing head symptoms may be purely mechanical, dependent upon closure of the tube by an organized obstruction, while the tympanum and its structures are yet free or only slightly involved; under the latter circumstances brilliant results may follow restoration of the tube's patency; (3) that in any case in which Eustachian obstruction has become organized the best means of disintegrating and causing its reabsorption is by the electrolytic bougie, which in rapidity, efficiency, and permanency excels all known methods.—*Archives of Otology*, April, 1901.

Bicycling in Gastric Disorders.—Fürbringer is a warm advocate of the moderate use of the bicycle in a considerable proportion of stomach diseases. The conditions that most positively contraindicate this

form of exercise are carcinoma and ulcer, and for patients suffering from these affections nothing but harm can result from its use; but, on the other hand, the benefits it brings to less grave disorders are many. At the head of the list stand the nervous dyspeptics and those complaining of habitual lack of appetite without organic disease. In these patients the effect of judicious bicycling is often marvellous, and far exceeds the best results of the most carefully considered medication. Other forms of sport, horseback-riding, running, swimming, rowing, etc., no doubt would equally stimulate metabolism and elimination; but they are all too violent to be permissible for semi-invalids or neurasthenics; while bicycling excels walking, the only other form of exercise that can be compared with it, in the fact that it is so much more economical of time, *i.e.*, that the feeling of well-being and pleasant relaxation following a long walk can be produced in half the time awheel, with the further advantage that the sense of fatigue will be less. Undoubtedly the psychical factor also plays a large part in the happy results, and it is needless to recapitulate the tonic effects of the fresh air, mental diversion, etc., that are involved. The only caution required is that the cases be carefully selected and that moderation be insisted on.—*Zeitschrift f. diätetische u. physikalische Therapie*, vol. v., No. 1.

Tendon Transplanting in Paralytic Deformities.—Clarence L. Starr believes that one cannot claim that the operation will cure, or even be applicable in all cases of paralytic deformities, but it is certainly worthy of a large place in the treatment of these cases, for by its use some are completely cured, and in others it allows of the substitution of a simple form of support for a more complex one. The operation is undoubtedly indicated in those cases in which a group of muscles is left unimpaired, while the opposing group is paralyzed. The foot and the leg are the members to which this treatment has been chiefly applied. Cases in which the operation has been done on the arm have been reported. The author is convinced that in this operation—which consists in rearranging the attachment of the healthy active muscles so that they may act to better mechanical advantage, thus giving the greatest measure of support possible, with the limited muscular activity—a great deal may be done for this otherwise hopeless class of deformities, and with greater experience much better results may be expected. Primary healing must be secured in order to gain success. The tendons should be united by a crucial mattress suture, of kangaroo tendon preferably. Motion should not be allowed till about the fourth week. Goldthwait's plan of dividing the paralyzed tendons, and inserting them into the active ones, is probably preferable to the opposite procedure.—*The Canadian Practitioner and Review*, April, 1901.

On Sounding and Irrigating the Frontal Sinus through the Natural Opening.—W. A. Wells says that successfully to sound the frontal sinus, one must have a probe bent at 3 cm. from the end, which should be rounded, and at an angle of about 100°, though capable of being flexed to a greater or less extent to suit individual differences. Using the uncinate process as the guide (resection of the anterior end of the middle turbinate is necessary in some cases) to begin, apply the beak of the probe well backward in the hiatus, and draw it forward and upward in the direction of the sinus at the same time that the handle is depressed. If it does not slip easily into the cavity, do not use force, but holding always the probe lightly in the hand, reintroduce, feeling for the ostium with the beak a little in front of the hiatus. If the sound be in place one will be aware of it by the following tests: (1) The probe will have penetrated such a distance as to measure more than 6 cm. (between 6 and 7 cm.) from its extremity to the point where the handle is in contact with the anterior border of the floor of the nose; (2) the direction will be such that it makes an angle of about 60° with the floor, or, what is the same thing, the handle makes such an angle with an imaginary, horizontal line or plane, continuing the floor of the nose forward; (3) the beak of the probe will be directed forward (as shown by the ring indicators on the handle); (4) the handle will permit of a certain amount of rotation.—*The Laryngoscope*, April, 1901.

Some Interesting Results of Thyroid Medication.—A. Rivière reports three cases in which he believes that the thyroid functions were perturbed by cancer, by the advent of the menopause, and by influenza respectively. They were certainly not cases of aborted Graves' disease. The administration of iodothyrin caused subsidence of pain, diminution in the enlarged circumference of the neck, and improvement in the general symptoms.—*Medical Press and Circular*, April 24, 1901.

A Family Streptococcus Infection after Influenza.—A. Huber reports the histories of twelve members of one family, of whom seven were newly vaccinated. The whole family except three of this number sickened with influenza, and all of those who had been both vaccinated and had influenza developed buboes in the axilla of the vaccinated side. On incision these were found to contain pus rich in streptococci. The author thinks there was present some unusual infection, the vaccinated arm making a locus minoris resistentiæ permitting the development of acute symptoms in the corresponding glands.—*Correspondenzblatt für Schweizer Aerzte*, April 15, 1901.

The Results of Inoculating the Brain with Micro-organisms Taken from the Nasal Cavities and from Suppurations of the Middle Ear.—Oliviero Barrago-Ciarella gives the following results from a series of experiments: 1. Some of the pathogenic organisms taken from the nasal fossæ produce no effect when inoculated subcutaneously. 2. When injected into the brain they cause death. 3. Certain micro-organisms in small number cause death when injected into the brain and when injected in much larger numbers subcutaneously. 4. Micro-organisms taken from the cavities of the ear are pathogenic even when injected under the skin. 5. In smaller or larger amount they are always fatal when injected into the brain.—*Giornale Internazionale delle Scienze Mediche*, April 15, 1901.

Jaundice in Children.—George F. Still considers the subject of jaundice in children, chiefly with reference to prognosis. He cites several cases of icterus neonatorum in which, instead of lasting a few days, the jaundice lasted more than two months, and then passed off, leaving the infant apparently none the worse for it. Jaundice of the new-born with congenital syphilis is usually fatal. The prognosis is also bad in congenital obliteration of the bile ducts. Cirrhosis may occur in children, usually between the ages of four and thirteen, and in many, if not in most cases, there is no connection with alcohol. A fatal result occurs in two or three years from the appearance of the first symptom. Jaundice also occurs as a complication of various conditions such as heart disease, pneumonia, tuberculosis. In the first instance it is not necessarily fatal, but is of grave significance in pneumonia and tuberculosis.—*Medical Press and Circular*, April 24, 1901.

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CHRISTIAN SCIENCE VIEWED THROUGH THE SPECTACLES OF A LAY WRITER.

THIS cult, fad, or whatever name may be most fittingly applied to the dogmas of the new sect, has not only crossed the Atlantic, but is even said to be making considerable headway among a certain section of the British public. The converts to this recently discovered doctrine are exclusively members of that class known as society, and presumably mainly of the weaker sex. The explanation given of this sudden interest on their part in Mrs. Eddy's teachings is that the wholesale slaughter of sons and relations in South Africa has driven the mourners to draw consolation from some spiritual source. Christian faith does not fill the void in their souls, because to the majority of them true religion is a sealed book; therefore solace is sought wherever it may seem most easily to be found.

Christian Science has had full and exhaustive discussion in this country. In Great Britain literature treating of the matter has been merely congruous to the meagre sympathy evinced by the people for the views set forth by Mrs. Eddy and her disciples. The dissemination, however, of these principles on a widespread scale is now compelling the attention of English writers, and one of the brightest of these has just delivered the sanest opinion on the subject which has as yet been printed. The journalist in question is contributing a series of articles upon Spiritualism in general, and Christian Science in particular, to the London *Referee*. He has been reading Mrs. Eddy's book, and after criticising her obvious bad grammar and logic, characterizes her ideas as simply "the babble of an irresponsible mind."

Commenting upon that portion of the work which refers to medicine, the writer says: "The argument against the employment of medicine for the cure of disease is pathetically naif. 'Which was first, mind or medicine? If mind was first, and self-existent, the mind and not matter must have been the first medicine.' This being so, it follows that mind was the first fire-shovel, and the first load of coals, and the first monkey-on-the-stick that ever appeared in the Lowther Arcade. It is plain, we are told, that God does not employ medicine 'or hygiene,' or provide them for human use, else Jesus would have employed them in His healing. It is also plain that God does not employ the printing-press, or the great Founder of our faith would have used it in the dissemination of His Gospel. If the argument that the use of medicine is in the Christian sense illegal because it was not resorted to in the first year of the Christian era is to be accepted, there is not a great art which has had its growth in the last eighteen centuries which is not equally interdicted from our use and service. There is not a modern product which, in this alarming view of things, is not tabooed to the Christian Science healer's mind. Here is yet another pearl of unreason: 'If drugs are part of God's creation, then drugs cannot be poisonous.' Shall we add to this that if water is part of God's creation, it cannot drown; that if lightning is part of it, it cannot slay; that if an avalanche be part of it, it cannot whelm an Alpine hamlet or carry death and devastation over a populous plain? Mrs. Eddy's argument will not hold water. On the one side she proclaims that God made all things and is All in All, and that all things, therefore, are harmless to His true followers. On the other hand, she enters into a crusade against the use of drugs. The tangled ends of her proposition do not hold together. If drugs are not harmful there is no need of a crusade against them. If God made them they are not harmful. God made everything, and the use of drugs is an appalling mischief."

The fallacies, inconsistencies, and contradictions of the propositions put forward in support of Christian Science are self-evident and must be plain to any person of sense and education. What, then, is the cause of its hold upon individuals of all kinds, ignorant and cultured, for there can be no denying that its tenets are followed by an immense number of people of every state in the United States?

The answer is, according to the writer in *The Referee*, that "it is the foundation upon which the creed is built. That which always has been in the history of mankind is likely always to endure, and there is an insatiable hunger in the human soul for a belief which will lead it outside itself and into the presence of destinies more sublime than are to be sought for in this earthly sphere. However ignorantly that purpose is aimed at by the leaders of the Christian Science movement, the aim itself is manifest to everybody. It does not matter in the least that charlatanism, hypocrisy, and sordid greed are the animating influences of some of its disciples, because there never was a faith, however lofty, which has not been exploited from such motives by ignoble people. . . . There are crowds of people who are making money out of Christian Science, but there is no form of faith whatever, be it religious, political, or social, of which the same thing is not true. If the followers of this latest craze were all of that kidney, there would be no danger in it. Its peril to society lies in the fact that bases itself on the deepest truth of nature, and on that truth builds up its edifice of folly."

The foregoing words are a lucid expression of the causes which have in so short a time pushed Christian Science into a prominent position among the sects of this country. A deep knowledge of human nature doubtless suggested to Mrs. Eddy that by playing upon its weaknesses a mine of wealth might be tapped. If

the high priestess of the new faith is mad, as a perusal of her book might lead one to suppose, there is at any rate "method in her madness." The shrewd commingling of religion and commercialism reveal her not a fanatic but an individual endowed with much judgment of character and a remarkably highly developed business instinct.

This much may be said with respect to the progress of Christian Science in Great Britain: its adherents will not be allowed the latitude they enjoy here, nor will they be permitted to break with impunity the laws of that country regulating the practice of medicine.

RATS AND THE PLAGUE.

At the meeting of the Association of American Physicians, recently held at Washington, bubonic plague was discussed with reference to the outbreak in San Francisco. Dr. Barker, of Chicago, who opened the discussion, in the course of his remarks commented upon the significance of the fact that up to the present there had been no epidemic of the disease among rats in San Francisco. Wherever plague spreads on a wide scale and is of a virulent type, it has been always observed that rats die of the malady in large numbers, and sufficient proof has been undoubtedly afforded that they are among the most potent factors in the dissemination of plague. Koch and Montenegro consider plague primarily a rat disease, and all who have investigated the matter closely agree that these rodents play an exceedingly prominent rôle in the propagation of plague. How the rats spread the disease is quite another question, concerning which there is much difference of opinion, some arguing that the germs of bubonic plague are transmitted to the soil and air through the agency of rats dead and sick with the disease, and thus find easy entrance to the lungs, food, and skin abrasions; there are yet others who believe in contagion and direct infection, while others assert that the disease is communicated to man by suctorial parasites which have bitten the infected vermin, or by flies which have consumed matter in which the plague germs were present. The latter theory would now appear to be gaining ground. Dr. Ashburton Thompson, chief medical officer of health, New South Wales, writes in the April number of the *British Journal of Hygiene* upon the late epidemic in Sydney as follows: "In its mode of spread the plague plainly resembled in some important respects the epizootic tick fever. No theory could be devised, I think, which would co-ordinate the observed facts, unless at all events an animated host, which should not be human, should be discovered for the conveyance of infection. In fact, two such hosts are requisite: one to diffuse the infection, the other to communicate it to man. It is hardly necessary to say what we now believe these two to be; but it is likely that a majority who have not had our practical experience still regard them with the same doubt with which a majority among ourselves regarded them at the beginning of 1900. They are the rat and a suctorial parasite." In short, Dr. Thompson believes with Hankin and Simond that fleas which infest diseased rats are the transmitters of the plague to man.

Nuttall, in 1897, made a series of experiments on flies (Musca domestica), which conclusively proved that flies are able to carry the infection of plague, and that they die of the disease.

Hankin, in 1897, in India killed rats and mice by inoculating them with the excreta of ants (Monomorium vaslator) which had previously devoured rats dead of plague.

Otaga discovered the bacilli of plague in fleas caught upon rats which had died of plague, and is of opinion that such fleas may convey infection by their bites.

The German plague commission in 1897 proved, by inoculating the contents of fleas taken from rats dead of the plague into a guinea-pig, that these fleas contained virulent bacilli.

Simond found that fleas taken from rats and transferred to human subjects proceed to suck the blood of the latter. This is an important point, as it is denied by many that rat fleas will bite man. He further found bacilli in fleas taken from rats dead of plague, which presented the microscopical appearance of plague bacilli. He therefore, as a result of his investigations, reaches the following conclusion: "That the different forms of so-called spontaneous plague in man and animals are usually to be attributed to parasites," and he thinks that this theory explains the prevalence of plague especially in filthy localities.

Nuttall criticises Simond's views as hypothetical and inconclusive, and wisely remarks that more facts and fewer opinions are needed, and that the facts can be gathered only by further experimental research. His own experiments with fleas and bugs were negative.

The question, then, as to the manner in which the plague is conveyed from rat to man cannot as yet be said to have been definitely decided. Flies may, and probably do, transmit the disease, and Simond's parasitic theory of conveyance has many strong points in its favor. This much, however, is undeniably true—that rats are in themselves a danger to the world at large as propagators of the plague, and it would also seem that to them is due the widespread nature of the pestilence and its occurrence in out-of-the-way places.

A wholesale massacre of rats with the means now at hand is impossible, even if such a slaughter were desirable; but by putting into force every possible method for their destruction in those places where plague exists, and by taking rigid precautions to prevent their ingress from ships from infected ports into countries with a clean bill of health, the spread of the disease will be considerably checked. Quarantine is practically useless against the infection—that is, unless the ships themselves are debarred from mooring at the quays. Such a course, it has been suggested, might be followed in the case of suspected vessels.

The most effectual measure in fighting the plague is, after all, cleanliness. Rats flourish chiefly in places where sanitary conditions are bad, and cannot exist where these conditions are good. The truth of this assertion has been demonstrated many times and

in many places. Human neglect is responsible for the multiplication of rats, and this fault can be best remedied by paying strict attention to the laws of hygiene.

THE COMMITTEE OF SEVEN AND PROSTITUTION IN NEW YORK.

In February last the President of the Medical Society of the County of New York, in pursuance of a resolution, appointed a committee to study the question of prostitution in this city in its bearings upon the morbidity and mortality from venereal diseases. This committee, composed of well-known, earnest physicians, has just issued a circular letter addressed to the practitioners of Greater New York, asking their co-operation in collecting statistics upon the prevalence and seeking the views of individuals as to the increase or decrease of these diseases, and the measures best adapted to limit or prevent their dissemination. A movement of this kind, having the prophylaxis of disease as its aim, can count upon the support of the entire medical profession, and the Medical Record desires, in giving its approval, to urge upon all to whom the circular has come the duty of answering, so far as it is possible, the questions bearing upon the vast amount of misery which comes into the doctor's field of vision, which has to do with venery in only a remote way.

Some one has recently written upon non-licentious lues. The term applies with equal force to the many forms in which gonorrhœal affections are thrust upon the guiltless. Some years ago statistics were collected showing the prevalence of ophthalmia in infancy and childhood, due to this cause, and the blindness resulting from it, and the figures were startling. Since then much has doubtless been accomplished in diminishing the number and severity of this class of cases. Vulvovaginitis in youthful subjects has of late years attracted much attention from its marked prevalence in certain quarters, and has been the cause of no little trouble in a number of institutions.

All gynæcologists know only too well what a large percentage of their pelvic cases has an origin directly traceable to innocent infection of this kind. According to some writers family lues is becoming more frequent, and the instances of the disease, innocently acquired, seem at times almost to outnumber the others in the practice of some physicians. There is therefore no longer any place for prudery in approaching so vast a question and one so important to the community at large. Those institutions whose lay boards of managers will not permit the diagnosis of these diseases to appear upon their record books or to be printed in their reports, for fear of offending the sensibilities of delicate and refined persons who might otherwise not contribute to the institutions' support, must awaken to the knowledge that the greatest aim of hospitals and dispensaries is to keep the people well and prevent dissemination of disease of all kinds.

It is earnestly to be hoped that every physician will contribute his mite in so worthy a cause, and if any one hesitates for personal reasons about letting the committee know how many or few cases he may have had the fortune or misfortune to observe during the year he can omit his signature in sending in the returns.

News of the Week.

Syphilis in the Well-to-Do. — The article by this title, published in the Medical Record of May 11th, was in some unaccountable way printed as from the pen of Dr. J. E. McDonald. The author of the paper was Dr. R. A. McDonnell, of New Haven, Conn.

The American Congress of Tuberculosis held its second annual meeting at the Hotel Majestic in this city last week, under the presidency of Mr. Clark Bell. The question of sanatoria was thoroughly discussed, and the proceedings were enlivened by some hard words against present-day medical science embodied in a paper by a former anti-imperialist, who has gradually raised his anti until it applies to everything except himself.

The University of Pennsylvania is about to erect, at a cost of more than $500,000, exclusive of grounds and equipment, a medical laboratory building. It will be quadrangular in shape and will be located on the south side of Hamilton Walk, between Thirty-sixth and Thirty-seventh streets. The building will be two stories in height above a high basement, and will measure three hundred and forty feet front by near two hundred feet in depth. All along the front are arranged small rooms for research, rooms for professors and their assistants, a library, etc.; these open into a private corridor, so that men employed in these rooms may pursue their work without interruption from students passing through the main halls. Perfect lighting of all the laboratories has been obtained, the courts being large enough, with the low front building, to furnish good north light to the laboratory of pharmacy and pharmacodynamics on the first floor, and to the laboratories on the second floor devoted to pathology, the north front of these rooms facing on the courtyard being made almost wholly of glass and extending higher than the front, so that steady north light will be thrown to the back of the room.

The Prevention of Malaria on a Large Scale.— It is stated in the *British Medical Journal* that Major Ronald Ross is about to carry out a gigantic experiment on the connection between malaria and mosquitos by endeavoring to rid an infested neighborhood of the offending insects. Some large town in which malaria is prevalent is to be chosen, and steps will be taken to fill up or otherwise abolish all pools and puddles which can serve as breeding-grounds for Anopheles, and these precautions will be maintained for a period of twelve months. The town which is to be the subject of the experiment has not yet been decided upon, but Major Ross is preparing to start for the tropics in a few weeks in order to direct operations. An experiment on so large a scale will evidently re-

quire the co-operation of a large number of skilled and intelligent assistants, and cannot be carried out without great expense. The expense has, in fact, hitherto been the chief obstacle in the way of such experiments, but in this instance the cost has been generously guaranteed by a private individual, who for the present desires his name to be withheld from publication.

A State Sanatorium for Tuberculosis in Minnesota.—The Minnesota legislature has appointed a commission to investigate and report concerning the advisability of establishing a State sanatorium for the care and treatment of indigent consumptives.

The Plague is reported to be decreasing at Cape Town, only one case having been reported in the three days ending May 19th. The total number of cases to that date has been six hundred and thirty-nine, two hundred and ninety-two of which terminated in death.

No Compulsory Vaccination in Wisconsin.—Governor La Follette, of Wisconsin, recently vetoed the Collins compulsory vaccination bill. In giving the reasons for his veto, the governor said he did not believe that an emergency existed demanding such a law, which he characterized as repugnant to many good citizens.

Stony Wolde Sanatorium.—At a meeting of the incorporators and directors of this sanatorium, held last week, under the presidency of Mr. Frederick B. Jennings of the advisory board, the following were elected officers of the institution for the ensuing year: *President*, Mrs. James Edward Newcomb; *Vice-Presidents*, Mrs. George F. Shrady, Mrs. H. Walter Webb, Miss Virginia Potter, Mrs. Anson R. Flower; *Recording Secretary*, Mrs. John Caldwell Coleman; *Corresponding Secretary*, Mrs. William Hubert Burr; *Treasurer*, Mrs. Edgar L. Marston; *Assistant Treasurer*, Mrs. Herbert L. Satterlee. The institution will be for the care and treatment of working girls, young married women, and children suffering from incipient tuberculosis, and will be situated at Kushaqua, Franklin county, this State. A tract of land comprising twelve hundred and fifty acres has been secured, and it is hoped that work on the buildings will be begun by July 1st. It will be necessary to have $50,000 in hand on that date; of that sum $36,000 is now in the treasury.

The New York State Hospital for the Care of Crippled and Deformed Children was formally opened at Tarrytown on May 18th. Bishop Potter, the president of the board of managers of the institution, presided and made the opening speech. A special train took about three hundred persons to the Tarrytown station, whence they were taken in stages to the new institution, situated on Paulding Avenue, overlooking the Hudson. The opening exercises were held in a tent on the large lawn which surrounds the hospital building. Dr. Robert F. Weir, of Columbia University, A. Alexander Smith, of the University of the City of New York, and William M. Polk, of Cornell University, and Mr. William Rhinelander Stewart also made brief addresses. Aside from Bishop Potter, the board of managers consists of J. Hampden Robb, J. Adriance Bush, George Blagden, Jr., and Dr. Newton M. Schaffer. There are at present eighteen patients in the institution.

Smallpox in a Convent.—Fifteen cases of smallpox were discovered last week in St. Francis' (Polish) Convent, Detroit, and the entire institution has been quarantined by the board of health. There are one hundred children and thirty nuns in the convent. The victims have the disease in a mild form, and no deaths are expected.

A Loss to Tropical Medicine has been sustained by the death of Dr. Paul Kohlstock, which, as we have previously noted, occurred at Tien-Tsin on April 15th. He was born in Berlin in 1861, and received his medical education at the Friedrich-Wilhelm University. Entering the medical service of the German army in 1887, he was in the following year sent to East Africa, where he worked under Wissmann. In 1890 he became staff surgeon, and as such served as assistant in the third medical clinic of the Charité, Berlin. A year later he was appointed lecturer on tropical hygiene in the Oriental Seminary. In 1896 he accompanied Koch to Cape Colony for the investigation of cattle plague. His contributions to medical literature were mainly concerned with tropical hygiene, and especially with malaria, and although only forty years old he had won for himself an enviable position as an authority on all subjects relating to tropical medicine.

Damages Claimed for an Incorrect Diagnosis.—A claim for damages on somewhat curious lines is now being heard by the Paris courts. A young man, the manager of a warehouse, was taken suddenly ill at the house of his fiancée. The family doctor of her parents was called in, and diagnosed the case as tuberculosis, persuading the young man to undergo an operation. Then the doctor informed the parents of the fiancée that the young man was suffering from consumption, whereupon the marriage was broken off. On consulting his own doctor, the opinion of the other medical man was controverted, and upon expert evidence being taken it was found that there were no signs of consumption, while the operation performed was absolutely unnecessary. Wherefore the young man is suing for damages for "unnecessary mutilation" and for loss consequent upon the change in his matrimonial prospects.—*Medical Times and Hospital Gazette.*

Smallpox Throughout the Country.—Some statistics recently collected by Dr. Dillingham, of the New York City health department, regarding the prevalence of smallpox in the different States of the Union, show that this city is by no means peculiar in its suffering from this disease. He finds that during the eighteen weeks from December 28, 1900, to May 3, 1901, there was a total of 22,344 cases of smallpox reported in the United States. Of this number there were in New York City only 723 cases, while there were in Kansas, 3,915; Colorado, 1,763; Minnesota, 2,753; North Carolina, 723; Ohio, 1,685; Tennessee, 4,228; Utah, 724; Alabama, 45; California, 64;

Connecticut, 9; Delaware, 57; Iowa, 26; District of Columbia, 51; Florida, 113; Georgia, 22; Idaho, 10; Illinois, 354; Indiana, 557; Indian Territory, 216; Kentucky, 59; Louisiana, 206; Maine, 1; Maryland, 26; Massachusetts, 15; Michigan, 55; Mississippi, 4; Missouri, 215; Montana, 218; Nebraska, 654; Nevada, 1; New Jersey, 46; New Hampshire, 334; New Mexico, 4; North Dakota, 66; Oklahoma, 690; Oregon, 10; Pennsylvania, 221; Rhode Island, 10; South Carolina, 10; Texas, 486; Virginia, 328; Washington, 38; West Virginia, 66; Wisconsin, 575, and Wyoming, 4.

New York Medical Society for Clinical Research.—At the meeting of this society held Monday, May 20th, there was a discussion on "Infantile Diarrhœa," papers being read by Drs. Heller and Lubman.

The American Dermatological Association.—The twenty-fifth annual meeting of this society will be held at the Beach Hotel, Chicago, on May 30 and 31 and June 1, 1901, under the presidency of Dr. Francis John Shepherd, of Montreal. The secretary is Dr. Frank Hugh Montgomery, of Chicago.

Garbage Cremation on Barren Island.—The supreme court has declared unconstitutional the law passed a year ago forbidding the burning of the city garbage at the crematory on Barren Island, and accordingly such disposal of it may now be resumed. The Barren Island site was selected by the late Colonel Waring as the most appropriate place, and a private company erected a plant there at a cost of about half a million dollars.

Exhibit of the United States Army Medical Department at Buffalo.—Dr. Edward L. Munson, captain and surgeon U.S.A., has been placed in charge of the exhibit of the medical department of the army at the Pan-American Exposition at Buffalo. The exhibit consists of a model field hospital, and under Captain Munson's command is a detachment of thirty soldiers, who give daily demonstrations of transportation of wounded, first aid on the firing line, field surgery, and the establishment and management of field hospitals.

The American Gastro-Enterological Association held its fourth annual meeting in Washington on Wednesday, May 1st, the sessions being very appropriately held in the banquet hall of the Shoreham Hotel. The following papers were read: "Syphilis of the Liver," by Dr. Max Einhorn; "The German Clinics of To-day," by Dr. J. C. Hemmeter; "Some Cases of Tetany," by Dr. William Gerry Morgan; "The Report of Two Cases of Acute Dilatation of the Stomach," by Dr. Julius Friedenwald; "Treatment of Atonia Gastrica and Splanchnoptosis by means of Abdominal Strapping," by Dr. A. Rose; "Hyperchlorhydria," by Dr. John A. Lighty; "Report of a Case of Cancer of the Cardiac End of the Œsophagus at a Distance of Twenty-one Inches from the Incisor Teeth in a Man Five Feet and Three Inches Tall," by Dr. C. D. Spivak; "Spastic Ileus," by Dr. Edward Quintard. The following officers were elected: *President*, John C. Hemmeter, of Baltimore; *First Vice-President*, Dr. W. D. Booker, of Baltimore; *Second Vice-President*, Dr. S. J. Meltzer, of New York; *Secretary and Treasurer*, Dr. Charles D. Aaron, of Detroit; *Councillors*, Drs. Max Einhorn, of New York, D. D. Stewart, of Philadelphia, and A. L. Benedict, of Buffalo. The next meeting will be held in Washington on Thursday, May 1, 1902.

Fighting Mosquitos.—A number of village and town improvement associations in New Jersey have appointed "mosquito extermination committees" whose function is sufficiently denoted in the title. The Summit committee has recently gone to work most energetically. All the ponds and swamp holes in the town and its neighborhood have been covered with kerosene oil in the hope of effecting the eradication of mosquitos. In about a month the ponds will receive a second treatment.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held May 13th, Dr. F. A. Packard exhibited "A Case Simulating Carotid Aneurism." The patient was an elderly colored woman with extreme tortuosity of all of the superficial vessels and a distinct doubling over of the left carotid artery forming a visible and palpable loop. Dr. Packard exhibited also "A Case of Pernicious Anæmia with Peculiar Pigmentation of the Skin." The patient was an emaciated car conductor of middle age, who, together with marked pallor and extreme reduction in the number of red blood corpuscles and also in the percentage of hæmoglobin, presented a muddy brown hue of the skin in the midst of which were areas of wholly unpigmented white skin. The opinion was expressed that the cutaneous disorder was vitiligo, but none could be formed as to whether it bore any relation to the blood disorder or not. The anæmia, it was thought, was possibly due to atrophy of the gastric tubules. Transitory improvement followed the administration of Fowler's solution of potassium arsenite in conjunction with Basham's mixture of iron and ammonium acetate. Dr. William G. Spiller reported "A Case of Paralysis of the Median Nerve Following a Bullet Wound of the Arm." An operation had been performed early in the history of the case, and the median nerve found swollen and apparently injured, and the question was raised whether under such circumstances it might not be justifiable to excise the injured portion of nerve and unite healthy portions. Dr. D. J. McCarthy exhibited "A Case of Amyotrophic Lateral Sclerosis of Unilateral Type, with Bulbar Involvement." In addition to muscular atrophy and increased reflexes upon one side of the body, the patient presented a typical claw hand, while speech was scarcely intelligible. Dr. McCarthy exhibited also "A Case Showing Increase of the Supra-orbital Reflex." The reflex is elicited by tapping the forehead in the distribution of the supraorbital nerve, and consists in fibrillary twitching of the orbicularis palpebrarum on the corresponding and sometimes also upon the opposite side. It is excited through the arc constituted by the fifth nerve on the one hand and the seventh nerve on the other, being abolished as a result of paralytic disease, and increased as a result of irritative disease. A case presenting the latter peculiar-

ity was demonstrated. Dr. Joseph Sailer read a paper entitled "The Use of Gelatin for the Arrest of Hemorrhage," in which he traced the evolution of this practice and analyzed the results reported. He related cases of aneurism, of gastric ulcer, of typhoid fever, of metrorrhagia, in which it appeared to do good. It may be administered by the mouth or by subcutaneous injection in from two- to ten-per-cent. sodium-chloride solution in amounts of from 200 to 10 c.c. Dr. Sailer read also a paper entitled "A Clinical Contribution to the Clinical Manifestations of Exophthalmic Goitre," in which he spoke especially of the employment of sodium phosphate in treatment, confirming the results reported by foreign observers. Dr. D. D. Stewart reported "A Case of Leukæmia," in which there were at first symptoms suggestive of scurvy, but subsequently fever and other manifestations that raised the suspicion of typhoid fever developed, and now the blood, which had previously exhibited no histological alteration, presented the features of leukæmia. The presence of the Widal serum reaction was reported as a result of a single examination of the blood. On post-mortem examination, in addition to other alterations, a number of ulcers were found in the colon, and a decision had not been reached as to whether these were leukæmic or typhoid. Dr. Stewart made also a brief report of "A Case of Splenic Abscess."

The Loomis Laboratory and the New York University.—The litigation between the New York University, the Medical College Laboratory, and the Loomis Laboratory ended last week with decisions by Justice Truax of the supreme court against the university. By the decision in the suit brought by the Medical College Laboratory the medical school property in East Twenty-sixth Street, including its contents, valued at $150,000, is to be transferred by the New York University back to the Medical College Laboratory corporation, and until this transfer the university is prohibited from using the property. By the decision in the case of the New York University against the Loomis Laboratory it is held that the Loomis Laboratory in East Twenty-sixth Street, which is now allied with Cornell University, is not held in trust by the Loomis Laboratory for the New York University.

Pennsylvania Hospital.—The one hundred and fiftieth anniversary of the establishment of the Pennsylvania Hospital was celebrated on May 11th with appropriate ceremonies.

Faith Curist Fined.—Judge Smith Lent, in the Westchester County court at White Plains yesterday, sentenced J. Luther Pierson, of Valhalla, a faith curist, who was convicted on Tuesday of violating the law by neglecting to call in a doctor for his two-year-old daughter, who was ill with pneumonia, to pay a fine of $500.

For All Creeds and Races—Cornerstone of Mount Sinai Hospital Laid.—Several thousand persons, on the afternoon of May 21st, saw the ceremonies attending the laying of the cornerstone of the new Mount Sinai Hospital, which will occupy the block bounded by Fifth and Madison avenues, and One Hundredth and One Hundred and First streets. Governor Odell, who was expected to make an address, was kept away by the illness of his daughter. The first address was made by Randolph Guggenheimer, president of the council, who represented the mayor. President Seth Low, of Columbia University, who was the next speaker, alluded to the growth of the hospital and its needs for larger buildings and better facilities, and in regard to the broad principles which had been followed in the founding of the hospital he said: "It has always been true that sympathy with suffering is not confined to any race or to any people; but it has not always been true that men of different races and of different creeds could so respect each other's views and honor each other's work as to make possible an occasion like this. I count it not the least of the services which our hospitals have rendered to this community that not one of them asks, when a sick person is brought to its doors, whether he is a Jew or Gentile, Protestant or Catholic." The cornerstone, to which a bronze tablet was fastened and in a chamber of which had been placed a written history of the hospital and other documents, was swung into place, covered with American Beauty roses. Isaac Wallach, president of the Mount Sinai Hospital, received from Isaac Stern, chairman of the building committee, a silver trowel which he used in spreading some of the mortar as the stone was lowered to its resting-place. He said: "We dedicate this building to the glory of God; we consecrate it to the service of man. We rear it for the distressed and suffering of all creeds and nationalities. May it raise its head high to proclaim the doctrine of universal brotherhood; may it stand for ages to cheer and comfort the weary, weatherbeaten traveller in his pilgrimage through life; may it transmit to future generations a message of good will and the epitome of our true understanding of that which is broad, progressive, and uplifting." Closing addresses were made by Edward Lauterbach and by Dr. A. Jacobi, president of the medical board of the hospital.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending May 18, 1901. Medical Director J. C. Wise appointed member of examining-board, Annapolis, Md., for examination of candidates for cadets. Passed Assistant W. B. Grove, orders as member of examining-board, Naval Academy, revoked. Surgeon C. Biddle detached from navy yard, Philadelphia, and ordered to the *Indiana*. Surgeon O. Diehl detached from the *Indiana*, and ordered to the Philadelphia navy yard.

Philadelphia County Medical Society.—At a stated meeting held May 8th, Dr. Simon Baruch, of New York, read by invitation a paper entitled "Lessons of a Decade in Hydrotherapy." He stated that water is a medium through which temperature effects upon the body can be produced, not alone upon the surface but also upon the interior, the result varying with the difference between the temperature of the body and that of the water applied, and differing also as the one is higher or lower than the other, as well as with the manner and the duration of application. The appli-

cation of cold to the surface is stimulating, that of warmth sedative. The former causes contraction of peripheral vessels, with increased arterial tension and an increased supply of blood to the internal viscera; the latter dilatation of peripheral vessels, lowered arterial tension, and a diminished supply of blood to the internal viscera. There can be no doubt that the nervous system, apart from the vessels, also is affected, and an influence is exerted upon respiration and the general metabolism. Extremes of heat and cold may be paralyzing of function to the point of destruction. The effects of hydrotherapy differ also accordingly as friction is employed and as the water is applied in the form of bath, of pack, of douche or spray. Hydriatic procedures are useful in the treatment of acute febrile diseases not so much on account of their antithermic or antipyretic effects, but rather for their vivifying influence upon the peripheral and central nervous apparatus. They are susceptible of scarcely less useful application in the treatment of chronic diseases, especially those of a functional character with manifestations of nervous derangement, improving appetite, strengthening digestion, aiding assimilation and absorption, maintaining nutrition and metabolism, promoting sleep, and stimulating function generally. Dr. Baruch made a special plea for a proper selection of means to ends, for precision in dosage, and for persistence in treatment. To this end he maintained that courses of instruction in the subject of hydrotherapy should be given in the medical colleges in order that physicians may be able to employ intelligently and successfully a most powerful and useful therapeutic agency. Dr. Wharton Sinkler read a paper entitled "The Effects of the Douche in Neurasthenia and Other Nervous Troubles," in which he dwelt upon the utility of hydrotherapeutic procedures in cases in which other treatment is inapplicable or had been employed and failed. One case in particular was related in which insomnia that had proved rebellious to many agents, including hydrotherapy in the hands of many men, had finally yielded to a systematic course of hydriatic treatment. Dr. S. Solis-Cohen stated that he had for a number of years lectured to undergraduate students on hydrotherapy, and he expressed the opinion that every large city should be provided with a hydriatic establishment to which patients could be referred by any physician and receive the treatment best adapted to their individual needs. Dr. J. H. Musser also spoke, and a brief communication on the subject from Dr. James M. Anders was read. Dr. Robert G. Le Conte read a paper entitled "The Value of the Combined Medical and Surgical Clinic to the Student," in which he related a plan that in conjunction with Dr. F. A. Packard he had followed in part at the Pennsylvania Hospital. There are a number of diseases, such as pulmonary gangrene, pulmonary abscess, tuberculous cavities in the lungs, hydatid disease of various organs, appendicitis, gastric ulcer, typhoid perforation, malignant disease in one situation or another, accumulations of fluid in serous cavities, brain abscess, brain tumor, and others, that may require either surgical or medical treatment at one time or another in their course, and that therefore may with advantage be studied conjointly by physician and surgeon, both in actual practice or in teaching. In the clinical course referred to, the medical clinician would consider the various medical aspects of the case —etiology, pathology, diagnosis, prognosis, treatment —after which the surgeon would consider the operative aspects, and if necessary undertake the necessary procedures. At subsequent clinics the progress of the cases would be followed, and in the event of death the specimens would be exhibited. The course had proved most popular and successful, as well as most useful and instructive, both to students and lecturers.

Obituary Notes.—Dr. Andrew K. Minich died at Philadelphia on May 11th, at the age of fifty-four years. He was a graduate of Lafayette College and in 1870 from Jefferson Medical College. He enlisted as a surgeon in the German army during the Franco-Prussian war, and on his return to this country became a lecturer in the Wagner Institute of Science and also in Jefferson Medical College. He was for more than twenty years one of the physicians to the Episcopal Hospital.

Dr. John A. Wells, aged forty-five years, died of pneumonia on Tuesday, May 21st, at his home in Englewood, N. J. He was one of the leading physicians in his town and was the house surgeon of Englewood Hospital.

Dr. Robert Bolling died on May 12th at Chestnut Hill, Philadelphia, at the age of sixty-eight years. He was a graduate of the University of Virginia and in 1855 from the medical department of the University of Pennsylvania. After graduation he became a resident physician in St. Joseph's Hospital, subsequently spending several years abroad in study. On his return he became demonstrator in the Philadelphia School of Anatomy. During the Civil War Dr. Bolling was assistant executive officer at "The Mower" United States Army Hospital. He was president of the Pennsylvania Alumni of the University of Virginia.

Progress of Medical Science.

New York Medical Journal, May 18, 1901.

Relations of Vascular Disease to Heart Disease.—By W. H. Thomson. So far as the factor of intravascular strain is concerned in producing vascular disease, the original cause is to be located in unfavorable conditions within that area of the circulation which ministers directly to nutrition, that is, the capillaries. These in turn are affected by the various poisons as lead, gout, alcohol, intestinal ptomains, kidney disease, and syphilis. We are not yet able to explain the selective action of these various poisons—not able to tell why lead, for instance, attacks the extensors rather than the flexors, but no poison is more selective than syphilis when it causes vascular disease. Its preference is for the arteries as the base of the brain, and the carotids and at the Sylvian fissure, while the arteries of the hemispheres escape. The coexistence of vascular disease may alter the conditions of the problems of heart disease. Hence, recognizing that the heart is only one part of the circulatory apparatus and simply shares in a general diseased condition, we must make a careful study of each case, basing our remedies on not only the result of our physical examination of the patient, but on his physical inheritance and his mode of life.

The Use of the Suprarenal Capsule in Diseases of the Heart.—S. Floersheim summarizes the clinical histories of a large number of cases, and concludes as follows concerning the various therapeutic effects observed: (1) A weak and irregular-acting heart became stronger and more regular. (2) A dilated heart was contracted. (3) A diffused

apex beat became localized. (4) A diffused, loud, and rough mitral regurgitant murmur became localized, smoother, and lessened in intensity, while in some cases the murmur disappeared. (5) A murmur which, owing to the extreme weakness of the heart, could scarcely be heard, became more distinct, thus aiding in the diagnosis. (6) The normal cardiac sounds, when indistinct, became clearer and more easily distinguished. (7) In some cases a rapid pulse became less rapid; in other cases a slow pulse became faster. (8) Patients who were very weak, with organic heart disease, were improved. (9) No effect was observed in organic heart disease when the pulse was strong and regular.

Air a Factor in Digestion.—E. W. Moore considers that the final step in digestion occurs in the lungs in the shape of the elimination of carbonic acid and the oxygenation of the venous blood plus the new products from the food received through the chyle. Hence, an additional chemical element is necessary, and that element is oxygen. Oxygenation is therefore a part of the digestive process because, from the time food has entered the mouth, the circuit has not been changed, barring the absorption of water and the salines, until the systemic circulation has become a factor, because the pulmonic circulation affords the first time at which oxygen is added to the sum of the elements, because all oxygen furnished to the system prior to this is abstracted from, not added to, the sum of the elements after ingestion, and because there is a lung digestion as surely as a stomachic or intestinal digestion.

The Pathology and Bacteriology of the Uretero-Intestinal Anastomosis.—By F. R. Zeit.

The Proper Administration of the Schott Exercises.—By Victor Neesen.

Journal of the American Medical Ass'n, May 18, 1901.

The Ocular Expression of Intranasal Lesions.—By R. Sattler. Two classes only of intranasal lesions are considered. The first group includes certain chronic lesions which invade the anterior region of the middle meatus of the nose—the most anterior cells of the ethmoidal labyrinth—bulla ethmoidalis, the region of the uncinate process, hiatus semilunaris, and infundibulum. Two principal clinical expressions of lesions of this region of the nose on the part of the eyes are met with: (1) Persistent injection of the vessels of the ocular conjunctivæ with prominence and distention also of the muscular branches, often accompanied by passive œdema of the retrotarsal folds. The palpebral conjunctiva does not ordinarily participate in this vascular engorgement. Not infrequently there is observed a retraction of the upper lid and that peculiar stare which is so generally associated with a retarded lid action due to disordered innervation of the sympathetic fibres. In the second class of cases the clinical expression is in the form of most persistent neuralgic phenomena, not conspicuous because of their severity, but mainly for their persistent nagging features, and associated with the most distressing functional disturbances of the eyes. The second class of intranasal lesions refers to cases better understood and unmistakable so far as the diagnosis and general character of the nasal and ocular lesions are concerned. There is invariably present in these cases a focal suppuration in the nose—of the inferior meatus, inferior turbinate—or of the adjacent cells of the ethmoid and frequently of the maxillary sinus. The nasal lesion, however, because of the dominant ocular symptoms, does not receive adequate attention. The cases referred to are those which are considered the most unmanageable of tear-sac and nasal-duct lesions. Chronic suppuration with fistulæ of the tear sac and granular degeneration of its mucous linings are present, together with thickening of its walls, vicious bone ulceration and sequestration on the part of the osseous portion of the nasal duct, focal suppuration of the inferior meatus of the nose, ethmoidal labyrinth, maxillary sinus, etc. These are the cases in which the radical extirpation of the tear sac by cauterization or excision, with or without removal of the lacrymal gland, is necessary.

A Study of the Etiology and Pathology of Rheumatism with Special Reference to "Rheumatic Diathesis."—By A. P. Stoner. The author's study leads him to conclude: (1) That rheumatism is directly due to an infectious germ, and that the symptoms produced vary in accordance with the position and attenuation of these germs; (2) that these germs may at times complicate other disease conditions, as, for instance, scarlet fever, thereby causing rheumatic symptoms; (3) that the nidus of the germs may be located in the joints, which is usually the case, especially in adults, or more rarely in the heart, and quite frequently in the muscles; (4) that the uric and lactic acids found in these cases are products, rather than the cause, of the disease, and that, of themselves, their presence is not pathognomonic of gout and rheumatism, in that they simply show the result of katabolism of the body cells, which condition may be brought on by numerous nutritional disorders; (5) that hereditary tendency, if carefully sought out, may be found in a large majority of cases; (6) that gout and rheumatism, although very dissimilar diseases, each possesses so many traits in common that we have been led to place them in the same family of diatheses. Both produce the same end products of tissue metamorphosis, their nidi of infection have much the same location, and the pathological conditions found therein are closely related. There is a tendency to cutaneous disorders in both diseases.

The Reduction of Temperature in Fevers by Evaporation Baths; Warm Water Being Used for Baths.—By F. H. Williams. The method of giving the baths is thus described: Give a bath whenever the temperature is 102° or 102.5° F. Have the patient lie on a blanket during the bath; cover him with one thickness of surgeon's gauze, which, when moistened, shall fit the skin perfectly, and sprinkle the gauze with water at about 115° F. Note the amount of water evaporated, and be guided by this in giving the bath, not by the time required to evaporate the water; the rapidity of evaporation depends largely on the amount of moisture in the air. Have as little clothing on the patient as possible, night and day, so long as the temperature is 102° F. or more, nothing more than a sheet; in private practice the patient may be without covering. Judging from results given, the method appears to be reliable and efficient. It is often applicable when the full tub bath is for various reasons impossible. Evaporation can be hastened by fanning.

Amputation through the Hip-Joint, with a Synopsis of Two Hundred and Sixty-Seven Cases in which the Author's Method was Employed.—By J. A. Wyeth.

A Case of Acute Dermatitis Caused by the Use of a Hair-Dye Having for its Base the Hydrochlorate of Paraphenylene Diamin.—By A. D. Mewborn.

On the Relation between the Variety of Micro-Organisms and the Composition of Stone in Calculous Pyelonephritis.—By T. R. Brown.

A Brief Note on the Pathology, Diagnosis, and Treatment of the Nasal Accessory Sinus Affections.—By E. L. Vansant.

The Vesicular Murmur and its Relation to Pulmonary Health and Disease.—By T. N. McLean.

The Financial Relations of the Medical Profession to the People and Public.—By J. J. Conner.

Complete Inguinal Extraperitoneal Hernia of the Bladder; Recovery.—By J. F. Baldwin.

The Streptococcus Pyogenes in Gynæcologic Diseases.—By G. B. Miller.

Ménière's Disease, with Report of a Case.—By R. A. Bachmann.

Difficulties and Dangers of Anæsthetics.—By D. N. Eisendrath.

Boston Medical and Surgical Journal, May 16, 1901.

Infantile Scorbutus.—John Lovett Morse writes that while the more marked cases are now usually recognized, the milder cases are often overlooked and misunderstood. The disease usually occurs between six months and two years of age. The earliest symptoms are probably anæmia and malnutrition. The first, as well as most persistent and constant symptom, is pain, which increases steadily in severity, and usually occurs in the legs, back, and arms. Paralysis is often suspected, as the patient dreads to move the extremities for fear of increasing the pain. Swellings begin to appear, more commonly in the thighs, and are due to subperiosteal hemorrhage. Swelling, sponginess, and ulceration of the gums, hemorrhages in various parts and tissues of the body, anæmia, and occasional fever are the ordinary symptoms. The majority of cases arise in babies fed on proprietary foods; in some instances, however, it occurs when the child has been fed on breast or cow's milk. The treatment consists of regulation of the diet and the administration of orange or lemon juice.

A Case of Accidental Inoculation of Cancer in a Fresh Wound.—A. J. Cabot reports the case of a man aged fifty-nine years with a cancer high up on the anterior wall of the rectum. An opening was made through a Kraske incision into the rectum posteriorly and the cancer removed. During the manipulation the growth was rubbed about in close contact with the wound made by the Kraske operation. The patient remained well for two years, when a hardening of the tissues behind the rectum was noticed. This was found to be an adenocarcinoma like the first. The scar in which the recurrence took place was separated by an interval of five or six inches from the original seat of the growth, the tissues between having remained healthy. The lymphatic vessels from the seat of the original disease ran upward to the lumbar glands. This anatomical relation, together with the absence of any

lymphatic structure in the recurrent nodule, removed any suspicions of this having been a second growth in a gland.

Neuritis Recurring after Atrophy of Both Optic Nerves in a Case of Brain Tumor.—Edward R. Williams reports a case in which among other symptoms there are three points worthy of notice: (1) Recurring neuritis following the atrophy of each disc; (2) the similarity in appearance between neuro-retinitis caused by brain tumor and a chronic nephritis; and (3) the mildness and indefiniteness of all the symptoms, both ocular and general, as compared with the amount of change in the brain. A large part of the corpus callosum was totally destroyed, and the apex of the new growth appeared in the interpeduncular space, where it compressed the second and third cranial nerves. The only effect on the third nerve was to irritate it sufficiently to cause a temporary dilatation of the left pupil. There was no paralysis of the eye muscles.

The Treatment of Psoas Abscess by Incision.—By Robert W. Lovett.

American Medicine, May 18, 1901.

A Plea for Uniformity of Technique in Widal's Reaction.—Randle C. Rosenberger urges that the following points be adopted in order to attain uniformity of technique in Widal's reaction: (1) The use of a uniform dilution. (2) A definite time-limit. (3) An agreement as to what constitutes a positive reaction. (4) The use of a culture of definite age, and a clear statement as to incubation or non-incubation. (5) A decision as to whether dried blood, fresh blood, or serum is to be used. (6) A stated number of tests to be made in a given case. (7) To drop the terms "doubtful" and "pseudo" reaction. (8) Use of terms "positive" and "negative" only. The author adds that he is merely pleading for uniformity in this method—not for the revolution of it.

Disease and Deformity of the Knee; Etiology, Diagnosis, and Treatment.—By Daniel W. Marston.

The Effect on the Blood of Ether Used as an Anæsthetic.—By J. Chalmers Da Costa.

Slow Pulse, with Special Reference to Stokes-Adams Disease.—By Robert T. Edes.

Blood Examinations as an Aid to Surgical Diagnosis.—By Joseph C. Bloodgood.

Fractures and Dislocations of the Spine.—By Stephen H. Weeks.

The Toxin of the Colon Bacillus.—By Victor C. Vaughan.

The Cause of Cancer.—By Thomas S. Cullen.

Philadelphia Medical Journal, May 18, 1901.

Gastric Tetany, with Report of Cases.—William Gerry Morgan gives this interesting communication: One of the cases reported was that of a man aged forty years, well-nourished and muscular; he was of nervous temperament but cheerful disposition. He had suffered from slight attacks of dyspepsia for more than ten years. At times he had spells of dizziness whenever worried or hurried after a hearty meal. Seven years ago he had an attack which he calls "a fit." After being startled by sudden news he became unconscious; when he regained consciousness his arms were so sore and stiff that he could not use them for several hours, and he was nauseated. These attacks increased in frequency till a few months ago, when he was having two or three a week. In some of the attacks he does not lose consciousness, though he suffers from vertigo. These attacks always begin with the vomiting of very acid liquid, with or without admixture of food. The attacks in which he loses consciousness are not preceded by vomiting, but are usually followed by both nausea and vomiting. During attacks when consciousness is lost the hands and forearms are flexed and rotated inward; the fingers and thumbs are flexed and claw-like, and in the beginning there are muscular twitchings which gradually become quiet, although the contractures continue. The head is rotated more or less to the right side. The tongue is not protruded. The treatment in this case consisted of a suitable diet, with small frequent meals; teaspoonful doses of sodium bicarbonate an hour after meals, to be repeated in an hour if the pyrosis is not relieved; bromide of strontium in five-grain doses before meals. Since five weeks after beginning this treatment he has had only two attacks—both the result of overeating.

An Exceedingly Rare Case of Imperforate Anus.—Charles B. Kelsey reports the following case: The patient, a man aged twenty-four years, was born with an imperforate anus. Within a few days after birth an opening was made in the perineum, and there has always been a free communication between the bladder and the rectum by which urine escaped per rectum and fæces per urethram. He has frequently gone for three months without any fecal evacuation of any sort, at the end of which time the amount of fecal matter passed at one time is very great. There is a deep anal depression ending in an undilatable slit, through which the examining finger encounters an immense fecal impaction of stony hardness. There is no sphincter. It took two men and two nurses, with the patient under ether, forty-five minutes to break up and wash out this fecal mass. There is no corpus spongiosum for about an inch and a half in front of the triangular ligament. Its place is taken by a thin membrane separating the urethra from the rectum. Communication with the rectum existed for a space about one-third of an inch in diameter, at which point the membrane is absent. The incision for colostomy was made and no descending colon was found at the usual site, but instead an immense muscular pouch which felt like an enormous stomach. At the point which would ordinarily mark the end of the transverse and beginning of the descending colon an artificial anus was established with the usual spur, under the gut, through the mesentery. There were other congenital defects in this patient, such as absence of development of the muscles of the left thumb, and almost complete absence of both radial arteries.

The Functional Tests of Hearing.—William Lincoln Ballenger reviews various tests in use for the testing of hearing. The watch test has long been used to test the acuteness of hearing and is of more or less value. It is also used to ascertain the tonicity of the stapedius muscle. In the voice test, Oscar Wolf found the letter R to be the lowest in the scale, while S is the highest. He found speech to be confined within about six and one-half octaves. The greatest strength and timbre belong to the vowel A, and the smallest to the consonant H. The most valuable physiological tests are those made with the tuning-forks and whistles. The test outfit for making a complete test of the range of hearing is the Bezold-Eldemann set of forks and whistles. The Weber experiment is one of the best known and most reliable tests made with the forks. It consists in placing the tuning fork C 2, 512 V., on the median line of the skull, and then closing the external meatus of one ear with the finger, under which conditions Weber found the sound lateralized toward that ear. The writer also describes the Politzer acoumeter, the Schwaback test, the Rinne test, the Galle test, and Bing test Nos. I. and II. He thinks that many of these tests are of great value in making a differential diagnosis and in estimating the probable course and termination of certain cases.

The Disinfection of Wounds with Pure Carbolic Acid.—Von Bruns states that carbolic acid in concentrated solution is relatively less toxic than when diluted, that its penetrability during its brief influence is but slight, and that the bactericidal action of pure carbolic acid surpasses that of sublimate in albuminous compounds. The cauterization with carbolic acid is not particularly painful, so that it may be performed without anæsthesia, and the subsequent pain after fresh incisions is also remarkably slight. The amount of secretion after the first dressing is very small, so that it need not be removed till from two to four days. The author, in his experience, has not noticed local injury, toxic symptoms, or carboluria. He recommends the application of pure carbolic acid in small quantities and for one minute, followed by immediate irrigation with absolute alcohol.

A Further Report on a Case of Presystolic Murmur Associated with Pregnancy, etc., Originally Reported at the Meeting of the Association in May, 1899.—By James Tyson.

Report of a Case of Rupture of the Eyeball from Contusion; Luxation of the Lens; Hernia of the Iris and Ciliary Body.—By J. W. Sherer.

Relations of the Public to the Medical Profession.—By William H. Thomson.

Anisometropia.—By Norburne B. Jenkins.

The Lancet, May 11, 1901.

Three Cases of Myxœdema of Varied Type.—By W. Wyllys. Case I. was that of a woman aged sixty years, who presented a myxœdematous look, with slow speech, thickened features, etc., but became unmanageable and the victim of various hallucinations. She eventually died from acute mania. Case II. was that of a woman aged forty-five years, with apathy and a disinclination to get up. She complained that for the previous twelve months she had felt easily tired and languid and had repeatedly suffered from aching pains in the legs, and that the skin of her face and hands had assumed a yellow tint. She also said that her face had become puffy and that her teeth and her hair had fallen out, and also that the skin on her legs had become rough. She had suffered from menorrhagia, leucorrhœa, and chronic diarrhœa for some months. Her speech was of a measured type and her movements were slow. With these symptoms and signs Wyllys deemed a diagnosis of myxœdema to be logical, and accordingly prescribed five-grain tabloids of thyroidin, one to be taken

every night and morning, with the effect of which she was delighted, stating "that they made her feel much better." The urine was not examined. Case III. was that of a woman aged fifty-two years, who presented the evidences at first of Bright's disease, other symptoms which suggested some brain difficulty, and signs of atheroma of the aorta. She did well, however, on thyroid extract, and the progress of her malady finally rendered the diagnosis of myxœdema certain.

Mental Fatigue in School-Children.—By J. Bellei. The author's conclusions are based on observations made in the public schools of Bologna in Italy. He states that (1) he could not draw any conclusion as to the influence of the single subjects of teaching; (2) the first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in which they were at the time of coming to school; (3) the morning lessons do not produce great mental fatigue; (4) the midday rest is of great use to the children because it does not destroy the good effects of the mental exercise in the morning and enables them to do work of better quality than that which they produce after a long rest, as one observes at the beginning of the morning lessons; and (5) though immediately after the midday rest the children are in the best conditions of mind, an hour or so of application in the afternoon is sufficient to produce such a mental fatigue as to lead at the end of the afternoon lesson to the worst work of the day. Therefore, if the morning application does not fatigue, it consumes the mental energy of the children in such a manner that they cannot undertake light work in the afternoon without falling into great mental fatigue.

Local vs. General Anæsthesia in Certain Cases of Abdominal Surgery.—By T. M. Morse. Certain histories of cases are given in detail illustrative of the following opinions of the author: There are some patients whose condition of extreme exhaustion is such that the additional shock of general anæsthesia will just take away their only chance of life. Most of these are refused operation. The cases referred to are those of acute peritonitis, internal hæmorrhage, and intestinal obstruction. In the last class there is an additional special danger in all cases of stercoraceous vomiting; when ether or chloroform is given it is very likely that while the patient is unconscious some of the fecal matter will be regurgitated from the stomach and sucked into the air passages. Now all of these are cases for operation with a local anæsthetic. They are all desperate cases in which the patients if left to themselves will nearly all die, but many can be saved by a dexterous operation if performed without general anæsthesia.

Importance of the Teaching on Insanity to the Medical Student and Practitioner in Relation to the Prevention of Insanity.—By Robert Jones.

Note on Two Successful Cases of Ovariotomy with Complications, Illustrating the Value of Saline Flushing.—By J. T. Jones.

Diseases of the Maxillary Antrum, their Causes, Symptoms, and Treatment.—By A. Bronner.

Medical Notes on the Life of Edward Gibbon, the Historian.—By W. H. Horrocks.

Pathology and Diseases of the Thyroid Glands.—By W. Edmunds.

Note on a Quiet Effusion into the Knee-Joint.—By L. Stretton.

Etiology and Treatment of Convergent Squint.—By C. Worth.

British Medical Journal, May 11, 1901.

Experiments upon the New Specific Test for Blood.—George H. F. Nuttall and E. M. Dinkelspiel have made investigations in this subject which confirm and extend the observations of others with regard to the formation of specific precipitins in the blood serum of animals treated with various serums. They conclude that these precipitins are specific, although they may produce a slight reaction with the serums of allied animals. The substance in the serum which brings about the formation of a precipitin, as also the precipitin itself, are remarkably resistant. The new test can be applied to a blood which has been mixed with that of another animal. This is the most delicate test known of detecting and differentiating bloods, and must become of great forensic use.

Responsibility and Crime.—Alexander Robertson reports several instances of the strange conduct of epileptics, which show that they are not infrequently really unconscious of doing apparently purposive acts of a criminal nature, though such acts may appear to be done consciously and with evil intent. They many times commit acts of violence of which they later show themselves to have been perfectly unconscious. It is not infrequent for them to be very sensitive about these "turns," which they dislike exceedingly to have mentioned.

Note on the Probable Relationship of Vaccinia to the Inoculated Form of Smallpox in Man.—S. Moncton Copeman describes numerous experiments which he has performed, their point of interest being found in the fact that whereas the human smallpox material employed could not be got to "take" directly on the calf, nevertheless results typical of ordinary vaccinia were obtained when the strain of lymph, after inoculation with it of a series of monkeys, was again transferred from the inoculation vesicles on this animal to the epidermis of the calf.

The Treatment of Dysentery.—Richard A. Mate gives the following treatment for dysentery, which in his experience is the only one he has found of any avail: ℞. Mag. sulph. ʒ i.; acid. sulph. dil. ♏ x.; quininæ sulph. gr. i.; tinct. opii ♏ x.; hydrarg. perchlor. gr. $\frac{1}{32}$; aq. menth. ad ʒ ss.; every three hours. He finds that patients derive great relief from an irrigation with a solution of boracic acid (ʒ i. to O i.). Tenesmus is relieved by the repeated application of turpentine stupes.

Diphtheria Antitoxin Administered by the Mouth.—W. Campbell McDonnell reports the case of a girl aged fourteen years, whose tonsils were both covered with a thick, soft, white pellicle, in which the diphtheria bacillus was found. Antitoxin serum was given by mouth and the child made a rapid recovery.

A Case of Gastro-Jejunostomy for Complete Rupture of the Intestine at the Duodeno-Jejunal Flexure. — By B. G. A. Moynihan.

Perforated Gastric Ulcer; Operation Twenty-Eight Hours after Perforation; Recovery.—By H. Wynter Shettle.

Note on A Case of Enormous Dilatation of the First Part of the Duodenum.—By Gilbert Barling.

Notes on a Mild Type of Smallpox (Variola Ambulans?).—By F. Montizambert.

The Spontaneous Cure of Hydatid Cysts.—By W. M. Stevens.

Treatment of Erysipelas with Carbolic Acid.—By N. S. Fraser.

A Case of Tuberculous Disease of the Cæcum.—By J. Maitland.

Case of Sarcoma of the Stomach.—By A. Christy Wilson.

An Address on Pancreatitis.—By A. W. Mayo Robson.

Congenital Hepatic Cirrhosis.—By J. E. Blomfield.

French Journals.

The Resection of the Wrist by the Double Longitudinal Incision, Dorso-Palmar or Transmetacarpal (Method of Studsgaard of Copenhagen).—Francis Villar concludes that the resection of the wrist by the method of double, longitudinal, transmetacarpal incision is easy to do. It offers a considerable opening and allows a good view of osteoarticular and tendinous lesions. It would be systematically indicated in all cases of osteoarthritis of the base of the metacarpals and of the carpal bones—especially those of the second row. It is very evident that in a limited lesion at the inferior extremity of the radius or ulna, a direct incision exposing the pathological focus would be the operation of choice. The same applies to a limited lesion of a metacarpal bone. In cases of lesions of the carpal bones longitudinal incision would be preferable to other methods for the following reasons: It is less laborious and it is more convenient for the extirpation of all the affected parts. There are certain other cases in which the double longitudinal incision is still more justifiable—cases in which the lesions, very extensive, almost demand amputation; cases in which, although the osseous lesions are not very extensive, still there are tuberculous foci in the synovial sheaths of the tendons of the wrist. In the first place, the large opening created by the incision more easily permits the removal of all of the affected parts and avoids the necessity of amputation. In the second case this method exposes the sheaths on all sides, and gives easy opportunity to remove all the diseased foci, whose ablation is a delicate procedure and sometimes incomplete when simple resection is used. The results which this method have given are, to judge from the published observations, excellent.—*Journal de Médecine de Bordeaux*, April 28, 1901.

Narcolepsy and Obesity.—The following case was reported by Paul Sainton. The patient was a man aged forty-three years, who was afflicted with obesity. For some time he felt no inconvenience, till at last he began to suffer from insomnia. After this an irresistible desire for sleep came over him. These attacks occurred during the day with varying frequency. They occurred especially at times when he wished to write. One time an attack came on as he was descending a staircase, and he fell, striking his forehead. This sleep was not always pleasant, and he woke several times with a feeling of indefinable anxiety. He began to eat less. He grew a little thin and the sleep crises were less frequent. He was not so tired; but he did

not continue to diet. Finally, he sought medical advice. The urine was quite normal in every respect. The patient was subjected to a special régime—fresh fruits, green vegetables; his drinks consisted of water and weak tea; before every meal he took ten drops of tincture of aloes. A little later he took clear bouillon. His weight decreased considerably. His intellectual and physical activity revived. He had no more narcoleptic crises nor nocturnal insomnia. The author believes that emphasis enough has not been placed on the rôle of this factor in the production of attacks of somnolence; for in obesity, as in most of the cardiac troubles in which it shows itself, narcolepsy ought to be regarded as having an autotoxic origin.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, April 28, 1901.

Epidemic Cerebro-Spinal Meningitis.—Dr. L. states that this disease generally begins bruskly and is rarely preceded by a prodromal stage. There are general malaise, headache, and pain in the dorsal region. Then follow chills, fever, and often vomiting. Opisthotonos is characteristic of this disease. Paralyses are often noted. These epidemics generally strike only limited groups of people and rarely extend to all the population of a town. It is especially active in cold weather. It is infectious. Isolation, however, is useless. It presents the characters of an infection, but the micro-organism is not yet definitely determined nor its port of entry into the organism. It is very often complicated by broncho-pulmonary affections, as well as affections of the sense organs and the articulations. The prognosis is dubious. As to the treatment, lumbar puncture is advocated by some. Hot baths probably give the best result. They calm the delirium. Cold baths are not beneficial. Ergot and potassium iodide have been proposed. The writer believes that the medication should be symptomatic.—*La Tribune Médicale*, April 24, 1901.

Transmission of Scarlatina to a Cat.—E. Rapin reports a case of this kind. The cat was only a few weeks old and belonged to a Russian family in which there were two little girls with this disease. The cat also fell ill. It cried for several days, its eyes were brilliant, its skin was rosy, and its tongue a vivid red. Its hair fell out in quantities. The baldness was observed over all the body surface. The skin looked scaly. The writer then details another similar instance of a cat taking scarlatina from a little child. He thinks that, although it may not be an absolute proof, still it is a sufficient proof that an illness had been transmitted from a human being to an animal.—*Progrès Médical*, May 4, 1901.

Münchener med. Wochenschrift, April 30, 1901.

Blood, Body Cells, and Bacteria.—L. Heim describes some experiments undertaken to determine whether, in addition to the protective bodies supposed to exist in or be formed by the serum and leucocytes, the red cells also possess the power of resisting bacterial invasion. The earlier attempts were made with typhoid cultures and rabbit's blood, slaked by the addition of eel serum, but later experiments showed that this preliminary treatment was unnecessary. Briefly, the results obtained by adding a small amount of a bouillon culture of the organism to a hanging-drop preparation of defibrinated blood were, that after about four days had elapsed the red cells were completely dissolved and their contents set free, while the fact that the bacteria had been subjected to some destructive agency was made manifest by their loss of motility, semi-agglutination, and evident structural degeneration as shown by swelling and granule formation. It therefore seems that a new antiparasitic property of body cells and serum has been discovered, which appears when the invaders have overcome the alexins and begun to propagate. The contents of the red cells may at first provide a suitable culture medium for bacteria, or at least not inhibit their growth, but this is true only for a certain length of time, and after this the parasites are attacked and in part succumb to some destructive agent set free from the broken-down cells.

Poisoning from Canned Lobster.—Georgii reports the poisoning of twenty-four young men after partaking of a lobster salad made with canned material. From two to five hours later the symptoms set in and consisted of intense nausea, vomiting, pains in the back and limbs, severe headache and prostration, great pallor, and rapid, feeble pulse, the temperature remaining unaffected. In the absence of a stomach tube the necessary emptying and lavage of the stomach were effected by having the patients drink large quantities of warm milk and carbonated water. In the majority of cases this treatment was entirely adequate and recovery speedily followed the unloading of the stomach, but three patients in whom the symptoms had been slow to appear went into collapse with apathy and intense backache, so that removal to a hospital was necessary, where two or three days elapsed before they could be discharged. It is interesting to note that the urticarial symptoms common in fish intoxications were absent in these cases, and also that although no albumin was found, traces of sugar persisted in one patient's urine for several days.

A Suggestion for Preventing Auto-Extubation.—Schlechtendahl advises performing intubation in the usual way with the thread attached to the tube and emerging from the mouth. A Bellocq's cannula is then passed through the nares and the thread drawn out through the nostril, where it may be fastened in the usual way with adhesive plaster. The procedure practically entirely eliminates the risk of the child's drawing on the thread itself, while it is not exposed to the movements of the tongue, etc., in swallowing, which sometimes may assist the tube in slipping out of position. Extubation, when necessary, is not increased in difficulty, for the finger swept across the back of the pharynx easily hooks forward the thread when desired.

The Method of Action of Bactericidal Sera.—By Neisser and Wechsberg.

Extracranial Ocular Manifestations of Syphilis.—By O. Schwarz.

Blood Poisoning and Amputation.—By H. Dörfler.

Accident and Disability.—By E. Kiefer.

Deutsche med. Wochenschrift, April 25 and May 2, 1901.

The Technique and Applicability of Subcutaneous Quinine Injections.—Bluemchen says that although in many instances the subcutaneous use of quinine would be desirable, still the more usual forms of hypodermic solution are open to serious objections. The sulphate is out of the question owing to its insolubility, while the muriate requires the addition of hydrochloric acid or alcohol to make it sufficiently soluble for use, and such preparations, as well as glycerin solutions, produce almost prohibitory local lesions. The injection itself is accompanied by severe pain and is followed by dense infiltrations, which not only persist indefinitely but are permanently painful, while necrosis is not infrequently observed. All of these disadvantages may be obviated by making use of the fact that the muriate is very soluble in hot water, and that considerable amounts of the salt are held in solution even when the fluid is cooled down to body temperature. Using this principle, the author has devised the following technique: The hypodermic syringe and needle are boiled in a small vessel and the syringe is filled with the boiling water. The rest of the water in the vessel is thrown out and 7.5 grains of the muriate of quinine put in and the water in the syringe squirted over it. A clear solution results, which by the time that it has been drawn back into the instrument will have cooled down to about 98° F. The best place for injection is between the shoulder blades, and on the removal of the needle a hot compress is applied to produce local congestion and facilitate absorption. The advantages of the method are its safety, painlessness, prompt and certain action, cheapness, and simplicity.

The Bacillus Described by Danysz as Pathogenic for Rats.—J. Kister and P. Köttgen cite the results obtained by Danysz in studying this organism and add some corroborative observations of their own. The bacterium is a short, narrow, actively motile bacillus which differs from the members of the coli group in neither producing indol nor causing the curdling of milk. In pure culture it causes the death of rats in from five to seven days, and of mice in from four to seven, and experiments conducted on a large scale have shown that it is possible widely to disseminate the disease among the animals in question, since the dead bodies are consumed by the survivors and the infection rapidly spreads in this way. The importance of the observation lies in the fact that the present theories of the propagation of the plague give the rat an important rôle as carriers, and the wholesale extermination of the vermin may become a prophylactic problem. It was found that the virulence of the organism is rapidly decreased by passage through the animal's body, the day of death for mice being postponed to the tenth day after ten successive injections, while for rats it loses its virulence entirely. Pure cultures also lose considerably in power with keeping, the most favorable nutrient medium being agar. No danger to the domestic animals, poultry, etc., is to be apprehended in case the bacillus should be used as an exterminating agent, for experiment has shown the complete immunity of all non-rodents to it.

The Alterations in the Malarial Parasites during Treatment with Methylene Blue.—A. Iwanoff contrasts the action of methylene blue and quinine on the malarial organism as follows: In the immature stages of development the relation of chromatin to protoplasm in the parasite is different from what it becomes later on, and the effects of the two drugs vary accordingly. Methylene blue is particularly active in attacking protoplasm, while the nucleus and chromatin are especially susceptible to quinine, hence the young forms which are poor in protoplasm resist methylene

blue but are strongly acted upon by quinine; the adult parasites, which are mainly protoplasm, rapidly succumb to methylene blue, and the crescents, consisting almost wholly of protoplasm, are absolutely refractory to quinine but completely destroyed by the other drug. If a patient whose blood contains the tertian parasite receives five grains of methylene blue three times a day, no change in the structure of the organisms is produced till the end of the second or beginning of the third day of medication. At this time in adult forms a considerable diminution in the power of amœboid motion is observed, as well as a subdivision of the protoplasm into droplets. Sporulation forms also manifest considerable changes, the number of spores being diminished and their outlines made irregular and the protoplasm scanty, while the chromatin is conspicuously unaffected.

The Organism of Vaccinia Described by Funck.—W. Podwyssotski and A. Mankowski publish the result of a series of observations undertaken to investigate the nature of the so-called protozoa of vaccinia recently described by M. Funck. The conclusion reached is that the bodies in question are sebaceous glands and epithelium that have undergone fatty degeneration, since staining with soudan, osmic acid, alcannin, and chinolin blue gave positive results, the addition of acetic acid caused a nucleus to appear, and ether dissolved the so-called spores completely.

The Aims of Functional Diagnosis and Observations on the Blood as an Organ and the Regulating Function of the Kidneys.—By O. Rosenbach.

Further Observations on my Method for the Detection of Human Blood.—By Uhlenhuth.

A Case of Otogenic Meningitis Terminating Favorably.—By Bertelsmann.

Incomplete Sugar Oxidation in the Organism.—By P. Mayer.

The Serum Diagnosis of Tuberculosis.—By E. Romberg.

Berliner klinische Wochenschrift, April 22 and 29, 1901.

Observations on the Diagnostic Value of the Freezing-Point of the Blood.—A. Koranyi gives as the lowest limit to which the blood freezing-point may drop, without indicating renal insufficiency, 0.58° C., while a figure of 0.59° C. is already significant of inadequacy of both kidneys. The causes of such insufficiency may be various; for example, there is a reflex insufficiency due simply to pain in the one organ while the other is perfectly healthy, and certain mechanical conditions like the presence of large abdominal tumors, whether renal or not in origin, may have a similar effect. Therefore, the blood freezing-point is to be taken as an index of disease of both kidneys only when such extraneous factors can be excluded. The conflicting figures which have been published by other observers the author attributes to the lack of certain precautions which it is essential to observe. Chief among these is the employment of sufficiently large quantities of blood; at least 10 to 15 c.c. are required, but as the freezing-point of blood and serum are the same, the troublesome separation of the serum is unnecessary and the attendant waste of material is saved. Another point not to be neglected lies in the elimination of the carbonic acid, which is always present in excess, no matter in what manner the blood is obtained, and as it is variable in amount introduces an inconstant factor into the calculations that must be obviated by a preliminary saturation with oxygen either directly or simply by agitation with air. By the use of Beckmann's apparatus the determination may be quickly made and is accurate to 0.01° C., which is all that is required.

Laryngeal Complications of Influenza.—W. Lublinski says that, although the laryngitis of this affection as a rule does not differ from that ordinarily observed, still at times it presents some peculiarities. Among these are the intense redness and swelling of the mucosa, especially of the vocal cords, frequently seen in grippe laryngitis, as well as the distinct type of hemorrhagic laryngitis, which is to be classed with the hemorrhagic inflammations of the serous and other mucous membranes, such as hemorrhagic pachymeningitis, gastro-enteritis, etc. As a rule the subglottic type sometimes occurring is not accompanied by any serious symptoms, but occasionally it is followed by œdema of the mucous membrane, which requires prompt treatment to avoid severe dyspnœa and dysphagia. In other cases white patches form which ulcerate and go on to necrosis of the soft parts with denudation of the cartilages and abscess formation. These may rarely be due to thrombosis of a vessel, but more often are caused by the intense local congestion. Of other laryngeal complications of influenza recurrent paralysis is not unusual, and posticus palsy has several times been described, as well as temporary functional involvements of the vagus, manifesting themselves as disturbances of the heart, respiration, and soft palate. The prognosis in these cases is favorable, recovery taking place in from four to six weeks.

A Case of Gastric Carcinoma Running a Singular Course.—B. Lewy describes a case of this affection, remarkable for the unusual clinical picture presented. The patient, a middle-aged man, had been under observation for about ten years suffering from obscure stomach symptoms which pointed somewhat to malignant disease, though a positive diagnosis was impossible. About two years before death he was taken with a painful swelling affecting first the one and then the other pectoral region. This was first diagnosed as a polymyositis and then as a lympho-sarcoma; it improved considerably under local injections of Fowler's solution, but this treatment had to be discontinued owing to the patient's susceptibility to the poisonous effects of the drug. At the autopsy there was found a carcinomatous growth of the stomach originating in an old ulcer, with multiple metastases in the mesentery, large intestine, and muscles; the usual sites of secondary deposits, such as liver, spleen, and pancreas, being spared.

Splashing and Atony.—H. Elsner is inclined to deprecate the value of this sign as an indication of gastric atony and states that in general it may be considered of little importance. In cases in which the stomach occupies a normal position it points toward atony only when present in the fasting stomach, or if it still persists seven hours after a test meal. Under the latter circumstances it may be taken as a very imperfect substitute for the stomach tube. In gastroptosis absolutely no value attaches to the sign.

The Conservative Treatment by Vaginal Incision of Pus-Containing Tumors of the Adnexa and their Sequelæ.—By A. Dührssen.

The Energy Equilibrium of the Infant.—By O. Heubner.

Membranous Enteritis.—By H. Westphalen.

Nervous Tachypnœa.—By Reckzeh.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PLAGUE PRECAUTIONS—CLINICAL EXHIBITS—LYMPHADENOMA—PATENT DUCTUS ARTERIOSUS—MYXŒDEMA—INTESTINAL SURGERY FOR DOUBTFUL CASES—ARTERIAL HEMORRHAGE FROM THE EAR—LEUKÆMIA—APPOINTMENTS—FELLOWSHIPS—DEATHS OF DRS. CAVAFY, SAMUELS, AND LORIMER.

LONDON, May 3, 1901.

PLAGUE has begun to enter into our conversation, but no one seems to entertain any apprehension, although every one approves of the precautions that have been taken against the invasion of the disease. The county council has adopted the measures recommended by the public health committee, and the asylums board is co-operating with it. The arrangements made place at the service of every practitioner the expert advice of Mr. Cantlie, who has been retained by the council and who will visit any suspicious case. His long experience in China is therefore available for diagnosis. On his certificate any case will be isolated by the asylums board, while the council will provide isolation houses for contacts. Furthermore, in all suspicious cases a bacteriological examination will be made by Dr. Klein. The local dormitory authorities will undertake the destruction of infected articles and the disinfection of houses.

These measures seem to inspire confidence that we shall escape the scourge, although there is a degree of divided responsibility which seems unfortunately necessary.

As to the ports, in reply to a question in the House, the president of the local government board said special memoranda had been issued to all the local authorities, and further instructions would be forwarded as might be thought desirable. An inspector of the board would be sent to confer with the local officers of health in any threatened port, and every effort made to prevent the introduction of the disease.

On Tuesday it was stated in the House that a few fresh cases had occurred in Cape Colony. This morning the newspapers published an ominous telegram that a suspicious case had appeared at Mafeking.

One of the memoranda of the government board relates to ship-borne rats, and directions are given for the prevention of plague entering through the rats. The destruction of these rodents should be carried out both on board ships and on land. There is ample evidence that they convey disease, and at the best they are a nuisance. I am sorry the board has not advised the plan reported from

your side the Atlantic of destroying them on ships by sulphur fumigations, which should be fatal to other vermin as well as rats.

The clinical evenings at our societies are often specially instructive and interesting on account of the various views taken of the cases exhibited. Perhaps it would be well if some of the cases in the law courts could be subjected to a similar ordeal. That might prove a better method than the consultation between medical witnesses so often proposed. Some of the patients shown at the Clinical Society last Friday illustrate the different points of view which may be taken of cases by competent observers. A lad of sixteen years was shown suffering from what was called chronic general lymphadenoma. He had taken a prolonged course of arsenic, during which lymphoid growths developed on the skin, but which decreased on the suspension of the treatment. It was said that the lymphatic glands all over the body had been affected, and that there was decrease of the red blood corpuscles with some increase of the white. A suggestion was thereupon made by a member that it might be a case of mixed tuberculosis and hereditary syphilis. Another member thought the swelling had a tuberculous look, while the patient had not the facies of lymphadenoma. A case was mentioned in which similar swellings had been seen in the skin associated with lymphadenitis. In reply to a question it was stated that microscopically the character of the swelling was that of lymphadenoma.

A woman of twenty-one years was shown as suffering from patent ductus arteriosus. There were some slight cyanosis; a faint diastolic thrill in the second left space; acute second sound, feeble first sound, generally doubled; and at times a short diastolic murmur. She had had cardiac symptoms from childhood, dyspnœa for the last three years, and there was no history of rheumatism, chorea, or scarlet fever. In this case one suggestion made was that it was one of aortic regurgitation. This was disputed and another suggestion made of tricuspid stenosis, and yet a third of congenital mitral stenosis. The president hoped the case would be kept under observation.

A girl was shown who had recovered from a condition of myxœdema under the use of thyroid extract. The history suggested a congenital origin. One member, therefore, thought it should be described as cretinism, especially as the presence of mucin in the tissues had not been confirmed.

The meeting of the Medical Society was occupied with intestinal surgery. Mr. Barker related a case of a woman of thirty-nine years who left the hospital on the sixteenth day after operation for hernia, but returned later with obstruction and general peritonitis. The abdomen was reopened and the bowel found kinked in the hernial sac. It was greatly shrunk, and enterectomy seemed the only resource. This was performed, thirty-seven inches being removed and end-to-end anastomosis done. Recovery followed. Mr. Barker recalled other cases in which he regretted not having resected instead of leaving the chance of the bowel recovering its vitality without adhesions.

Mr. Morgan (president) would hesitate to resect the bowel if it had any sign of vitality, for many cases of great damage ended in recovery, and it was very seldom that the abdomen had to be opened for obstruction after the bowel had been returned.

Mr. Malcolm thought in this case the bowel might have recovered. In all such operations there is liability to adhesions, and therefore he questioned the propriety of resection. He lately put back a bowel matted with adhesions and the patient did well.

Mr. Moullin then read a case of obstinate atony of the colon in which he had short-circuited the intestine by anastomosing the lower end of the ileum with the sigmoid flexure. The patient had suffered for seven years or more. For five years nothing had passed without an enema attended by severe pain. The abdomen had been opened three times previously. It was opened for a fourth time and the anastomosis established. The next day a liquid motion passed naturally, the first time for five years. The patient gained a stone in weight, and left the hospital well. Recently Mr. Moullin heard that constipation is returning, suggesting contraction of the anastomotic orifice, which is sure to occur unless the orifice is of enormous size.

Mr. Morgan said such operations must rarely be necessary; it would be interesting to know what happened to the intervening portion of colon.

Mr. A. Doran thought probably in such cases the small intestine was also atonic and that the origin was nervous and central. He asked if it would be justifiable to resect for tympanites.

Mr. Malcolm referred to a similar case in which he had operated several times. He had removed the appendix, opened the cæcum, and also removed part of the colon. He now proposed to anastomose.

Mr. Barker said he had anastomosed a case on account of the distress caused by a fecal fistula following appendicitis. He thought transplantation preferable to inguinal colotomy for cases of chronic colitis.

Mr. Moullin, in reply, admitted that many cases were of neurotic origin, but still operation was justifiable in some of them.

At the Medico-Chirurgical Society Mr. W. G. Spencer related a case of arterial hemorrhage from the ear necessitating ligature of the carotid. A boy of four years soon after scarlet fever had recurrent hemorrhages from nose, ear, and mouth. Plugging arrested it for a time only. On the fourth recurrence he was pulseless, unconscious, and losing much blood. Two pints of saline solution were injected into the cellular tissue of the axillæ and flanks, and caused swellings the size of his head. The common carotid was tied low down in the neck. After the operation the saline fluid was found to have been absorbed, the pulse improved, and hemorrhage did not recur. The boy recovered. Three weeks later a perforation was seen in the membrana tympani. The source of bleeding was supposed to be the small twig from the internal carotid which passes through the carotid canal. Mr. Spencer thinks cases arising after acute inflammation in children favorable for operation, but those secondary to pulmonary tuberculosis would sooner or later be fatal from the lung disease.

Dr. A. G. Phear then gave particulars of a case which he called acute leukæmia, the principal symptoms being: (1) marked increasing anæmia, (2) moderate fever, (3) stomatitis, affecting chiefly the gums, which were spongy and later ulcerated, (4) enlarged glands, at first of the cervical and submaxillary, but afterward generally, (5) moderate splenic enlargement, (6) leukæmia. The patient died in six weeks. At the post-mortem the thymus was found persistent; the lymphatic glands, tonsils, spleen, and intestinal follicles were enlarged and contained cells resembling blood lymphocytes. The bone marrow was also full of them. There seems to have been an overgrowth of lymphoid tissue, the cells being for the most part mononucleated and so far unusual, but they had been found in large numbers in the blood during the patient's life.

Dr. Bradford remarked that little was known about acute leukæmia, and even the name was perhaps not suitable. The cases closely resembled stomatitis and were perhaps due to infection from the mouth. The enlargement of the glands is usually moderate. Purpura, with stomatitis and pallor, should lead us to suspect the disease. In future it would be interesting to examine the marrow and the blood for protozoa.

Dr. Reissmann said these cases were much more rare than myelogenic leukæmia, in which the cells, found in increased numbers, were granular leucocytes. In lymphatic cases the increase was of the non-granular. Their number increased with any alteration in the circulation of the lymph through lymph tissue, *e.g.*, during digestion, and after pilocarpine injections. Probably both forms of leukæmia were parasitic. Mr. Spencer agreed with this and thought the point of entry probably was the tonsils.

Sir T. Barlow referred to a boy admitted to hospital with inflamed tonsils, not diphtherial. Enlargement of glands about the jaw followed and spread to other glands. He died in about four months, and central necrosis was found in some of the glands. The origin of such cases in the mouth or throat differentiated them from those in which stomatitis occurred.

Dr. William Collingridge has been elected medical officer of health for the city of London. He has for twenty years held the appointment to sanitary authority of the port of London.

Two doctors, who are also both barristers, are candidates for the office of coroner for the city. Either would be a good choice.

The committee for making a full inquiry into the affairs of the National Hospital has been appointed.

Some new fellows have been co-opted by the College of Physicians. We shall have the old grievance once more trotted out. For my part, I have no objection to any of the new names, except that there are many times their number quite as worthy and for many years longer members.

Dr. John Cavafy died suddenly on the 28th ult. He was for many years physician to St. George's Hospital, during which he published a number of contributions to the societies and journals. Of these I may mention cases of rheumatism, diabetes, and myxœdema. He took special interest in dermatology, and acted as honorable secretary to the skin section at the International Congress, 1881. He had served as examiner in medicine at the London University, of which he was himself a graduate, having taken the M.D. in 1869. On account of declining health he retired from practice some years ago.

Among other recent deaths are those of Dr. Samuels, many years physician to the Liverpool Hospital for Chest Diseases, on the 21st ult.; of Dr. Lorimer, of Farnham, in consequence of a carriage accident on the 27th ult.; of Dr. Galletly, of Elgin, on the 26th ult., also the consequence of a similar accident.

Reviews and Notices.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Vol. ix. Hartford: Published by the Society. 1900.

THIS report contains an unusual number of well-illustrated articles. The papers are all of a high order. Accompanying the obituary of Dr. Edward L. Holmes is an excellent portrait of this distinguished surgeon.

THE NURSING PROFESSION: How and Where to Train. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press, Limited. 1901.

THIS is the third year's issue of a guide for those seeking to become nurses in the United Kingdom, with a summary of laws affecting nurses, requirements of schools, and such general information. Naturally this work, valuable abroad, can have little interest for the average American nurse.

FIRST AID HANDBOOK. By M. J. SHIELDS, M.D., formerly Attending Surgeon to Emergency Hospital, Carbondale, Pa. Jermyn, Pa: Edited and Published by Thomas Boundy.

THIS is a collection of instructions for rendering effective and intelligent first aid in accidents and sudden illness, modelled after similar small works and based upon experience.

THE SOUL OF MAN: An Investigation of the Facts of Physiological and Experimental Psychology. By DR. PAUL CARUS. With 182 illustrations and diagrams. Second edition. Chicago: The Open Court Publishing Co. London agents: Kegar Paul; French, Trübner & Co., Ltd. 1900.

THIS is a new edition belonging to the Religion of Science Library, and treats of that which should be the most interesting of all things to man—his soul. The problem of the soul supplies the basis of ethics, and the author, who has written many works on similar problems, strives to treat here of man's soul in a purely scientific manner with perhaps new interpretations.

ESSENTIALS OF SURGERY, Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By EDWARD MARTIN, A.M., M.D. Illustrated. Seventh edition, revised and enlarged, with an appendix. Philadelphia: W. B. Saunders. 1900.

THIS is one of the blue-backed question-compend series put out by the publishers on various subjects. The volume as it stands revised represents the modern surgical practice. Besides other subjects which have been brought up to date we note that appendicitis has received new treatment at the hands of the author.

A MEDICO-LEGAL MANUAL. By WILLIAM W. KEYSOR, Lecturer on Medical Jurisprudence in the Omaha Medical College, etc. Omaha: Burkley Printing Co. 1901.

THE author finds that most works on jurisprudence contain little of actual practical value to the physician, being written mostly for the lawyer. The aim here is to furnish useful information of particular importance to the doctor, dentist, and pharmacist, leaving out what is of necessity learned in the schools as a basis for more practical matters.

ENTEROCLYSIS, HYPODERMOCLYSIS, AND INFUSION: A Manual for Physicians and Students, with a chapter on the Carbonated Bath, and some New Applications; also Therapeutic Addenda. By ROBERT COLEMAN KEMP, M.D., New York. Introduction by WILLIAM H. THOMSON, M.D., LL.D., physician to Roosevelt Hospital; President of the New York Academy of Medicine, etc. Infusion, Shock, and Anæsthesia, by ROBERT H. M. DAWBARN, M.D., Surgeon to the City Hospital; Professor of Surgery at the New York Polyclinic Medical School, etc. Drawings by Thomas Nast, Jr. Photographs by Dr. A. W. Gardner. New York: James T. Dougherty.

THIS work of three hundred and fifty pages is freely illustrated, showing the various devices mentioned by the author, position of patient in administration of enemata, infusions, etc. The material is comparatively new and largely original. Many useful hints are to be found in the therapeutic addenda. Students, and especially practitioners, will find it a very practical and very helpful book.

A TREATISE ON APPENDICITIS. By GEORGE RYERSON FOWLER, M.D., Professor of Surgery in the New York Polyclinic, etc. Second edition, revised and enlarged. Philadelphia and London: J. B. Lippincott Co. 1900.

THE changes and improvements in this edition of this book well represent the advance in our knowledge in the treatment of appendicitis during the last six or seven years. These changes have been considerable, and they require considerable recasting of our statements in regard to this common disease. The treatment by operation of the relapsing cases is on a much better footing than formerly, and we think that we now know how to treat in a more satisfactory way those cases with extensive peritonitis. This volume forms an excellent handbook of the subject and is well up to date. The precautions mentioned as necessary in the preparation of a room in a dwelling for an operation are much too elaborate for ordinary use, and in fact many of them need not be observed. The illustrations, as in the former edition, are very satisfactory.

A COMPEND OF HUMAN PHYSIOLOGY, Especially Adapted for the Use of Medical Students. By ALBERT P. BRUBAKER, A.M., M.D., Adjunct Professor of Physiology, Jefferson Medical College. Tenth edition, revised and enlarged. 12mo, pp. 270. Philadelphia: P. Blakiston's Son & Co. 1900.

THIS very popular compend has reached its tenth edition, which is revised and enlarged. It is thoroughly up to date, and invaluable to the student preparing for his examinations.

NURSING ETHICS: for Hospital and Private Use. By ISABEL HAMPTON ROBB, Graduate New York Training-School, Bellevue Hospital. 12mo, pp. 273. Cleveland: J. B. Savage.

THIS is an admirable book of its kind. The various subjects are treated with great skill and in such an entertaining way as cannot fail to impress the reader with the eminent fitness of the author for her task. The knowledge of her profession and the appreciation of the responsibilities of the nurse are manifest on every page. The ethics taught are of the best and contain many points which would be useful and suggestive to many physicians. As a book for nurses it is destined to have a wide circulation when its many merits are duly appreciated.

A MANUAL OF PRACTICAL HYGIENE for Students, Physicians, and Medical Officers. By CHARLES HARRINGTON, M.D., Assistant Professor, Harvard University. Illustrated with 12 plates and 105 engravings. Philadelphia and New York: Lea Brothers & Co. 1901.

THIS work is a very important and satisfactory contribution to the literature of its subject. So much ground must necessarily be covered in a volume of this kind that to reduce it to any reasonable size is an achievement in itself. About one-third of the book is given to the consideration of foods, their kinds, constituents, value, methods of preservation, and other facts of importance regarding them. The information is almost encyclopædic in its accuracy and completeness. Air, soil, and water are considered in separate chapters, which cover the subjects in a satisfactory and interesting way, and impart much information useful to the professional man and also to the layman. The important subjects of quarantine and naval and military hygiene have chapters devoted to them, all containing much of interest and value, and there are several other chapters on various divisions of sanitary science. The whole book is characterized by accuracy and careful attention to detail; its illustrations are very useful, and it is a credit to American medical science. The pages devoted to tropical hygiene will be read with peculiar interest just now.

OPERATIVE AND PRACTICAL SURGERY, for the Use of Students and Practitioners. By THOMAS CARWARDINE, M.S. (Lond.), F.R.C.S., Assistant Surgeon Bristol Royal Infirmary. With 550 illustrations, most of which are original drawings by the author. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

THE author of this volume has succeeded in carrying out the intention stated in his preface, of offering a manual of practical surgery without the enormous amount of detail found in most works upon this subject. He has written what is essentially a handbook to be used in conjunction with larger works. The book is intended to cover the whole field of surgery, and is naturally open to some of the objections which such an intention necessarily involves. The chapter upon bandaging is very satisfactory and practical, and the discussion of fractures is good as far as it goes. The operations of surgery are given as full attention as is possible under the circumstances, but much that would generally be considered valuable is left out. From the American point of view the remarks upon appendicitis are weak and somewhat antiquated. However, the volume as a whole makes an agreeable addition to surgical literature. We think it unsatisfactory to attempt to include such subjects as otology and ophthalmology in works on general surgery. Much better results are attained by leaving those subjects to the men with special training.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 2, 1901.

ROBERT F. WEIR, M.D., PRESIDENT.

Remarks on the Statues and Temples of Esculapius, with Presentation of Photographs.—DR. C. L. DANA made this presentation, accompanied by some explanatory remarks.

The Clinical Aspects of Acute Intestinal Obstruction.—DR. HOWARD LILIENTHAL read this paper. He said that death rarely if ever occurred from the mere retention of fæces in the bowel. The causes contributing most to the mortality of intestinal obstruction were three, viz., (1) shock, (2) sepsis, and (3) the embarrassment of the functions of the lungs and heart by the distention. Either of the first two causes might be fatal without the existence of the third. Deaver had called attention to the fact that appendicitis was a cause, and he was himself of the opinion that ileus was often due to appendicitis. Tight strangulation in the small intestine, occurring suddenly, was accompanied by intense colicky pain, nausea and vomiting, and collapse came on early. An enema, given for diagnostic purposes, should show by the quantity of water retained that the trouble was not in the colon. The nearer the strangulation was to the stomach, the more urgent was the need for speedy relief. In elderly individuals, constricting neoplasms of the colon were not rare, and might give rise to symptoms simulating intestinal obstruction. In volvulus the loop of bowel distended very rapidly. The discharge of foul gas was an indication that the complete obstruction had been overcome, and this sign was of far more importance than the mere discharge of fæces. Sudden abdominal cramp-like pain without fever should be treated by an enema, and, in the adult, by a small dose of morphine. If permanent relief did not follow, it was safer to operate than to temporize. The further exhibition of opiates or the employment of cathartics would probably introduce an additional element of danger. Ischuria and great dryness of the mouth were of diagnostic value. Some interesting recoveries following the administration of atropine had been reported, but it should be remembered that atropine increased the uncomfortable dryness of the mouth, and sometimes gave rise to a delirium which was with difficulty distinguishable from that of sepsis. His impression was that this treatment, if used at all, should be in cases of acute exacerbation of a chronic ileus, and simply as a means of tiding the patient over a critical period. As an early procedure, it was justifiable to employ enemata in the attempt to secure a reduction of the obstruction. Little could be expected from this treatment, however, and nothing at all if the intussusception had resulted from a reversed peristalsis. The speaker said that since 1893 he had done thirty-four operations for acute ileus, with forty-one per cent. of recoveries. The stomach should be washed out before operation, and in the most desperate cases no general anæsthetic should be used. The incision should be made in the right iliac region, and if this did not reveal the obstruction a median incision should be made. The possibility of multiple obstruction should ever be borne in mind. When there was great distention, a sufficient number of small incisions should be made opposite to the mesentery to allow of reducing the distention before search was made for the source of the obstruction. He had practised this method for some time, yet, on presenting it to the New York Surgical Society in October, 1898, it had been adversely criticised. He had, nevertheless, continued to practise it, and had seen nothing but good from it.

DR. B. FARQUHAR CURTIS said that he did not find that cases of intestinal obstruction came to the surgeon any earlier now than they did many years ago. About the only recent addition to the symptomatology was the presence of leucocytosis as an indication of peritonitis, and this would be found a diagnostic aid of some value. In making the diagnosis, one must distinguish between intestinal obstruction and peritonitis, pancreatitis, or thrombosis of the mesenteric vein. When called to a case of subacute or acute intestinal obstruction, appearing in an elderly person, his first thought was of malignant disease. The presence of a rounded gaseous tumor was of very great value in locating the trouble. One should not forget that valuable information might be furnished by a digital examination of the rectum. A preparatory washing out of the stomach was very useful. He believed a very large number of these patients could be saved by the making of an artificial anus. As far back as 1888, he had collected statistics to show that fully three-fourths of the cases were relieved by the establishment of an artificial anus, that half recovered, and that fully one-third of the latter were entirely cured of the intestinal obstruction. Such an operation could be done quickly and under local anæsthesia, and in this way it became in many desperate cases a veritable life-saving measure.

Intussusception.—DR. C. L. GIBSON exhibited a table founded on 187 acute cases. On the first day the mortality had been 37 per cent.; on the second day, 39 per cent.; on the third day, 61 per cent.; on the sixth day, 75 per cent. On the first day 94 per cent. were reducible; on the second day, 83 per cent.; on the third day, 61 per cent., and on the sixth day, 50 per cent. One should, therefore, operate early enough in intussusception to find it reducible and before secondary changes had taken place. While no doubt the establishment of an artificial anus was often a life-saving measure, it should be remembered that one must not only relieve the obstruction, but properly treat the sequelæ of this obstruction. Such an operation was often done and the gangrenous portion of the bowel left untreated. This was particularly likely to happen because it was common for the outside of the bowel to show a good condition of the circulation, while the mucosa, if examined, would be found gangrenous. This fact also explained why many resections went wrong.

The Medical Diagnosis.—DR. MORRIS MANGES said that Mikulicz had recently quoted statistics from 70 cases of acute intestinal obstruction subjected to operation. Of this number, 34 had resulted in recovery. Of the 34 fatal cases, 14 had already had peritonitis and 7 gangrene of the intestine—in other words, 21 cases might have been placed among the recoveries. The duty of the medical man was to make the diagnosis and then promptly call in a surgeon. The great point to remember in making the differential diagnosis was the presence of shock in intestinal obstruction, associated with more or less pain and vomiting. No attempt should be made in these cases by medical men to make an exact diagnosis, for even those most skilful in abdominal palpation were apt to be baffled because of the great abdominal distention, even under an anæsthetic. A digital examination of the rectum was of far greater value in the making of the diagnosis. The presence of albuminuria indicated strangulation or peritonitis, if it was known that no albumin had been in the urine previously. Hæmaturia was sometimes associated with acute intestinal obstruction. The mere discharge of gas after an enema should not be regarded as indicative of partial relief of the obstruction, unless the gas was foul in odor. He was inclined

to think that the atropine treatment of intestinal obstruction would prove a delusion and a snare.

Diagnosis of Intussusception.—Dr. Henry Koplik discussed the difficulties of diagnosis in acute intussusception. He said that when these cases occurred in children, although the obstruction might be acute, the onset might be quite insidious. One should not call in the surgeon simply to divide the responsibility, but should try to make the diagnosis before doing so. Both vomiting and bloody movements might appear at first, and then disappear for twelve hours. In his opinion, it was most important to give an anæsthetic to children in order to make a satisfactory physical examination. There was very little prostration at the beginning, and sometimes not even on the second day. To wait until the occurrence of fecal vomiting before making the diagnosis was most culpable.

Dr. R. F. Weir commented upon the great and dangerous distention caused in many of these cases by the administration of enemata in the hope of reducing the tumor. This suggested the advisibility of leaving a long tube in the rectum so as to empty the bowel.

Dr. E. H. M. Sell reported a case that he had seen some years ago. The patient, a woman of twenty-three years, had been first seen by him when vomiting fecal matter. Examination of the rectum was negative. He had then given her one bottle of warm olive oil daily for ten days, and then she had been relieved by the passage of what, from the description, might have been a slough of the bowel. An external fistula had formed, but she had eventually recovered. He had never been able to satisfy himself as to what was the exact diagnosis in the case.

Stated Meeting, May 16, 1901.

Robert F. Weir, M.D., President.

Memorial Address on the Late Dr. S. S. Purple.—Dr. Stephen Smith delivered this address. He said that Dr. Purple had had a very meagre education up to the age of sixteen, and that then he had been compelled to devote all his time to his father's business, that of a tanner and shoemaker. It was about this time that he had begun to manifest interest in medicine. It was his custom to rise at four o'clock in the morning and study his medical books until seven, and then go to his work. During the day he read as he could from a book fastened on a rack before his bench. He subsequently entered the Geneva Medical College, a noted institution at that time. In the autumn of 1843 he came to New York and took a course of lectures at the New York University. He graduated in March, 1844, and having carefully considered the advantages and disadvantages of city practice, he decided to make a beginning in New York City. He worked his way thither on a canal boat, and arrived here with $17.50 as the capital on which to begin his medical career. The first three years were trying ones, but by the fifth year he had succeeded in gaining a good foothold. He aided in organizing the New York Academy of Medicine in 1847, and from this time on for about ten years he was editor of the New York *Journal of Medicine*. His chaste and logical style of writing was remarkable considering the limited opportunities he had had to secure an education. All of his medical papers were published during the first decade of his medical career, as the after years were largely devoted to satisfying his fondness for bibliography. He was elected president of the Academy of Medicine in 1875. In his inaugural address there he urged the founding of a large reference library, and the securing of a home for the medical profession of this city. To the library of the Academy of Medicine he gave that priceless treasure, the complete early serial medical literature of this country. This, it was generally admitted, had laid the foundation for the now splendid reference library possessed by the Academy. In closing, Dr. Smith made an earnest plea for greater effort to keep green the memory of medical pioneers. He said that as a step in this direction the committee which he represented had secured two memorials of Dr. Purple, viz.: one a bronze tablet at the entrance to the library of the academy, announcing that he was the founder of that library; the other memorial, an excellent portrait of Dr. Purple secured for the academy through the generosity of Mrs. Edwin Harper.

Sitophobia of Enteric Origin.—Dr. Max Einhorn read a paper with this title. He used the term sitophobia only in connection with those cases in which there was a distinct fear of taking food. Two cases were cited in which the sitophobia had been dependent upon a disordered state of the bowel, associated with obstinate constipation. The sitophobia in these cases had had its origin in the belief that the taking of food might aggravate the bowel affection. The patient must be made to eat sufficient food. Sometimes persuasion would accomplish this; at other times it was necessary to enlarge the dietary very gradually.

Syphilis of the Liver.—Dr. Einhorn also read a short paper on this subject. He briefly reviewed the literature, and then reported ten cases. He said that there were three varieties of syphilis of the liver, viz.: (1) Gummata; (2) syphilitic cirrhosis, and (3) syphilitic disease of the foregoing types associated with icterus and running an acute course. In syphilis of the liver there was usually more or less severe pain in the epigastrium, sometimes simulating gall-stone colic. If of long standing, there would be some emaciation, but nothing like that seen in cases of malignant disease of the liver. In the late stages a light-brown discoloration of the skin might be observed. Physical examination would show the liver enlarged and often nodulated. In the advanced stages when amyloid change had taken place the surface of the organ would be smoother. The diagnosis was most easily made in cases in which there were gummata of the liver together with other signs of recent syphilis. When there was simple enlargement of the liver without gummata or a history of syphilitic infection, it was most difficult to make the diagnosis. Gummata of the liver were easily confounded with malignant neoplasms. If the disease had lasted a year and a half or longer without marked deterioration of the general health, it was probably syphilitic. Diffuse syphilitic enlargement of the liver closely resembled hypertrophic cirrhosis of this organ. One author had cited thirty-four cases of syphilis of the liver, with twenty-nine deaths, but it should be remembered that most of the reported cases had been far advanced. According to Dr. Einhorn's experience, the prognosis was favorable if the disease was recognized early and promptly and efficiently treated. Iodide of potassium or iodide of sodium should be administered in rapidly increasing doses. He had seen the best results from the combined use of iodide and inunctions of mercury.

Dr. R. F. Weir said that he had had in the last ten years three cases of syphilis of the liver in which the diagnosis had been made only by exploratory incision.

Dr. B. Lapowski mentioned a case supposed to be one of syphilis of the liver. There was a history of syphilis, but the autopsy showed aneurism of the duodenum and of the hepatic artery. It was not sufficient to rule out syphilis because of the absence of a history of syphilitic infection, and the failure to find evidence of that disease on superficial examination. The examination should be most thorough. The treatment should be by mercurial inunction and should be begun early.

Intestinal Intoxication Occurring in Mucous Colitis in Young Children.—Dr. Henry Koplik read this paper. He said that the products of normal digestion when absorbed in excessive quantities might give rise to intoxications. Vertigo, headache, delirium, and even stupor and coma were symptoms of intestinal intoxication. The cases especially considered in the paper occurred in children from the fourth year up to the later years of childhood. As a rule, the children had been sufferers from chronic constipation and attacks of indigestion. Intervals of improvement and depression had dominated their previous lives. Such children after living for months on a carefully selected diet might, in a moment of indiscretion, take some article of food not easily digested, and as a result they would become so violently ill as even to make the physician anxious as to the outcome. There was a history in such cases of discharge of mucus from the bowel. The exact nature of mucous colitis was still very obscure. The intoxication often began with vertigo, even while the patient was in bed, and vomiting lasting for a day or two. There was usually a very full and bounding pulse, and in all cases there was more or less albuminuria. There was usually abdominal pain, though often it was not a prominent symptom. There was, however, no distention of the abdomen or pain on pressure. In one of the author's cases during a marked attack the breath had the odor of hydrogen sulphide, as did also the discharges of gas from the bowel. Masses of ill-smelling mucus were apt to be passed for days or weeks after such an attack. In the intervals of the attacks the children regained their strength and color, and the albumin and casts disappered from the urine. The constipation alone remained. The mucous discharges seemed to be accumulations of what under normal conditions would have been passed daily in inappreciable quantities. Ammonia was increased in any form of gastro-intestinal disturbance. Under normal conditions it was excreted in the form of urea. This form of intoxication seemed to be favored by the use of fat and nitrogenous food. The treatment should consist in rest in bed, the use of high enemata of salt solution, twice daily, the withholding of food by the mouth, and the substitution therefor of nutrient enemata. The latter should consist of two ounces every two hours of a solution of somatose, made by dissolving one drachm of somatose in eight ounces of cold water. Skimmed milk, cacao, cereals of all kinds, meat, and vegetables which gave little residue seemed to be the best form of diet. Baked potatoes might be allowed and also fruit juices. The attack could often be forestalled on the appearance of pallor and peevishness by giving a good dose of Carlsbad salt. He had not succeeded in completely eliminating the underlying condition.

Avoid Forcing Fat upon Infants.—Dr. A. Jacobi said that while albuminuria was present in most of these cases there was no œdema, the condition not being a true nephritis, but merely an intestinal intoxication. One must distinguish between two forms of intestinal disturbance, one occurring in the stomach and upper portion of the small intestine, and the other occurring in the large bowel. The cases referred to in the paper were chiefly the result of putrefaction in the colon. When this occurred, the fat and albuminoids underwent fermentation, and the result was the appearance of ammonia in the urine. It was the practice of modern pædiatrists to crowd a large quantity of fat into the bowel of the infant. The fat of even breast milk was not fully digested, but there was a difference between the fat of cow's milk and of breast milk. When the fat of cow's milk was crowded into children an acid fermentation would result. It was the common practice at the present time to fatten babies by increasing the proportion of cow's-milk fat, whereas it had long been his own practice to endeavor to reduce the proportion of such fat. Another unfortunate tendency was to overfeed babies with albuminoids. A certain quantity of cereal was not only digested, but was certainly required. There was not a better disinfectant for the intestine than starchy food in small quantities.

Dr. Henry Dwight Chapin said that these children often had enormous appetites, and although they ate wholesome food, they were apt to suffer alternately from constipation and diarrhœa. While the albuminuria and the casts were ordinarily temporary, if these attacks of intestinal toxæmia were allowed to recur frequently and continue for a long time there would ultimately result a parenchymatous nephritis. Regarding the use of nutrient enemata, he would say that while half an ounce or an ounce of fluid would often be well retained by the rectum, a larger quantity would be promptly rejected.

Dr. Thomas S. Southworth said that some children had an irregular or remittent temperature for weeks at a time, and in such cases there were usually unhealthy stools associated with a peculiarly persistent fetor. Regulation of the diet and the administration of salol would usually yield good results. Many of these cases terminated in bronchopneumonia. The lesion in the lung was simply an evidence of the infection of the intestine.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 10, 1901.

Edward K. Dunham, M.D., President.

A Note on the Prognostic Value of the Diazo Reaction in Phthisis.—Dr. F. C. Wood said that during the past year observations had been made at St. Luke's Hospital with the diazo reaction in two hundred and thirty cases. Of these patients, one hundred and ninety were still living and had presented no diazo reaction. Ninety per cent. had presented absolutely no reaction at any time, while the remaining ten per cent. had occasionally yielded a slight reaction. Some of these patients on becoming more severely ill had developed the reaction. These results corresponded very closely with those obtained in certain German sanatoria. Of the fifty-two patients who had died in the hospital, seventy-five per cent. had given a constant and strong reaction, and, if the persons dying from nephritis or hemorrhage before the process in the lungs had become advanced were eliminated, the percentage of fatal cases giving the diazo reaction was ninety. Of those giving a strong reaction extending over several weeks, forty were fatal within three months. They had noted some very strange fluctuations in the reaction. For example, it had been repeatedly observed that in damp or rainy weather a much larger proportion gave the diazo reaction. Any of the gallic-acid or tannic-acid preparations, as well as salol, creosote, and phenol, would inhibit the reaction. No connection had been observed between the strength of the reaction and the elevation of body temperature—in other words, the reaction seemed to indicate the extent of the tuberculous invasion of the lung rather than the amount of mixed infection. The speaker said that this test was being used in Germany as a basis for the exclusion from the climatic treatment in sanatoria of cases showing it.

Primary Endothelioma of the Peritoneum.—Dr. F. C. Wood presented this specimen. It had been taken from a woman of fifty-five, who had entered St. Luke's Hospital with a history of little use save emaciation and pain in the stomach. She was supposed to have a tuberculous peritonitis, and this diagnosis

had been thought to have been confirmed by the laparotomy to which she was subjected. No growth could be found in the intestine. The gall bladder was normal, and the lungs showed a few small metastases. As he had noticed an exactly similar condition result from the transplantation of colloid cyst adenoma to the peritoneum, a very careful search had been made, particularly of the ovaries. Some held that these growths were always primary in the intestinal mucosa; others that they originated in the lymph spaces of the subperitoneal lymphatics, but the question was yet an open one. It should be remembered that the endothelia of the peritoneum and of the ovary were both developed from the mesoblast.

A Case of Pneumococcus Endocarditis of the Tricuspid Valve.—Dr. Wood also presented specimens from this case. They had been taken from a woman of about thirty, who had entered the hospital with a serious lobar pneumonia on one side. Death had occurred in two or three days. Unfortunately no blood cultures had been made during life. At the autopsy both the tricuspid and mitral valves had been found covered with small vegetations. They did not look like ordinary vegetations of malignant endocarditis, and the process did not seem to have invaded the valve substance deeply. Cultures showed the presence of pneumococci. The vessels in both lungs contained ante-mortem thrombi, but no infarction of the lung was present. The liver showed extreme fatty degeneration. The kidneys showed a moderate glomerular nephritis of a rather acute type. The appearance of the vegetations was said to be quite characteristic of pneumococcus infection. The cases of endocarditis due to pneumococcus infection constituted twenty per cent. of all cases of malignant endocarditis.

Dr. James Ewing said that he had been deeply interested in this case of disseminated tumor of the peritoneum. It was almost identical in appearance with one presented to this society a few years ago by Dr. Jeffries. At that time the view had been expressed that this was probably a primary tumor of the peritoneal endothelium. At the last meeting he had himself presented some evidence against the view that these growths were endotheliomata. He had found a small tumor of the intestine of a carcinomatous type that had produced a very small lesion of the intestinal mucosa, and had rapidly reached the peritoneal coat, and was in the act of spreading out and producing these small masses. This had led him to think that the old pathologists had been right in believing that this was an example of colloid cancer secondarily involving the peritoneum. He did not think much could be learned from chemical examination of these cases. Without an extremely minute examination of the intestinal tract and of the pelvic organs as well, it was impossible for one to urge strongly that a given tumor originated from the endothelium of the peritoneum. Foreign authorities were strongly opposed to considering these as anything but growths of the intestinal epithelium.

Dr. J. H. Larkin said that he had always looked upon these tumors as carcinomata. On microscopical examination they seemed to have a very close relation with the intestinal epithelium. About two months ago he had studied a case in which the peritoneum had been covered with myriads of gelatinous tumors. After prolonged search he had found the gall bladder immensely thickened and holding four stones, and there was also one single metastasis into the liver of an adenomatous formation. The tumors in the peritoneum were gelatinous, just like those presented this evening. He also believed in classifying these as carcinomata.

Dr. Wood said that Dr. Ewing did not seem to take into consideration certain recent reports from Germany. A seach of the literature seemed to him to show that it was almost the rule for the authorities there to take the ground that these tumors originated in the endothelium of the lymph spaces. The case under discussion gave no definite evidence as to its origin.

Thrombosis of the Inferior Vena Cava.—Dr. O. H. Schultze presented this specimen, which had been taken from a woman of twenty-six years, who had been admitted to the City Hospital on January 18th. The history had been furnished through the kindness of Dr. Thayer, pathologist of the hospital. On December 18th she had been delivered of a child by a midwife, and was said to have had fever and discharge for several days afterward. On February 4th she had complained of pain in the left knee and thigh. An examination of the blood on January 26th had shown 11,250 white blood corpuscles and fifty-five per cent. of hæmoglobin. An examination of the urine showed it to have a specific gravity of 1.020, and to contain a distinct trace of albumin and many granular casts. On February 26th the blood had been examined by Dr. Thayer, and had given a positive Widal reaction in a dilution of one in twenty. The temperature chart showed an irregular remittent type of fever. The autopsy had been held at the morgue forty-two hours after death. The immediate cause of death had been a fibro-purulent peritonitis involving the entire surface of the peritoneum. An abscess in the upper part of the spleen, evidently resulting from infarction, had infected the peritoneal cavity. A similar purulent infarct was found in the lower portion of the spleen. These infarcts were surrounded by marked connective-tissue proliferation. The fact that the infection of the peritoneum had not occurred earlier was probably to be explained by the presence of a very dense capsule. An organizing thrombus was found in the inferior vena cava, extending from the right auricle down throughout the entire inferior vena cava, and into both common iliacs and both external and internal iliacs. The wall of the inferior vena cava was enormously increased by connective-tissue proliferation. Both kidneys showed areas of anæmic infarcts surrounded by very slight reaction. The uterus showed a marked thrombosis of all the veins with organization of the thrombi. The mitral valves showed an endocarditis verrucosa without purulent infiltration. In view of the Widal reaction having been present the intestine was carefully examined, but with negative result. Dr. Smith had made cultures from the central portion of the spleen, from the two infarcts, from the contents of the gall bladder, and from a nodule on the mitral valve. Colon bacilli were present in all these localities, and bacillus pyocyaneus was isolated from the nodule on the mitral valve. In view of the time intervening before autopsy no reliable conclusions could be drawn from this examination. The case was remarkable in the entire absence of œdema and hemorrhagic infarction or any disturbance of circulation, with the exception of the anæmic infarcts of the kidneys and the pyæmic infarcts of the spleen. From the evidence of advanced organization of the thrombus in the inferior vena cava from below the entrance of the hepatic veins to the origin of the deep epigastric, and the venous plexus of the bladder, vagina, and rectum, this occlusion must have been of considerable duration. We must suppose that the anastomoses between the deep epigastric and internal mammary, the pelvic plexus, and the hemorrhoidal through the portal system, and finally the azygos veins, were sufficient to take care of the return flow.

Dr. T. C. Janeway said that he had seen recently a case, in a man of fifty years, with extreme dilatation of the superficial abdominal and thoracic veins, the current in them being upward, in which there had been

apparent obliteration of the inferior vena cava. The patient was a physician who seemed to be perfectly well, and who stated that he had had this condition since childhood.

DR. E. LIBMAN said that he had recently seen a case of suppuration of the left ovary and tube, with slight œdema of both lower extremities. Death had occurred rather suddenly, and the autopsy had revealed embolism of the pulmonary artery and thrombosis of the inferior vena cava. The thrombosis had begun in the left iliac and had extended almost up to the diaphragm. It seemed to be the opinion of some authorities that the collateral circulation in these cases could be distinguished from that observed in portal thrombosis. In the latter there was more apt to be dilatation of the veins around the umbilicus, whereas in the former the veins in the sides of the abdomen were enlarged. In a number of reported cases there had been no œdema of the lower extremities. The case cited by Dr. Janeway might also have been one of (congenital) stenosis of the hepatic vein at its junction with the vena cava.

DR. E. K. DUNHAM said that there was in the Harvard museum a dissection showing congenital absence of the inferior vena cava with venous return through the azygos. This vessel emptied into the hepatic vein after it had left the liver.

Two Cases of Hypertrophic Stenosis of the Pylorus.—DR. J. H. LARKIN said that our knowledge of stenosis in infants dated back to 1841, when Williamson had described such a case. Another case had been reported soon afterward, but nothing further had been heard about this condition until Hirschbaum, in 1888, had collected a series of cases that since then had received much attention. Up to the present time forty-six cases had been reported, and to these the speaker could add one. In only seven of the cases had the diagnosis been made during life, and of the four operated upon only one had terminated successfully. The first specimen presented had been taken from a male child, seven weeks old, weighing at birth six pounds and three-quarters. It had done fairly well for two weeks, and then the gastric pain and frequent vomiting had attracted attention. Death had occurred in the seventh week without the diagnosis having been made. In this, as in all the other cases examined but two, there had been found a hypertrophy of the circular muscular fibres. Microscopical examination in the present case had shown a marked increase in the connective tissue between the muscular fibres. The tubular glands of the stomach were entirely replaced by connective-tissue growth. This was the first case, he believed, in which this last condition had been found. In this connection the specimen taken from Dr. Meltzer's reported case was exhibited. Dr. Larkin also showed a transverse section of the pylorus taken from a man forty-six years of age. The musculature was entirely gone, being replaced by connective tissue. The speaker said that of the theories to explain congenital pyloric stenosis two were worthy of mention. One of these, the theory of Thompson, supposed that the stenosis resulted from an affection of the nerves supplying the muscles of the stomach. It was objected that the change in muscular tone could not produce a muscular hypertrophy, and certainly it could not account for the growth of connective tissue in the submucosa. The other theory presupposed the existence of an embryological defect.

DR. SCHULTZE reported an almost identical case. It occurred in a child dying at the end of six or seven weeks after birth. The vomiting had begun with the first nursing, and had continued persistently to the time of death. At the autopsy, the wall of the pylorus was thickened to 1 cm. The chief hypertrophy was in the circular muscular fibres.

Precipitation of Certain Proteids by Bacteria.—DR. E. LIBMAN presented a large series of culture tubes and plates, in illustration of the fact that most bacteria in the presence of sugar serum or egg albumen threw down proteid precipitates. The precipitation in agar tubes was evidenced by a whitening of the medium. The following topics were touched upon: (1) The variation in the occurrence of the precipitation by various bacteria in the presence of different sugars, in various strengths. (2) The usual absence of precipitation by staphylococci in the presence of one-tenth per cent. glucose. (3) The usual absence of precipitation by the typhoid bacillus in the presence of lactose in any strength. (4) The advantage of adding one-half per cent. glucose to serum agar for cultivating the gonococcus. (5) The absence of liquefaction of gelatin by certain peptonizing organisms in the presence of glucose. (6) The possibility of throwing out a coagulum in a serum by the addition of cultures of some bacteria in glucose bouillon, when the same result could not be obtained by adding cultures of the same organisms in ordinary bouillon. Dr. Libman was of the opinion that the media used in connection with this work would be employed largely for clinical diagnostic work, and eventually perhaps for the differentiation of species of bacteria.

Congenital Occlusion of the Duodenum.—DR. LOUISE CORDES read a paper on this subject, and presented a drawing of the case reported. She had found fifty-six cases of occlusion of the duodenum besides the one reported in her paper. Total occlusions were more common than stenoses. The causes were numerous, the more important being errors of development, volvulus, ulceration, pressure from new growths, persistence of the omphalo-mesenteric duct, circulatory anomalies, and embolism of the superior mesenteric artery. The old idea that amniotic bands might cause strangulation of the intestine had been disproved. Some authors excluded volvulus as a cause when the stenosis occurred at about the middle of the descending limb of the duodenum, as twisting at this point was prevented by fixation of the gut by peritoneum. Of the fifty-seven cases reported there were atresia in forty-eight and stenosis in nine cases. The occlusion occurred most frequently near the opening of the common bile duct into the duodenum. In her own case there had existed, in addition to the atresia, an anomaly of the common bile duct, a branch of the same having been found leading into the dilated duodenum above the atresia. The child had vomited bile-stained fluid, and was found dead on the fourth day. The mucosa at the point of occlusion was smooth, showing no trace of cicatrization. The papilla was situated immediately below the atresia. This malformation, she stated, was most common in premature infants, and the majority of them died in four or five days. The occlusion was near the papilla in thirty-eight cases.

If Operative Technique be Perfect, can Sepsis Occur?—G. C. Barton emphasizes the fact that no physician should operate, or assist in operations, who attends contagious diseases or holds autopsies, or who is habitually handling pus cases; that no nail-brush should be used by two persons without an intervening sterilization; and that no person should be allowed to come into, or go out of, the operating-room after the abdomen has been opened, until it is closed again. The experience of most successful eastern operators has shown them that these rules are necessary to their success. This being true, no physician or surgeon has any right to risk a life by neglecting any of the precautions which have contributed to the success of other men.—*Northwestern Lancet*, April 15, 1901.

MANHATTAN DERMATOLOGICAL SOCIETY.

Stated Meeting, May 3, 1901.

WILLIAM S. GOTTHEIL, M.D., PRESIDENT.

Pityriasis Versicolor of the Palms.—DR. R. ABRAHAMS presented a woman with tinea versicolor limited to the palms. No case of this kind, other than that of Gottheil's, had been reported. Patches of various size and color had existed on the palms for a year and a half. At present, owing to cleanliness, the palms showed a superficial scaliness. Hyperidrosis of the hands was noticed in the summer. Examination of the scrapings by Dr. Gottheil showed the classical picture of microsporon furfur.

DR. GOTTHEIL said that, although the clinical aspects were not so typical as in his case, the microscopical picture was characteristic.

DRS. L. WEISS and A. BLEIMAN remarked that at present the case looked like eczema. The microscope decided the question.

DR. J. SOBEL advised painting the palms with Lugol's solution in order to bring into relief the pale and imperceptible lesions (Allen's test).

Prurigo.—DR. E. L. COCKS presented two cases of prurigo in native-born children, one a boy of eight, the other a girl of nine. Both had had urticaria from early childhood. At present there existed papules on the extensor surfaces of the limbs, some adenopathy, and upon rubbing the hand over the lesions the characteristic nutmeg-grater feeling was experienced.

DR. R. ABRAHAMS considered both to be cases of chronic urticaria. Sweating with pilocarpine was advised.

DR. J. SOBEL stated that neither case corresponded to his conception of prurigo. He missed the firm papules, the nutmeg-grater sensation, and the so-called buboes of the latter. To his mind, both were cases of chronic urticaria of the papular variety.

DR. KINCH considered both to be cases of prurigo mitis.

DR. L. WEISS advised the use of the term lichen urticatus or chronic lichen simplex for these cases. Both cases lacked the haggard anæmic look and the buboes of prurigo.

DR. OBERNDORFER said neither case looked like one of prurigo. There was absence of infiltration, and the character of the individual lesions was wanting. The adenopathy was not that of prurigo. He would call both lesions chronic papular eczema.

DR. GOTTHEIL remarked that the picture was not quite that of prurigo or of urticaria. He inclined toward a diagnosis of prurigo.

Eczema Neuroticum Vegetans.—DR. L. WEISS presented a woman with a symmetrical lesion of the lower limbs. There were irregular patches, with somewhat healed centres; the individual lesions were small, elevated papules simulating lichen.

DR. E. L. COCKS would diagnose lichen planis and eczema.

DR. OBERNDORFER said he saw no lichen, only an eczema.

DR. BLEIMAN looked upon the lesion as pruritus senilis and eczema.

DR. J. SOBEL considered it a mycotic eczema from its more or less circular form, its somewhat sharply defined edges, the healed centre, and its persistency. Such cases responded well to chrysarobin or formalin.

DR. R. ABRAHAMS called it parasitic eczema. Carbolic acid and a saturated solution of silver were recommended for treatment.

DR. KINCH remarked that the lesion was an eczema.

DR. GOTTHEIL said the papules were typically those of eczema.

Rosacea.—DR. L. WEISS presented a patient with rosacea of the cheeks. Stretching of the skin showed the capillary dilatation and circulation.

DR. GEYSER advocated the use of a negative galvanic needle inserted at right angles into the vessels.

Favus of the Nails.—DR. A. BLEIMAN presented this patient, a girl of twenty-three years. Lesions of favus were found on the scalp.

DR. KINCH remarked that the scalp showed but slight evidence of favus.

DRS. OBERNDORFER and GOTTHEIL would expect more destruction of hair in favus.

Acne Varioliformis.—DR. OBERNDORBER presented a case of probable acne varioliformis of the scalp and neck. Many of the lesions were atypical. The scalp also showed numerous bald areas.

DR. ABRAHAMS found two conditions: (1) Acne vulgaris, and (2) folliculitis.

DR. J. SOBEL saw no lesions of acne varioliformis. He found a combination of acne pustulosa and folliculitis abscedens.

DR. E. COCKS did not consider the case one of acne varioliformis.

DR. WEISS said it was an acne with folliculitis decalvans.

Resolving Syphilis.—DR. OCHS presented this case.

Pityriasis Rosea.—DR. A. BLEIMAN presented this lesion in an adult. Some regions resembled those of seborrhœal eczema.

Scabies.—Dr. Bleiman demonstrated the "continuous treatment" of scabies with Wilkinson's ointment. The patient had used six and a half pounds of ointment in five weeks.

Therapeutic Hints.

Ovarian Neuralgia.—

℞ Camph. monobromat. ..... gr. iss.
Pulv. capsici ..... gr. ij.
Confect. rosæ ..... q.s.
Ut ft. pil. No. i. Repeat as necessary.

For the Cough and Fever Early in Pneumonia.—

℞ Potass. citrat. ..... ʒ vi.
Spir. æth. nit.,
Tinct. opii camph. ..... āā ʒ iv.
Sol. potass. citrat. ..... ad ℥ vi.
M. S. Dessertspoonful every three hours.

—HUGHES.

To Make Sick-Room Air Aseptic in broncho-pneumonia of children, vaporize:

℞ Phenol 20
Thymol 10
Benzoin 10
Alcohol 100
Water 860

—CARRIÈRE.

Gonorrhœal Vaginitis.—

℞ Methylene blue ..... ʒ iiss.
Alcohol ..... ʒ iij.
Potass. chlorate ..... gr. iij.
Water ..... ℥ vi.
Apply by means of tampons to posterior vaginal fornix.

—*Texas Clinic.*

Lumbago.—

℞ Sodii salicylat ..... gr. x.
Potass. iod. ..... gr. v.
Ext. sarsaparillæ fld. ..... ʒ ij.
Aq. destil. ..... q.s. ad ʒ ss.
M. S. One dose, after meals.

—TIRARD.

Paralysis Agitans.—To dissipate symptoms give such drugs as hyoscyamus, duboisine, cannabis indica, arsenic, iron, and occasionally gelsemium and veratrum viride.—COLLINS AND MUSKINIS.

Habitual Constipation.—

℞ Sulphuris loti,
Potass. bitartrat.....āā 3 i.
Pulv. sennæ fol..... 3 iv.
Syr. rhei..... 3 ij.
Syr. rhamni purshianæ..... ad ʒ iij.
M. S. Teaspoonful morning and evening.

—*Texas Clinic.*

Furuncles.—

℞ Acidi salicylici..... ʒ i.
Pulv. amyli..... 3 i.
Lanolini..... ʒ i.
M. S. Apply several times daily.

In generalized furunculosis rub well in over the surface—

℞ Acidi salicylici..... gr. xij.
Petrolati..... ʒ i.

—PHILIPSON.

Intestinal Dyspepsia.—When medicine must be given, I can think of no better prescription for intestinal dyspepsia with flatulence than the following:

℞ Pepsini pur.,
Pancreatin. ext.....āā 2 gm.
Pulv. carb. lig.,
Bism. subgal.....āā 4 gm.
M. ft. chart. xii. S. One before meals.

—W. A. WELLS.

Hay Fever.—Local treatment and

℞ Zinci phosph..... gr. 1/16
Quin. sulph..... gr. ij.
Ext. nucis vomicæ..... gr. ½
S. One such pill before each meal.

—J. N. MCKENZIE.

Influenza of moderate severity in children:

℞ Sodii benzoat.,
Salol.,
Acetanilid.....āā gr. iss.
Caffeinæ..... gr. ¼
M. ft. chart. No. i. S. Every three hours.

—SHEFFIELD.

Vesical Antispasmodic in prostatic hypertrophy:

℞ Tinct. bellad..... gtt. viiss.
Potass. acetat..... gr. xv.
Aquæ menth. pip.....q.s. ad 3 i.
Dose to be taken between meals three times daily.

—GUITÉRAS.

Vomiting of Pregnancy is said by a French physician to be benefited by thirty or forty grains of sodium bicarbonate.

Bronchitis with profuse purulent secretion:

℞ Ol. terebinth..... ♏ v.
Mucilaginis..... 3 i.
Aquæ..... ʒ iij.
M. S. ʒ i. at dose.

When there is deficient secretion:

℞ Ammon. chl..... 3 ij.
Potass. iod..... gr. xij.
Vini ipecac..... ♏ lxxx.
Mist. glycyrrhizæ..... ʒ iv.
M. S. ʒ i. at dose.

—*Medical Times and Hospital Gazette*, February 16th.

Arthritis.—Apply over the part, cotton soaked in a solution of ammonium chloride (3 i.) in warm water (3 x.).

In Moist Condylomata about the genitals apply equal parts of burnt alum and tannin.

Pruritus Vulvæ in Diabetes.—

℞ Acid. boric..... ʒ iss.
Sod. biborat..... 3 iss.
Aq. destil..... Oij.
M. S. Apply freely.

—LUTAUD.

One-Day Cure of Scabies.—The patient rubs for half an hour with green soap and hot water, then lies in hot water for remainder of the hour, applying soap. He then rubs in

℞ Sulphur flor..... 20
Potass. carbonat..... 10
Adipis..... 120

This is left on for twenty-four hours. The clothes are sterilized while the bath is being taken.—HARDY-FOURNIER.

Pulmonary Tuberculosis.—

℞ Guaiacol..... 3 iv.
Creosote..... 3 ij.
Cod-liver oil..... Oi.
Oil cinnamon..... 3 ij.
Oil bitter orange..... ♏ xxx.
or
Oil bitter orange..... ♏ x.

M. S. Teaspoonful three times a day for the first week, two teaspoonfuls during second week, three during third week, and four during fourth week. Continue latter dose if stomach remains unaffected; otherwise reduce to two teaspoonfuls three times a day.

—*Merck's Archives.*

Congestion of Prostate due to Gonorrhœa.—

℞ Tinct. aconiti..... 3 i.
Tinct. gelsemii,
Antipyrin.....āā 3 ij.
Ergotol..... 3 i.
Aquæ destil..... ʒ iv.
M. S. Dessertspoonful every two or three hours.

—CORSON.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 18, 1901:

	Cases.	Deaths.
Tuberculosis	310	135
Typhoid fever	42	4
Scarlet fever	702	59
Measles	368	7
Diphtheria and croup	299	39
Smallpox	105	13
Chickenpox	64	0

Dosage in Chloroform Administration.—On the appearance of the report of the anæsthetic commission of the British Medical Association we pointed out, says the *Medical Press and Circular*, how very indefinite was its teaching and how serious was the omission of any statement as to the best method of administering chloroform. We are glad to see that Dr. Waller, F.R.S., has taken up the matter on the same lines, and has published a stringent criticism of the finding of the commission, dealing in the first place with the want of definiteness in many of its conclusions and then more especially with the absence of all guidance as to whether in the administration of chloroform the quantity given should be measured or not. "We are anxious above all," he says," to know whether a method of administration, elaborated during the last twenty-five years from a crude device due to Junker and crudely applied to animals in every physiological laboratory, is or is not what it has been repeatedly claimed to be, on the strength of data published over the names of experienced medical practitioners, namely, a volumetric method for the relatively 'safe' administration of anæsthetics." There can be no doubt, we think, that whatever may be the case among

experts in anæsthesia, who by practice get to know pretty well what they are doing, among general practitioners the great question is to measure or not to measure, and on this point the commission, according to Dr. Waller, where it is not dumb is misleading. Dr. Waller sums up the report of the commission as follows: "What has the ordinary administrator of anæsthetics learned from this clinical inquiry? That chloroform is more dangerous than ether, but that as regards methods of administration, rate of use, methods of restoration, clinical evidence has not warranted any conclusion. That special circumstances may render the use of some anæsthetic or combination of anæsthetics both safe and easier than that of ether or nitrous oxide, but that no indications are derivable from the present inquiry as to the nature of the anæsthetic or combination of anæsthetics that it may be desirable to employ, with the exception of the A.C.E. mixture, which holds an intermediate place between chloroform and ether, but is more dangerous to males than to females. And the most important clinical conclusion is that by far the most important factor in the safe administration of anæsthetics is the experience of the administrator, and that in many cases the anæsthetization is of such importance and gravity that it is absolutely essential that an anæsthetist of large experience should conduct the administration, a condition not always easy to fulfil. Clinical experience has done its best, and this is as far as it takes us. The dosage is of the greatest importance."

A Modified Form of Schleich's Anæsthetic Mixture.—A meeting of the British Society of Anæsthetists was held on March 1st, Dr. J. W. Silk, the president, being in the chair. Dr. R. J. Probyn-Williams, in conjunction with Mr. Harold Barnard and Dr. R. J. Howard, communicated a paper on a modified form of Dr. Schleich's anæsthetic mixture. The composition of the mixture employed was that recommended by Dr. Wertheim, of Vienna, viz., chloroform, one part; petroleum ether, one part; and sulphuric ether, one part. It was pointed out that petroleum ether was now included in the appendix of the British Pharmacopœia, where it was stated to have a specific gravity of from 0.670 to 0.700, but that actually used in these observations had a specific gravity of only 0.643. Experiments were first made upon animals, and some of the tracings thus obtained were thrown upon the screen. With petroleum ether alone it was very difficult to kill the animal (a cat). The blood pressure fell slowly but steadily, the heart beat became more rapid, and the heart volume increased, owing probably to the rise in the venous pressure. These effects contrasted strongly with those produced when chloroform was inhaled. If the above-mentioned mixture was substituted for the petroleum ether, there was hardly any fall in the blood pressure noticed, until the inhalation was pushed to the extreme. In practice a special form of Skinner's frame was used. Thirty-four administrations had been undertaken, varying in duration from five to forty-five minutes. Induction was easy, free from struggling, and occupied on the average eight minutes. There were no excessive secretions of mucus or saliva, and no signs of circulatory failure or cyanosis. The anæsthesia, though sufficient, was light, and patients came round rapidly; relaxation was perfect. The pupils reacted as when A.C.E. was used; shallow breathing was not observed. So long as the mixture was given sufficiently freely, there were no serious after-effects, and sickness was much the same as in chloroform.—*The Lancet.*

Ancient Sanatoriums.—The most magnificent sanatorium of ancient or modern times was probably that group of edifices which sprang up, by degrees, around the temple of Æsculapius at Epidaurus. Pure air, charming mountain scenery, elaborate hotels and baths, gymnasiums, a stadion, a library and music hall, and the most beautiful theatre in the Grecian world were among the attractions which drew hosts of invalids and their friends to this resort, while the god himself, assisted by his satellites and his sacred serpents, appeared to the sick in dreams, and worked cures and miracles, which are attested by official records accidentally preserved to us. Year by year, since 1880 or thereabouts, new structures have been excavated, and the precinct exceeds in extent even that of Delphi and of Olympia combined. A good general description of the latest results of these excavations, and of the probable purpose of the various buildings, is furnished in two lectures by Richard Caton, M.D., on "The Temple and Ritual of Asklepios," delivered at the Royal Institution of Great Britain. Dr. Caton's point of view is that of an intelligent amateur who has repeatedly visited and examined the ruins and has availed himself of the latest authorities, including the treatise of Carvadias, published last year. As a physician his opinion is, of course, striking and valuable with regard to certain technical matters. The dormitories, he thinks, could not have accommodated more than four or five hundred patients. The *abaton*, a lofty and airy sleeping-chamber, its southern side being an open colonnade, "is singularly like the shelter balcony or Liege-halle now used in treating phthisis. . . . There can be no doubt that many of the sick benefited greatly by the rest, the pure air, the simple diet, the sources of mental interest, the baths, exercise, massage, and friction, and, in later days, by the actual medical treatment adopted. Surgery was also employed." In fine, the sacred precinct necessarily gave opportunities for scientific study, and in the lapse of time had its resources re-enforced by scientific methods from outside. Dr. Caton tantalizingly refrains from any speculation as to possible resemblance of the alleged cures to those of modern hypnotism or suggestion, nor does he compare the miracles with those of modern shrines. The preposterousness of some of these and of their method is slightly modified if we remember that the patient dreamed his head was cut off, etc., though the text is imperfect.—*Evening Post.*

The Practical Use of Vital Statistics.—Mr. Frederick L. Hoffman, Newark, N. J., writing on the above question, concludes that it is not going too far to say that in no time in the world's history have the people been housed as well, have they been nourished as well, and have they in all respects lived as long and as well as the majority of our people do at the present time. But the problem which confronts us in the twentieth century more than in the nineteenth is the enormous growth of our large cities and the immense aggregation of millions of people upon a small area, such as we find to be the case in Greater New York, Greater Philadelphia, and even Greater Newark. . . . To-day, more than at any time in the past, do people inquire into the health factors of a community and the conditions making for a healthy and a long life, and only in proportion as our cities and country sections hold out inducements in this direction and make clear beyond the shadow of a doubt that our State is healthy and advantageous from this point of view will we attract in the very near future the overflow of the intelligent and desirable population of New York and Philadelphia. . . . We have a State offering every variety of natural advantages—the seashore, the mountains, proximity to large forest areas, and even a lake country such as England itself has little more of beauty and attraction to boast of. You cannot extend the practical utility of vital statistics in a more benefi-

cent direction than by giving strong encouragement to the local health officers of our cities and towns, and to all our physicians practising in the different sections of this State. Just in proportion as we thus demonstrate the practical value of vital statistics to the people at large, shall we gain for our State an increasing degree of public approval, which is so desirable and so fully deserved.

Measures for Combating Plague in Penang.—Dr. T. S. Kerr, colonial surgeon, in his report of an outbreak of plague in Penang, thus describes some of the methods used to drive out the disease. The Island was declared infected on May 25, 1899, and measures were immediately taken (*a*) to prevent the disease being carried to other parts; and (*b*) to limit as far as possible its spread on the island. With regard to the former, the measures required by the Venice Convention were at once strictly enforced, and continued in force until July 31st. During this 34,800 passengers were examined before being permitted to leave the port. As to the latter (*b*), measures which had already been prepared in anticipation of an outbreak of plague occurring were at once rigidly enforced. Shortly these were as follows: (1) Engagement of additional sanitary inspectors, with the necessary disinfecting and cleansing staffs. (2) The cleansing and whitewashing, and where necessary the disinfection, under the supervision of the sanitary authority of every house in the native quarter. (3) The daily inspection of all lodging-houses, brothels, coolie depots, markets, and any specially crowded or dirty quarters. (4) Destruction of rats. (5) Arrangements for transport to hospital of those attacked, and segregation of those who had been in contact with the sick. (6) Increased hospital accommodation and staff at the quarantine camp. (7) Scrutiny of the dead bodies of persons of all nationalities by an apothecary, unless the death was certified by a qualified practitioner. (8) Disposal of the dead. All these precautionary methods were carried out to the letter, with the result that plague was quickly stamped out in Penang.

Malpractice with X-Rays.—The New York *Tribune*, Sunday, April 14th, quotes the following from the Paris dispatch to the London *Telegraph*: "The Roentgen rays have been the object of a legal decision by the civil tribunal of Paris. A woman, Mme. Maquaire, underwent treatment with them, with the consequence that her skin was badly seared, and her hair fell out, and she sued her medical adviser, Dr. Renault, for $1,000 damages. The defense was that a doctor is not responsible for failure of his treatment, or even accidents arising from it. This question of medical responsibility, which interests every man and woman all over the world, was greatly discussed before French law courts some ten years ago. The present state of the law is that a physician is not responsible for any mishaps or consequences of any kind arising from a reasonable course of treatment. He is not even responsible for consequences of what French law terms 'ordinary mistakes,' but he is responsible for 'gross mistakes.' The civil tribunal avoided deciding whether the treatment by Roentgen rays was a gross mistake, but founded its decision upon the fact that Dr. Renault runs an establishment called a 'Radiographic Institute.' In this capacity, says the tribunal, the doctor is really a tradesman, and equally responsible with any other tradesman for accidents arising from his action. The judge thought the $1,000 asked for was a very moderate figure, and awarded this sum, together with costs."

Prevention of Tuberculosis in Pennsylvania.—In a pamphlet written and recently published by Dr. Guy Hinsdale, an interesting account is given of this work, a part of which is as follows: "The Pennsylvania Society for the Prevention of Tuberculosis was the first to be organized in this country, at least with this particular end in view. It was organized on April 10, 1892, and incorporated in 1895. It has endeavored to educate the community in a knowledge of the true nature of consumption and the means now considered necessary to control or conquer this disease. The means by which this end is sought to be obtained are: By the publication and distribution of pamphlets, by constant efforts to induce those in influential positions to use their earnest efforts to prevent the spread of the disease, and by striving to obtain the requisite conditions whereby those early affected may be restored to usefulness, or for those far advanced the safeguarding that will prevent the communication of infection to others. . . . In caring for the tuberculous three special corporations are devoted to this purpose. The oldest of these, the Protestant Episcopal City Mission, has conducted for twenty-three years the Hospital for Diseases of the Lungs at Chestnut Hill, about ten miles from the centre of Philadelphia. . . . The Rush Hospital for Consumption and Allied Diseases was opened in 1892, and in 1895 occupied a site at Thirty-third Street and Lancaster Avenue, West Philadelphia. The Free Hospital for Poor Consumptives was organized in 1895 and incorporated in 1897. Its object is to give hospital treatment to the consumptive poor. It has not yet procured its own home, because all the money it has been able to raise has been expended for the pressing needs of cases which have presented themselves; it pays their board in existing hospitals in Philadelphia and elsewhere. These four organizations, expending their efforts in three different fields, supplement each other's work for the restriction of consumption. The Pennsylvania Society for the Prevention of Tuberculosis directs public attention to the principles underlying the nature of the disease, the reasons why a fight against tuberculosis is perfectly rational, and its extinction almost within our grasp. Its work is to teach, to encourage private and to urge public action."

Medical Education in the United States before the Foundation of Medical Schools.—Prior to the formation of medical colleges in North America, it was customary for young men desirous of learning "physic" to go abroad and study in the schools of Edinburgh, London, or the continent, if they had the means, and if they had not the "wherewithal" they would apprentice themselves for a term of years to some practitioner of repute in the colonies, and at the expiration of the term of their indenture to him begin practice on their own account. As there were practically no laws as to who could and who could not practise medicine, many poorly educated physicians and charlatans arose to feed upon the laity. It has been estimated that at the outset of the war for Independence there were upward of thirty-five hundred practitioners of medicine, of whom not more than four hundred had received medical degrees.—"History of Medicine in the United States," by Dr. Francis Packard.

Immunity to Yellow Fever.—This question has proved a vexatious one from a quarantine point of view, and has been subject to some modifications as knowledge has been gained in handling the disease. In the opinion of the writer, there is but one immunity to yellow fever, and that is gained by an attack of the disease. For practical purposes, however, and to promote commercial intercourse with the Gulf States, a period of ten years' residence in an infected zone is accepted as giving immunity to the disease, upon the principle that the person exposed should have yellow fever during that time if he is susceptible; and during

the past ten years, when some good certificates of immunity have been issued, in not one instance has yellow fever developed among these passengers after departure for the United States. The danger is from the conveyance of the disease occurring in non-immune passengers and crews of vessels while en route to uninfected ports and places. Cases have occurred in which there was a moderate rise of temperature, without special symptoms to attract attention, and the experience of the past season in Havana has but confirmed past experience as to the great difficulty in making a differential diagnosis in very mild cases of the disease. So far as maritime sanitation is concerned, however, experience has confirmed the fact that the five-day period of detention for yellow fever from last exposure is sufficient time. It has been demonstrated in several instances during the past season that seventy to one hundred hours will safely cover the period of incubation.—"Quarantine Defense of the Island of Cuba," by Dr. Arthur H. Glennan, U. S. M. H. S., chief quarantine officer for the island of Cuba.

Uniform Medical Legislation.—In the Chicago *Tribune*, March 10th, is a forceful article by Dr. Emil Amberg, who eloquently urges the need for steps to be taken leading to this desirable end. Dr. Amberg in part says: "It is admitted that we have too many medical schools and that we are in need of a greater number of good ones. It would be a wise step to close about three-fourths of the medical schools now existing, and to place the rest under rigid State control; or, what would be still better, to make them State institutions, as, for example, the University of Michigan Medical School, even admitting that some of the private schools are satisfactory. Many of the medical schools now existing are the property of corporations for the benefit of a few. Special privileges have been granted to these combinations. This should never have been done. That the existing conditions reflect upon the whole medical profession is easily understood, and it cannot be denied that the public in general should have more interest in a question which concerns every citizen. . . . The importance of the movement is recognized more and more every day by the medical profession, and the public will undoubtedly take a hand as soon as it understands the subject more thoroughly. The question is a comparatively simple one, and it can be dealt with more satisfactorily if the public at large interests itself in the same to a greater extent. A great problem is before the people of the United States. Its solution should not be delayed."

The Income of the Medical Profession in Berlin.—The Medical Chamber of Berlin and the province of Brandenburg has issued an interesting report on the subject of the income of the medical profession residing in that district. The Chamber is authorized to fix an annual sum, to be paid by every medical man, for the expenses of the Chamber and the support of distressed members of the profession. It had been decided that a uniform rate of 10 marks ($2.50) should be paid, and an additional sum by those earning more than 5,000 marks ($1,250). The Chamber has been informed by the income-tax officials that of 1,946 Berlin medical men under the jurisdiction of the Chamber 529 earned from 900 to 3,000 marks (from $225 to $750), 273 from 3,000 to 5,000 marks (from $750 to $1,250), and 785 more than 5,000 marks ($1,250), the largest income amounting to 295,000 marks ($73,750). It appeared that 107 medical men had no taxable income at all; the income of 250 could not as yet be ascertained. In the other towns of the province the proportions were similar to those found in Berlin, so that 4 per cent. of all the medical men had no taxable income, 26 per cent. had an income from 900 to 3,000 marks, 17 per cent. 3,000 to 5,000 marks, and 40 per cent. more than 5,000 marks. In 13 per cent. no reliable information could be obtained.—*Lancet.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended May 17, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES AND INSULAR.			
Arkansas, Prescott	May 8th	5	
California, San Francisco	May 4th to 11th	3	
Colorado, forty counties	April 1st to 30th	430	
Illinois, Chicago	May 4th to 11th	9	
Freeport	May 4th to 11th	8	
Iowa, Clinton	May 4th to 11th	1	
Kentucky, Lexington	May 4th to 11th	8	
Louisiana, New Orleans	May 4th to 11th	10	
Massachusetts, Boston	May 9th	1	
New Bedford	May 14th	1	
Michigan, Detroit	May 4th to 11th	1	
Grand Rapids	April 29th to May 11th	6	
Nebraska, Omaha	May 4th to 11th	18	
N. Hampshire, Manchester	May 4th to 11th	8	
New Jersey, Camden	May 4th to 11th	1	
Newark	May 4th to 11th	3	
New York, New York	May 4th to 11th	107	19
Ohio, Cincinnati	May 3d to 10th	8	
Cleveland	May 4th to 11th	32	
Dayton	May 4th to 11th	1	
Pennsylvania, Philadelphia	May 4th to 11th	3	
Pittsburg	May 4th to 11th	7	
Tennessee, Memphis	May 4th to 11th	27	2
Nashville	May 4th to 11th	8	
Washington, Tacoma	April 27th to May 4th	2	
W. Virginia, Huntington	April 13th to May 11th	27	
Wisconsin, Milwaukee	May 4th to 11th	1	
Porto Rico, Ponce	April 22d to 29th	3	
SMALLPOX—FOREIGN.			
China, Hong-Kong	March 23d to April 6th	22	17
Colombia, Panama	April 29th to May 6th	4	1
France, Paris	April 22d to 27th	..	20
Germany, Bremen	April 13th to 20th	1	
Great Britain, England, Sheffield	April 13th to 20th	1	
Scotland, Glasgow	April 26th to May 3d	..	3
India, Bombay	April 8th to 16th	..	6
Calcutta	March 23d to April 13th	..	339
Karachi	April 7th to 14th	3	3
Madras	March 30th to April 5th	..	5
Italy, Naples	April 22d to 29th	149	30
Mexico, Mexico	April 28th to May 5th	1	
Russia, St. Petersburg	April 13th to 20th	13	1
Spain, Corunna	April 1st to 30th	..	2
YELLOW FEVER.			
Cuba, Havana	April 28th to May 4th	1	
CHOLERA.			
India, Bombay	April 8th to 16th	..	3
Calcutta	March 23d to April 13th	..	194
PLAGUE.			
China, Lam Ko district	February 14th to March 26th	...	10,000
India, Bombay	April 8th to 16th	..	681
Calcutta	March 23d to 30th	..	2,557
Karachi	April 7th to 14th	229	214
Japan, Nagasaki	April 19th	1	1*

* On Japanese steamship *Taichu Maru.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

PRINCIPLES OF SURGERY. By N. Senn, M.D. 8vo, 699 pages. Third edition. Illustrated. F. A. Davis Company, Philadelphia, Pa.

SELECT METHODS IN FOOD ANALYSIS. By Henry Leffmann, M.D. 8vo, 375 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

UTERINE FIBROMYOMATA. By E. Stanmore Bishop. 8vo, 312 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

MANUAL OF DISEASES OF THE EAR. By Thomas Barr, M.D. 429 pages. Illustrated. Third edition. James Maclehose & Sons, Glasgow, Scotland.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. By George W. Jacoby, M.D. In two books. 8vo. First volume, Book I., 224 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

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Original Articles.

THE DIAGNOSIS AND SURGICAL TREATMENT OF PROLAPSED KIDNEY; WITH DEMONSTRATION OF A SIMPLE METHOD OF EXAMINATION FOR ITS DETECTION.[1]

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My observations have led me to the following conclusions, viz.:

1. That prolapsed kidney is more frequent than is generally supposed.

2. That it is often not suspected, because it does not always give rise to symptoms directly referable to the kidney.

3. That frequently it is not discovered because, by the usual methods of examination, only an expert can detect it, unless the kidney is much enlarged or the subject is thin and the abdominal wall relaxed.

4. That palliative measures are of no avail and therefore useless and unwise if the degree of prolapse is sufficient to produce symptoms.

5. That lumbar fixation is the correct method of treatment when there is no contraindication; the operation being simple, devoid of risk, and successful when properly executed and the patient is given careful preparation and proper attention during convalescence, extending over a period of several months.

The purpose of this paper is to draw attention to certain symptoms, frequently ignored, that are presumptive evidence of prolapsed kidney; also to describe a simple method of examination for its detection, which, when once it is understood, will enable any one with ordinary skill to discover it, and also to describe a technique for its fixation that possesses some decided advantages.

Though very generally regarded as rare, prolapse of the kidney may be found in about twenty out of every hundred women presenting themselves for gynæcological treatment, or one out of every four or five. Of this number, fifty per cent. suffer in consequence sufficiently to require operation for its fixation. Of the remaining fifty per cent. those that have symptoms may be relieved in great measure by a properly adjusted abdominal bandage with pad. It must be borne in mind, however, that this is a very inefficient form of support, and it must not be expected that it will keep the kidney in place, or that it will effect a cure.

The term "prolapse" is employed because it seems to define the condition more definitely than "movable" kidney.

In prolapsed or movable kidney, the organ has been dragged down out of its position, and is between the peritoneum and the muscles of the back, its fatty capsule being elongated to accommodate its movements. The kidney is, therefore, still extra- or sub-peritoneal. This condition must not be confused with floating kidney, which projects into the peritoneal cavity, is covered by peritoneum, and has a pedicle covered by peritoneum, or a mesonephron. Floating kidney is very rare, and is always congenital. Prolapsed (movable) kidney is always acquired, and is much more frequent.

The right kidney is found prolapsed very much more frequently than the left, perhaps because of its situation immediately under the large right lobe of the liver which rests upon it. Both kidneys are depressed nearly half an inch by deep inspiration. Prolapsed kidney is much more frequent in women than men.

In an analysis of one hundred women taken at random at my clinic, there were twenty with prolapsed kidney. In two, both kidneys were prolapsed, and in one case the left kidney was prolapsed without the right. I have found the kidney prolapsed but once in the male, a private patient.

Causation of Prolapsed Kidney.—The cause of prolapsed kidney is largely a matter of conjecture. It is usual to expect it to occur more frequently in women with lax abdominal walls, or in those who have become greatly emaciated from some exhausting disease, because the chief support of the kidney is its surrounding fat, which is greatly diminished in these conditions. Yet I am inclined to regard the emaciation, so often observed in connection with prolapsed kidney, as caused by the digestive and nervous disturbances it provokes. Hence it is often rather an effect than a cause of the condition.

It is by no means necessary to anticipate finding a history of great emaciation following some exhausting disease before suspecting prolapsed kidney. I have often found it in women who were abundantly supplied with fat—in some considerably above the average, who had never had a period of emaciation—and, on the other hand, I have noted absence of prolapse in many women who were extremely thin.

While childbearing, with the consequent straining efforts during labor, and the consequent loss of flesh during lactation are to be regarded as prolific causes, it is a fact that prolapse of the kidney occurs quite as frequently in women who have never borne children and quite often in young girls.

In one case that I recall, the patient was fifty-two years old and had been married, for the first time, but eight months. The only possible cause for prolapse of the right kidney that was discovered was prolonged excessive retching and vomiting that always occurred when she was on the ocean. She had crossed many times and was invariably very seasick.

Hence, excessive vomiting and retching may be regarded as a cause, as well as strains and violent exertion of other kinds.

Severe attacks of whooping-cough may be mentioned as a cause for prolapsed kidney. I have had one case in which this was the only thing to which it could be attributed, the kidney being discovered out of position for the first time within a year afterward.

Symptoms.—Prolapsed kidney gives rise to the following symptoms, naming them as nearly as possible in the order of their frequency:

Digestive disturbances, usually chronic, manifested

[1] Read before New York State Medical Association, New York County Branch, April 13, 1901.

chiefly by persistent intestinal distention, with sometimes gastric irritability. Nervousness and restlessness, with sometimes insomnia. Unusual fatigue on exertion, particularly after standing or walking. Palpitation of the heart and sometimes vertigo. Epigastric pain, usually to the left of the median line, or over the region of the heart. Dragging pains in the loin extending to the groin and down the thigh, aggravated by long standing or walking, and usually relieved after assuming the recumbent position. Inability to rest comfortably or sleep on the left side when it is the right kidney that is prolapsed. Irritability of the bladder, more pronounced during the day and after standing or walking. This usually disappears (though not always) after resting for some time in the recumbent position. Jaundice, which is usually transient, due, no doubt, to temporary obstruction of the common bile duct. Pain over the region of the appendix, simulating chronic appendicitis. Pain referred to the ovarian region, which is very misleading in the absence of other symptoms directing attention to the kidney. Acute attacks of pain resembling renal colic, which come on suddenly and subside as quickly. These attacks are infrequent and are, no doubt, due to obstruction of the ureter from flexure upon itself or kinking, or perhaps pressure upon the ureter by accumulation of fæces in the bowel or extreme gaseous distention.

Slight prolapse of the kidney below the normal plane may exist without producing symptoms and without being suspected. But any considerable deviation from the normal plane must of necessity produce digestive disturbances at least, owing to proximity of the kidney to and connection with the duodenum. The disturbances produced by prolapsed kidney are usually in proportion to the degree of misplacement and the length of time that it has existed. No doubt the size of the organ has much to do with the severity of the symptoms.

It is a fact worthy of serious consideration that prolapsed kidney often exists unsuspected, because the symptoms it most frequently gives rise to are such as are not generally recognized as being caused by it. Patients are not infrequently kept under treatment for months for so-called nervous dyspepsia and nervous prostration, without benefit and without the least suspicion of the real cause of the condition, the removal of which, by fixation of a prolapsed kidney, is invariably followed by immediate relief.

Chronic digestive disturbance is by far the most frequent symptom of prolapsed kidney, and when it is manifested by a persistent intestinal distention that is not relieved by the usual methods of treatment, it is most significant.

I recall a case sent to me because of a fibroid tumor of the uterus, which illustrates how easily a prolapsed kidney may exist unsuspected unless a general, thorough physical examination of the patient is made. This patient persisted in the belief that she was pregnant, because her abdomen was so much enlarged, though she was fifty-one years old, and admitted the enlargement was not constant. Her physician had, at her request, curetted the uterus so as to be sure the uterus was empty, because she did not wish, at her age, to have her first child. This did not satisfy her. She still persisted she was pregnant.

The fibroid with the uterus only half filled the pelvis and did not press unduly upon any important organ. I decided, therefore, that it was not sufficient to account for her symptoms, so looked for the cause elsewhere, and found the right kidney prolapsed below the level of the umbilicus. Abdominal distention was the only prominent symptom, and there was absolutely nothing else to direct attention to the kidney. An abdominal bandage with pad adjusted so as to furnish some support to the kidney gave her immediate partial relief, and she became finally convinced of her error regarding pregnancy. When she makes up her mind to have permanent relief, I shall fix the kidney and shall ignore the uterine tumor, which at her age may be left undisturbed, unless it begins to give trouble.

I have had several cases sent to me by physicians for operation, because they thought they had detected some inflammatory lesion of the tubes or ovaries, the symptoms apparently bearing them out in this diagnosis, because of persistent pain referred mainly to the right ovarian region, and I have discovered prolapsed kidney as the cause, the tubes and ovaries being perfectly normal.

One of these cases that I recall is very instructive and illustrates the immediate good result of fixation of the kidney when it is needed.

The patient was sent to me by her physician, out of town, with a note stating that he had diagnosed salpingitis or a pus tube, and he sent her to me for operation. She had gone down in weight from one hundred and thirty-five pounds to ninety-five, was greatly emaciated, and so weak she could not walk without assistance or support. She suffered continual pain in the right ovarian region and backache. There was considerable abdominal distention, with so much gastric disturbance that she could not bear anything on her stomach. The ride to the city on the train made her as seasick as on an ocean voyage, and she reached my office in a very much exhausted condition. I could discover nothing abnormal in the pelvis except an old laceration of the cervix and a very slight enlargement of the right ovary, which I find not infrequently associated with this condition. The right kidney was prolapsed below the umbilicus.

I operated three days later, repairing the cervix and fixing the kidney in position. All her symptoms disappeared from the time of the operation, most noticeably the gastric irritation, and she began to take food with relish and retain it, and in three weeks, when she left the hospital, she had gained six pounds. She has continued gaining and improving, and now, six months after the operation, she weighs as much as she ever did, and is in perfect health.

Pain referable to the kidney region is a most infrequent symptom of prolapsed kidney. In fact, most frequently the symptoms are what may be termed "reflex," which is perhaps the chief reason that this condition is so often overlooked. Pain, when present, is not, as a rule, very acute, but more of a dull aching, or an indescribable feeling of discomfort. Cases that have acute attacks of pain are rare.

Diagnosis.—A careful, thorough physical examination should be made in all cases presenting any of the above symptoms, and if nothing is discovered at the first examination, a second and a third similar examination should be made after one or two days' interval. This is important, since not infrequently great abdominal distention or a full colon may prevent the discovery of a prolapsed kidney that can be easily made out when this is removed. In the interval, of course, laxatives and copious enemata should be given to clear out the bowels. Another cogent reason for repeating these examinations is that frequently the patient will be nervous at the first examination, and in consequence there will be an unusual rigidity of the abdominal muscles that will prevent satisfactory palpation. Another reason for this abdominal rigidity is a sore, sensitive condition produced by the dragging of the prolapsed kidney. In these cases, it is best to defer examination and withhold a final decision until the soreness has subsided. To overcome this, these patients should be put to bed and kept quiet for a few days, and the examination should be made at their home before they have been around on their feet and gotten the kidney out of position again.

It is by no means easy to make out a prolapsed kidney by the usual methods of examination that have been described by different writers, unless one has given the subject special attention and has become more or less expert. The gynæcologist who, by constant practice, has become an expert in abdominal palpation should experience no difficulty, but the general practitioner, who perhaps is more frequently called upon to make a diagnosis of this condition, will not find it easy.

If the examination is attempted with the patient in the reclining position, the kidney will slip up into position under the ribs, and it is difficult sometimes to dislodge it. Therefore, as a rule, the examination should be made with the patient standing, and with the body inclined slightly forward so as to relax the abdominal muscles.

The method of examination that I have found most uniformly satisfactory and recommended as simplifying the detection of prolapsed kidney, is as follows:

The clothing is loosened about the waist, the corsets are removed, and the undergarments that are suspended from the shoulders are rolled up under the breast, exposing the ribs below the level of the ensiform cartilage, while the skirts are drawn down below the level of the crest of the ilium. The patient is directed to hold up the upper garments with the right hand and to support the skirts with the left to keep them from dropping off. This gets her hands out of the way. She is then placed with her back to the edge of a table for a brace, or against the wall or a door, but she must not be permitted to lean back against it. The legs must be perpendicular to the surface upon which she stands. She is now directed to incline her body slightly forward by flexing it upon the pelvis. If the abdomen is unduly rigid and is not sufficiently relaxed by this position, additional relaxation may sometimes be secured by directing the patient to bend the right knee and rest the toe of that foot only on the floor, throwing the weight mainly upon the left foot. The examiner sits in front of her a little to the right. He grasps the right loin with his left hand, with the four fingers behind the right lumbar region and the thumb in front just below the border of the ribs, as shown in the drawing. The patient is now directed to take several deep inspirations and to expire to the extreme limit. When expiration is complete, he presses the thumb well into the abdominal wall under the ribs, depressing it as much as possible so as to reduce the space between it and the fingers posteriorly. If the kidney is out of position, it must be below his thumb, and he can feel the kidney slip under his thumb if it is pushed up into position. With the left hand flat against the abdomen, as represented in the drawing, he draws the relaxed abdominal wall downward and depresses it by pushing with the fingers inward, then upward. If he succeeds in getting the fingers under the kidney, it will be pushed up against and then under the thumb by this manipulation. It will require some little practice to maintain the necessary depression by the thumb, while attention is diverted to the manipulation of the other hand. Sometimes it will be possible to engage the kidney between the tips of the fingers below and the thumb above, before it is pushed up into place, and by manipulation outline it distinctly. This is possible, however, only when the abdominal wall is thin or relaxed.

When the abdominal wall is thick or cannot be made to relax sufficiently when the patient is standing, she must be made to recline on the back with the right leg flexed and supported. The examination is made in the same manner in this position also; but, as a rule, the kidney will slip back into position as soon as she lies down and it is not always an easy matter to dislodge it. She is made to take several deep inspirations and to expire to the limit, and, as she expires, the thumb is pressed suddenly well up under the border of the ribs. If this manœuvre is not successful in dislodging the kidney, she is directed to cough hard several times.

If it is the left kidney that is to be sought, the same manipulations are employed but the hands are reversed, the examiner sitting to the left of the patient.

The relation of a prolapsed kidney to the median line is by no means always the same. Sometimes it will be found near the umbilicus and sometimes down in the iliac fossa, in the region of the appendix. Hence manipulations for its detection must extend over the whole region between the lower border of the ribs above and Poupart's ligament below and from the median line to the lateral border of the abdomen.

When the kidney is pushed up into position, the patient usually experiences a sensation of faintness or nausea, but this is not invariable. Manipulation of the prolapsed kidney is not generally very painful, unless for some reason it is unduly sensitive.

FIG. 1.—Author's Method of Palpation for the Detection of Prolapsed Kidney.

Prolapsed kidney must be differentiated from distended gall bladder, tumors of the pylorus, tumors of the omentum, growths in the intestines, particularly in the ascending colon, and impacted fæces.

Prolapsed kidney is perhaps most often mistaken for a distended gall bladder. The chief characteristic of prolapsed kidney is the facility with which it may be restored to its proper position, particularly when the patient is on the back, whereas a distended gall bladder may be pushed upward but cannot be made to disappear backward. Pressure upon a distended gall bladder usually elicits considerable pain. The prolapsed kidney does not appear as a visible tumor even when the patient is on her back, unless it is unusually large. The distended gall bladder is frequently a distinct tumor, particularly when the abdominal wall is relaxed, as when the patient is on the back. The range of mobility of a prolapsed kidney is much greater than that of a distended gall bladder.

Tumors of the pylorus are nearly always associated with obstruction, and it is seldom possible to make them disappear by palpation. When they are displaced under pressure, they move directly upward, instead of upward and backward as does the kidney.

Tumors of the omentum in this location are nearly always associated with malignant disease elsewhere in the abdomen, of which there is evidence.

Growths in the colon, especially those near the hepatic flexure, more nearly simulate the kidney. Repeated examinations in different positions, and inflation of the colon with gas, should clear up the diagnosis.

Impacted fæces making a tumor in this region are removed by clearing out the bowel.

Treatment.—If the degree of prolapse is not sufficient to give rise to symptoms, and if the physical condition of the patient is such as to render exaggeration

of the prolapse improbable, no treatment is required, but the patient should be cautioned to avoid strains of all kinds that would tend to increase the displacement.

In these cases, a properly fitting corset will furnish all the support required, and this should be worn continually during the day, particularly about the house. The straight-front corset now in vogue is, I think,

Fig. 2.—The Author's Universal Retractor.

the best form, since it does not, like others, tend to crowd the abdominal viscera down below the waist line.

When the prolapse is sufficient to produce symptoms not sufficiently urgent to demand operation, or if the patient does not favor it, these symptoms may be relieved by a properly adjusted abdominal bandage with pad for support. It must be understood, however, that this will never lead to a cure of the local condition, and it must be worn continually, except when in bed. Such support does not even replace the kidney or hold it in position. It affords sufficient support only by pressure upon the overlying intestines to prevent the kidney, under favorable conditions, from dragging down to its extreme limit. When it is realized that a prolapsed kidney cannot be held in place when the subject is in the erect position, even by deep pressure with the thumb or fingers under the ribs, the inefficiency of any form of abdominal support is readily appreciated.

Prolapsed kidney cannot be cured except by fixation with sutures, and be the displacement ever so slight, if sufficient to be detected it will, in time, become exaggerated. This is unavoidably true, owing to the necessities of woman's environment.

The indication for operation is a sufficient degree of prolapse to give rise to symptoms that cause positive discomfort or interference with the health of the patient. There is one class of cases, however, in which operation is urgently demanded and in which delay endangers the life of the patient, viz., those who suffer attacks of acute pain denoting obstruction or strangulation of the ureter.

The operation is not one of sufficient gravity to cause any one to shrink from it. It is comparatively safe, is not mutilating, and the result is highly gratifying. It consists of an incision in the lumbar region through the skin and fat only, down to the muscles, which are separated in the direction of their fibres, exposing the fatty capsule of the kidney. This is opened, the kidney pushed up into the wound and attached by sutures.

The patient should be prepared as carefully as for an abdominal section. This is important, both to secure asepsis and primary union of the wound, and to avoid retching and vomiting following anæsthesia, which would tend to strain or loosen the attachment of the kidney.

The general preparation should consist in a thorough clearing out of the intestinal tract, and in those cases in which gastric and intestinal disturbances have been prominent symptoms the patient should be kept quiet in bed for three or four days immediately preceding the operation, and should be placed upon a restricted, easily digestible diet. Rest in the recumbent position, by replacing the kidney, will do much to relieve the irritability of the stomach and obviate vomiting after the operation.

The patient is placed upon the table on the left side with the left arm drawn back behind, as in the Sims position, with the thighs flexed and the pelvis tilted forward so as to bring the right lumbar region uppermost. A firm, thick roll is paced under the left side so as to press into the abdomen, between the lower border of the ribs and the pelvis. This increases the distance between the last rib and the crest of the ilium on the right or upper side, crowds the abdominal viscera upward, and usually replaces the kidney, thus making it easily accessible.

The position is reversed when it is the left kidney that is to be fixed. When the operation is to be done on both sides at the same time, the patient is placed flat upon the abdomen and chest, and the roll is placed transversely under the abdomen.

The field of operation is given the same careful preparation as is employed for abdominal section—the surface being scrubbed and shaved and afterward surrounded by sterile towels.

Technique of Nephropexy.—An incision is made with the knife parallel to the spine, close to the outer border of the erector spinæ muscle, from just below the last rib downward for about three inches. This incision divides the skin and fat down to the superficial fascia. Retractors are now inserted and the margins of the wound drawn apart. The vessels divided are small and seldom require forci-pressure or ligature. The pressure of the retractors will, as a rule, suffice to control the bleeding. The fascia is now divided with the knife to the extent of the incision above and below, exposing beneath the fibres of the latissimus dorsi and the posterior border of the external oblique muscles. The knife is now laid aside and with the curved, blunt scissors, closed, the successive layers of muscles are separated in the direction of their fibres. As each layer is separated, the retractors are reinserted so as to include their margins and draw them apart. The erector spinæ is separated from the lumbar fascia in the same manner and beneath is encountered the outer border of the quadratus lumborum. Usually this can be retracted toward the spine and the

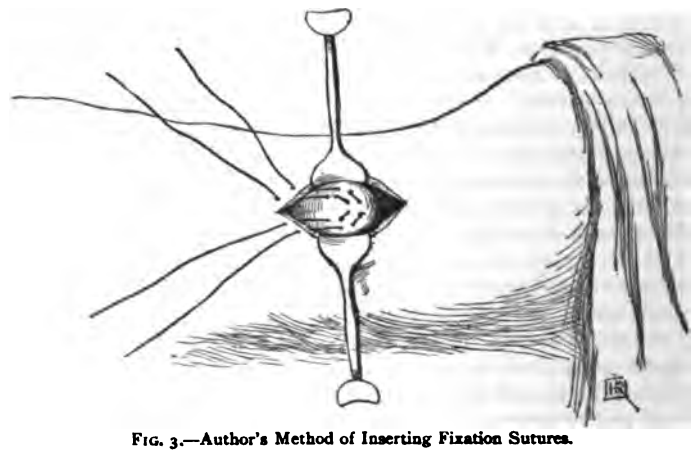

Fig. 3.—Author's Method of Inserting Fixation Sutures.

circumrenal fat is exposed beneath. The retractors are now made to include all of these structures, and they are drawn upon so as to spread the opening as much as possible.

The fatty capsule is opened with the scissors and the finger inserted for exploration and location of the kidney. It is best to open the capsule high up and well over toward the spine. If the kidney has

not been crowded up into position by the pressure of the roll beneath the abdomen, an assistant is directed to pass his hand under the covering, grasp it through the abdomen, and push it up into place so it may be reached by the finger. The fatty capsule is then divided to the extent of the wound, its margin on each side being grasped with a pair of sponge-holder forceps and drawn out. The kidney is caught with a pair of tenaculum forceps and carefully drawn up into the wound, taking care not to drag on it enough to cause them to tear out. The lower border of the kidney must be exposed in the lower angle of the wound.

With a quarter-curved needle, threaded with silkworm gut, two sutures are introduced through the lower half of the kidney structure in the manner indicated in the drawing, about half to three-fourths of an inch apart. The needle is first inserted rather superficially on the lateral surface of the exposed kidney from above downward in a direction somewhat oblique to its long axis; then it is inserted deeply through the kidney structure transversely and again superficially on the opposite lateral surface from below upward. As each suture is inserted, the ends are grasped with pressure forceps. The object of inserting the suture in this manner is to distribute the strain upon the central or transverse insertion, and lessen the chance of it tearing out.

The kidney is supported in the wound by means of these two sutures, and the finger is swept around it to separate it from its fatty capsule. The redundant fat drawn out is trimmed off on a level with the bottom of the wound.

The free ends of each silkworm-gut suture are now threaded into a needle, and carried through the margin of the fatty capsule and the muscular structure from within out and brought out on the skin surface. The ends of the upper suture are carried through the muscles and skin as high up as possible near the upper angle of the incision, and the other only a short distance below the first, as shown in the drawing. Thus, when these sutures are drawn upon and tied, the kidney is forced up under the border of the rib. Before these sutures are tied, the retractors are removed, and the wound is flushed with warm sterile decinormal salt solution.

A strip of several layers of sterile absorbent gauze is now inserted along the free border of the kidney and brought out at the lower angle of the wound to provide drainage and excite plastic inflammation. The sutures are then drawn up firmly, but not too tightly or they might cut through the kidney structure, and are tied over a strip of several layers of gauze, folded half or three-fourths of an inch wide, along the length of the incision. Thus this strip of gauze is interposed between the knot and exposed portion of the sutures and the skin margins of the wound, forming an elastic support for the sutures and preventing them from being tied too tightly or from cutting through the skin.

If these two sutures are not sufficient to close the wound at the bottom, one or two catgut sutures are inserted through the skin and superficial muscles only and tied.

The dressing consists of an abundance of loose absorbent gauze and over this layers of absorbent cotton held in place by broad strips of adhesive plaster. An obstetric binder is applied over this, with a pad under it on the right side of the abdomen as a support for the kidney.

The patient should be confined to bed for three weeks. The gauze drain is removed on the third or fourth day, and a fresh dressing applied. The sutures are removed at the end of two weeks, the patient being kept in bed a week afterward.

The position of the patient while in bed is not unimportant. She must be restricted to the recumbent position, and should not be permitted to sit up or rise up in bed. If she turns on her side, it should always be on the side of the attached kidney, since turning on the opposite side would cause the kidney to drag on its attachment.

As a precautionary safeguard, an abdominal support should be worn for two or three months, and the patient should be cautioned to avoid strains of all kinds for at least a year.

2030 Broadway.

THE CLIMATE OF LONG ISLAND.[1]

By LE GRAND N. DENSLOW, M.D.,

New York,

Fellow of the New York Academy of Medicine.

A brief consideration of certain general meteorological influences, to which the climate of Long Island is mainly due, will give a better understanding of the subject in hand.

"The prevalence of westerly winds is the most obvious and permanent feature of the atmospheric circulation in the middle latitudes of the globe. This movement of the air masses in a measure communicates the conditions of the continental interior to the eastern coasts, while in the same manner the influence of the ocean is extended well inland along the western coasts. During the winter heat is lost from large land surfaces by radiation much more rapidly than it is gained from the oblique rays of the sun; and consequently, in high latitudes regions of intense cold are found within the continents. Over the ocean, on the other hand, radiation proceeds slowly as compared with the rate on land surfaces, while vast quantities of heat are gained from equatorial currents. In summer the increased heat received from the sun is absorbed more rapidly by land than by water, so that the thermal relation between continents and oceans is the reverse of that which obtains in winter."[2]

This explains the apparently contradictory fact that our land winds are hot in summer and cold in winter, while those from the ocean are cool in summer and warm in winter.

Long Island is situated between longitude 72° and 74° and latitude 40° and 41°, extending almost east and west from New York Bay to Montauk Point, for about one hundred and twenty miles, lying between the great arm of the sea, Long Island Sound, and the Atlantic Ocean.

"The coast line of Long Island is strikingly irregular.[3] Along the north shore are eight deep and extensive bays, which form excellent harbors, and also a large number of inlets, most of which are navigable. The east end of the island is penetrated by Great and Little Peconic bays, to a depth of twenty-two miles, while the south shore, west of Southampton, for about ninety-five miles, consists of an intricate series of shallow creeks, partly surrounded by salt marsh, tributary to Shinnecock, Moriches, Great South, Hempstead, and other bays, which are divided from the ocean by long sand beaches (from one to five or six miles distant from the mainland), intersected in places by narrow inlets. Shelter, Robbins, Plum, Gull, and Gardiner's islands, which form part of Suffolk County (Long Island), New York, do not differ from Long Island essentially in physical or geological characteristics. Long Island, as a whole, is comparatively low and flat, but throughout the central part is a range of hills extending from Bay Ridge northeasterly to Ros-

[1] Read before the section on medicine of the New York Academy of Medicine, April 16, 1901.

[2] E. T. Turner: "Climate State of New York." Weather Bureau, 1896.

[3] F. J. H. Merrill: "Geology of Long Island." Annals New York Assoc. of Science, 1884.

lyn, and thence continuing to Montauk Point in a series of elevations, the more important of which are known as West, Dix, Comac, Bald, and Shinnecock hills. The average height of this chain is about 250 feet; but at some points it is much greater. Harbor Hill, at Roslyn, is 384 feet above tide; Jane's Hill is 383 feet high; Renland's Hill has an elevation of 340 feet, and Wheatly Hill is 369 feet above the sea. There is also, along the north shore, an elevation which usually follows the contour of the numerous deep bays and inlets, varying in height from 30 to 200 feet, and almost continuous from Astoria to Orient Point. These two ranges of hills are the result of glacial action."

"South of the backbone, as the central range of hills is called, the surface is nearly level, gently sloping southward in an unbroken gravelly plain; while between this ridge and the north shore is a second plain, with an elevation of 50 to 100 feet, and especially noticeable between Port Jefferson and Riverhead. From

Lines show regions having same mean temperature during July. Line on Long Island drawn by author.

many of the deep bays on the north shore valleys extend through the hills in a southerly direction. There are thirty of these depressions, averaging about 25 feet in depth, usually occupied by small streams, most of which flow southward."

"There are no important lakes or rivers now on Long Island, but there are numerous ponds of clear, cool water, without visible inlet or outlet. The existence of these ponds depends on the fact that in the stratified sands of the island, which are underlain by clays, a uniform water-level, or plain, exists, which rises northward from low tide level on the south shore, at the rate of 12½ feet per mile. Wherever a basin has been excavated below the surface of this plain, it would necessarily be filled by these subterranean waters, which, by their constant percolation through the sand, would remain pure and clear, without material or sudden change of level under average conditions. The largest of these ponds is Lake Ronkonkomo, which is three miles in circumference, and has a maximum depth of 83 feet."

The geology of the island is comparatively simple. The greater part of it consists of gravel, sand, and clay, also along the south shore and to some distance inland glacial sand, gravel, and boulders. This gravel forms the soil of the pine lands of the southern and eastern portions.

"On Hempstead plains the wells are dug from 60 to 120 feet deep, through beds of gravel and sand, before water is reached, which is a little above the level of the ocean. The wells gradually decrease in depth thence to the shore."[1]

Temperature.—The temperature conditions which prevail on Long Island differ to a considerable extent with locality. The eastern end and south shore are the coolest portions in summer—July mean 68° to 70°. The north shore July mean is 72°, while the western end is about the same temperature as New York City—July mean 74° and January 31°. The winter temperature is slightly warmer at the eastern than the western end. A better idea of the marked difference in climate between the east end and south shore and the extreme west end is gained by following their respective isothermal lines, or lines drawn through those regions having the same mean temperature during the month of July:

"The line of 70° passes from the Great Lakes over northern New York, through New England nearly to the coast, turns southwest and appears over eastern Long Island. It then passes directly eastward over the Atlantic Ocean to northern Spain, through central France, Austria, central Russia, and Siberia; passes over Japan at the 20° of latitude, across the Pacific Ocean to central California, follows the 120° west; northward well into British America, then turning southeast toward the great lakes and northern New York.

"The line of 74° for July passes from Brooklyn and neighboring north shore, directly southward over the ocean, until opposite Virginia (representing the New Jersey coast); thence slightly south and east to Morocco, in north Africa, where it turns northward to France; thence passes through southern Europe (north

[1] Mather: "Natural History of New York," 1843.

of the Italian peninsula) to the Black Sea through central Asia at latitude 50°, and near the coast turns southward to Japan. Diverging somewhat from the isotherm of 70° in its course over the Pacific, it touches America in southern California, follows the Rocky Mountains northward to British America, and then takes a southeasterly direction to the Great Lakes and New York." [1]

The influence of the ocean upon the climate of Long Island can best be given as described in the Eighth Annual Report of the New York Weather Bureau:

"Owing to the general eastward drift of the atmosphere throughout the year, the effect of the ocean upon the temperature of the Atlantic States is, under normal conditions, derived almost entirely from a restricted portion of the water surface contiguous to the coast. The air flowing toward low-area storms over the land may, however, occasionally be drawn from the region of the Gulf Stream, whose warmest axis is about three hundred miles from the coast of this State (New York). The stream at this point has a total width of three hundred miles (the width of the surface is considerably less), a mean temperature for the year of over 73°; and summer and winter temperatures of about 80° and 70° respectively in the latitude of New York. Notwithstanding the fact that cold or polar currents exist on the landward side of the stream, it is stated by Captain J. E. Pillsbury, U.S.N., that if the prevailing winds in New England in winter were southeast instead of northwest, the climate would be equal to that of the Azores Islands, mild and balmy. The current is in its place, ready to give off heat and moisture to the air, but the erratic movement of the winds may deliver this heat and moisture at unexpected times and seasons, and thus give rise to the erroneous belief that the Gulf Stream has gone astray. The writer has met with no investigations of the meteorological side of the question, and only the general statement can be made that, with a special distribution of pressure, extensive easterly wind systems may bring from the Gulf Stream to the coast quantities of heat sufficient to modify our climate considerably during brief periods."

"The nearest approach to a true maritime climate within the territory of New York is to be found at the eastern extremity of Long Island. The temperature conditions of this region may be represented without much error by the average mean temperature monthly values obtained at Block Island, twenty miles due east. On this account all statistics obtainable from Block Island which are included in the tables used in this paper may be read as coming from the eastern end. Records from this part of the island are sadly meagre. The midsummer mean temperature is very nearly that of Malone, at the northern boundary of the State, while the temperature for January is between those of New York City and Washington. The equalizing effect of the water is thus very appreciable, although far below that exerted in the open ocean, or on the western shores of the continents. A comparison of the normal temperatures of Block Island for the spring and autumn with those of stations in New York plainly shows the effect of the ocean in retarding the progress of the seasons. This averages for the eastern extremity of the island twelve days later than the main portion of the State. This condition is less and less marked in passing from the eastern to the western portion of the island. It has been shown that the average retardation of maritime as compared with truly continental climates is from twenty to twenty-five days."

"The sea breeze is an important feature of the summer weather along the south shore, tending to reduce the range of temperature by moderating the mid-day heat. It reaches the shore about the middle of the forenoon, or a little earlier, with a velocity of ten or fifteen miles per hour, and produces a marked and agreeable depression of temperature, with diminishing effects as it proceeds over the land. The breeze commonly penetates inland about ten miles, but naturally to a greater extent when acting with the prevailing southwesterly winds of the coast, while it may be wholly overcome if opposing them. Thus the south shore of Long Island is favorably situated to receive the full benefit of the sea breeze. The sandy plains of southern Long Island rise gradually toward a ridge of low hills extending through the centre of the island nearly from the western to the eastern extremity, and which bear a considerable growth of timber. The northern side of the island is, therefore, somewhat sheltered from the force of strong sea-winds, which meet with but little obstruction on the southern shore."

Long Island, together with the rest of New York State, is influenced by the prevailing northwesterly winds of the winter; but these, not being constant, produce an alternation of maritime and continental climates—the continental type prevails during the summer. On Long Island the continental type is less marked in winter than in any other portion of New York State.

The following table affords an opportunity to compare many widely separated localities:

TABLE I.—TEMPERATURES (MEAN).

	January.	July.	Extremes.		Range.
			High.	Low.	
Block Island	31.0	67.6	83.0	54.0	31.0
Nantucket	33	67.3	80	54	26
Long Beach [1]	....	70	88	63	25
Cutchogue [1]	30.4	71.3	94	53	46
Setauket [1]	30.5	71.8	95	54	41
New York City	31	74.1	99	57	42
Atlantic City	32	73	94	58	36
Philadelphia	33	78.2	100	57	42
Baltimore	34	78.7	104	57	47
Denver	27	72.4	96	49	47
Los Angeles	53	70.4	91	56	35
San Diego, Cal	56.8	66.7	77	60	17

[1] All points except Long Island (Govt. 1898). Or Long Island, 1900, with allowance for excess over normal + 2.3 for Long Beach and Setauket during July.

Taking Block Island observations as representing the eastern end of Long Island, and Long Beach the south shore, it will be seen that these localities have the coolest climate in midsummer on the Atlantic coast between Florida and Maine, with the single exception of Nantucket.

The effect of the ocean on range of temperature is marked on the south shore, it being but 25° for July, and with Nantucket standing next to and a close second to San Diego, Cal. (17°).

But four places in the United States have so low a range, viz.: Corpus Christi (22°); Eureka, Cal. (16°); Galveston, Tex. (19°); and Key West, Fla. (18°); but these places are undesirable for residence during July, all having a mean temperature of over 81.6°, except Eureka, which is too cool, being but 54.6°.

The average daily difference in temperature between day and night was 7.3°, taking 3 P.M. (the hottest time of the day) and 8 P.M. for comparison.

The climate of these portions of the island may be summed up as cool, comparatively dry, and very equable. Fogs are rare.

TABLE II.—MEAN TEMPERATURES.

	May.	June.	July.	August.	September.	October.
Block Island	51.4	61.6	68.8	68.1	62.7	55.2
Setauket	61.4	67.0	71.8	71	66	51.9
Long Beach	....	67.1	70	70.5	66.3	56

[1] Annual Report of New York State Weather Bureau, 1896.

TABLE III.—FROST.

	First Killing Frost of Autumn.		
	Earliest date.	Latest date.	Average date.
Easthampton	Sept. 28th.	Nov. 27th.	Oct. 20th.
Flatbush	" 13th.	Oct. 26th.	" 4th.
Jamaica	" 2d.	" 28th.	Sept. 29th.

The influence of the sea upon the east and south shores is well illustrated by the foregoing table. The average date of first frost at Easthampton is three weeks later than at Jamaica on the western end of the island, and inland.

Again, there is a full month's difference between the same two localities in the occurrence of latest frost on record.

TABLE IV.—PRECIPITATION.

	Annual.	Spring.	Summer.	Autumn.	Winter.
Block Island	44.79	10.31	9.49	11.62	12.57
Easthampton	37.50	10.02	8.80	10.08	8.40
Setauket	50.80	12.50	12.50	13.80	12.00
New York City	45.14	10.57	12.76	11.06	10.75

The greatest rainfall is in August, and extends over the northern shore to Setauket, but disappears at Easthampton and the east end. Over the greater part of the interior of New York State the precipitation during the summer is the greatest of the year. The reverse is the case with the east and south shores of Long Island. Sea winds from the southeast find no obstruction along the south coast, but passing inland meet the hill ranges along the north shore and give copious rainfall, as noted at Setauket.

TABLE V.—SUNSHINE TABLE, FROM UNITED STATES GOVERNMENT REPORT, 1898–99. ARRANGED IN ORDER OF NUMBER OF CLEAR DAYS.

	Clear.	Partly cloudy.	Cloudy.
San Diego, Cal	291	26	48
Yuma, Ariz	287	53	25
Fresno, Cal	262	52	51
Phœnix, Ariz	259	71	35
Red Bluff, Cal	243	68	54
Oklahoma	233	64	68
Cutchogue, L. I	228	84	53
San Luis Obispo, Cal	226	91	48
Amarillo, Tex	221	86	58
Sacramento, Cal	217	86	62
El Paso, Tex	212	118	35
Narragansett Pier, R. I	208	31	126
Carson City, Nev	202	133	30
Santa Fé, N. M	201	109	55
Bismarck, N. D	198	82	85
North Platte, Neb	193	116	56
Tampa, Fla	178	143	44
Los Angeles, Cal	160	172	33
Denver, Col	150	162	53
Jacksonville, Fla	147	167	51
Setauket, L. I	145	121	99
Atlantic City, N. J	123	139	103
New York City	109	124	132
Nantucket, Mass	91	105	169
Rochester, N. Y	66	136	163

The question of the amount of sunlight is of highest importance in estimating the value of a health resort. It has been found that a want of it will develop symptoms of general depression and a condition analogous to intermittent fever; while an abundance, on the contrary, invigorates, acts as a general tonic, purifies the air, and allows the fullest amount of out-of-door life. The writer is satisfied that this one element of sunlight in the highest degree is a great, if not the most important climatic curative factor in tuberculosis of the lungs, and that which has deservedly given to the climates of Southern California and Arizona their recognized value in the treatment of that disease.

The amount of sunshine on the east end and south shore of Long Island is the most marked characteristic of the climate; Cutchogue, for example, having one hundred more clear days than New York City, and one hundred and sixty-two more than Rochester, in the northwestern part of the State. Again, at Cutchogue, which will represent the eastern end,[1] "during the months of June, July, August, and September, 1899, there were but eleven cloudy days, and during the corresponding months of 1900 there were but seven."

TABLE VI.—SUNSHINE TABLES, UNITED STATES GOVERNMENT REPORT, 1898–99, ARRANGED IN ORDER OF NUMBER OF CLEAR AND PARTLY CLOUDY DAYS.

Yuma, Ariz.	340	Red Bluff, Cal.	311
Carson City, Nev.	335	Santa Fé, N. M.	310
Los Angeles, Cal.	332	North Platte, Neb.	309
Phœnix, Ariz.	330	Sacramento, Cal.	305
El Paso, Tex.	330	Oklahoma, Okla.	297
Tampa, Fla.	321	Bismarck, N. D.	280
San Diego, Cal.	317	Setauket, L. I.	266
San Luis Obispo	317	Atlantic City, N. J.	262
Amarillo, Tex.	316	New York City	235
Fresno, Cal.	314	Narragansett Pier.	239
Jacksonville, Fla.	314	Rochester, N. Y.	202
Cutchogue, L. I.	312	Nantucket	196
Denver, Col.	312		

These tables include all places in the United States where government observations are taken, and are for the year 1898. A few below 200 are used for comparison. The two points on Long Island are for 1899.

TABLE VII.—CLOUDY DAYS.

Nantucket, R. I.	169	Cutchogue, L. I.	53
Rochester, N. Y.	163	Denver, Col.	53
New York City.	132	Fresno, Cal.	51
Narragansett Pier.	126	Jacksonville, Fla.	51
Atlantic City, N. J.	103	San Diego, Cal.	48
Setauket, L. I.	99	San Luis Obispo	48
Bismarck, N. D.	85	Tampa, Fla.	44
Oklahoma, Okla.	68	Phœnix, Ariz.	35
Sacramento, Cal.	62	El Paso, Tex.	35
Amarillo, Tex.	58	Los Angeles, Cal.	33
North Platte, Neb.	56	Carson City, Nev.	30
Santa Fé, Neb.	55	Yuma, Ariz.	25
Red Bluff, Cal.	54		

Table V. giving the number of clear days at all the government stations in California, Arizona, New Mexico, Colorado, and Texas, where observations are taken, as well as others in Florida and along the Atlantic coast for purposes of comparison, show the portions of Long Island under consideration to have a favorable position in the list among the places having 200 or more days, classing with such as Phœnix, Ariz., El Paso, Tex., and Santa Fé, N. M.; while Denver, Col., Los Angeles, Cal., Jacksonville, Fla., and Setauket, on the north shore of Long Island, are lower in the list, with about 150; Atlantic City having but 123; New York, 109; Nantucket but 91, and Rochester at the bottom with 66.

Viewing it from the standpoint of Table VI., or the number of clear and partly cloudy days taken together, Long Island still holds its place near the points already mentioned in California and Arizona, being equal in number (312) with Denver (the latter place coming up on the list with its large number of partly cloudy days, viz., 162 against Long Island's 84), and still being above Santa Fé, N. M., and other points in California and the Northwest; with Atlantic City and the north shore of Long Island about 265; New York City, 233; Rochester, N.Y., 202; and Nantucket this time at the bottom of the list with 196.

In Table VII., cloudy days, east Long Island still holds its place beside Denver with 53, and classing with San Diego, Cal., and Florida, having fewer than Santa

[1] W. A. Fleet, Government Observer. Letter of December 31, 1900.

Fé and points in California, Texas, and the Northwest; while the north shore has 99; Atlantic City, 103; New York City, 132; and Nantucket again in the most unfavorable position, with 169.

Relative Humidity.—In seeking a healthful climate, its relative humidity is taken into consideration, and particularly when relief is sought for in lung, kidney, and rheumatic troubles.

A residence of several years in pursuit of health in southern California, Arizona, and other dry climates of the West, enabled the writer to recognize, during a vacation last summer on the south shore of Long Island, the marked dryness of the air, and led to the taking of the observations, and later of investigations, the results of which are given in this paper.

TABLE VIII.—RELATIVE HUMIDITY—AVERAGE PER CENT.

1898.	August.	September.
Nantucket	92	86
Block Island	88	82
Atlantic City	87	83
Jacksonville	86	86
Tampa	86	85
San Diego	83	77
Oklahoma	76	70
New York City	78	75
Los Angeles	71	69
Long Beach	60	54
Santa Fé	52	32
El Paso	52	44
Yuma, Ariz.	50	43
Denver	45	39
Phœnix	44	38
Red Bluff, Cal	31	39

In this table the figures are from Government Reports, 1898, except Long Beach; these were taken in 1900 on the north side of a piazza, about 25 feet from the ground, with hygrometer.

For convenience when writing, we might class a climate with

About	55	per cent.	of relative	humidity,	as very dry.
From 60 to 65	"	"	"	"	dry.
" 65 to 75	"	"	"	"	medium.
" 75 to 85	"	"	"	"	moist.
Above 85	"	"	"	"	very moist.

It will be seen by this table that the south shore in August and September may be classed as dry—much drier than any location on the Atlantic coast, or Los Angeles and San Diego on the Pacific.

Summary.—Five elements go to make up a climate—earth, air, water, sunlight, and temperature. The best possible soil to insure good drainage, pure water, and the least amount of moisture to be given off to the air is sand and gravel. This constitutes almost the entire island. The configuration of the land is good, a central ridge with gradually sloping plains to the sea on one side, with boldly indented shores and an inland sea on the other.

The air is both ocean and shore, with great mobility, due to the constant daily ocean winds. The water from the wells and springs is of the purest, freer from salts and vegetable matter than that in ordinary soil or mountain regions. The water of the air has already been referred to under humidity, clouds, fogs, rain, etc., and it is not anywhere in the island excessive; in fact, over the greater portion it compares in amount favorably with some of the most celebrated coast climates.

This study was not commenced with any preconceived ideas or prejudices, but simply, having observed certain symptoms always occurring in dry climates, I was led to go over all the information obtainable, and have given the facts found. They were certainly a surprise, as they probably will be to some of you. I do not pretend to account for the existence of this limited area of excessive sunshine and dryness of atmosphere in the midst of a moist coast-line. Our knowledge at present of upper currents and cloud distribution is limited, and the answer must come, if at all, from students of those subjects.

The practical side of the question is that we have a climate within from one to three hours of New York, where many suffering from diseases that will at once suggest themselves to you may, by a sojourn or residence, be benefited; also, that it is worthy of investigation as to the extent of its therapeutic value. It is certainly worth a trial, when for many reasons a long journey to the Rocky plateau or Pacific coast is inadvisable. Its best field would seem to be in those cases of heart, lung, kidney, and rheumatic troubles in which rapid oxidation is desirable in a sunshiny, dry, slightly stimulating climate, at a low level, and where during from four to six months, or from May to October, almost every day may be with comfort passed out-of-doors, under a sky that for absence of clouds has no rival in the United States outside of Arizona and California, with the exceptions of Amarillo, Tex., and Oklahoma, Okla.

49 WEST FORTY-FOURTH STREET.

SUPERHEATED AIR IN THE THERAPEUTICS OF CHRONIC CATARRHAL OTITIS MEDIA.

BY GEORGE W. HOPKINS, M.D.,

CLEVELAND, OHIO.

FEW ear diseases prove as obstinate in the hands of the physician as does chronic catarrhal otitis media in its advanced stages. The persistency with which many of these cases defy our best measures and steadily progress from bad to worse is familiar to all.

Some four years ago, while employing superheated air extensively in the treatment of various joint diseases, it occurred to the writer that the same agency might prove satisfactory in the treatment of such cases of chronic catarrhal otitis media as are characterized by ankylosis of the ossicles.

Experiments instituted in a number of typical cases at that time revealed the fact that, while there were many obstacles to the successful employment of superheated air in ear work, the results were most brilliant when these obstacles were once overcome.

The treatment has since been employed in a large number of cases of this type with highly satisfactory results, and with improved technique the treatment has been rendered simple, safe, and satisfactory.

A description of the first case treated may be of especial interest, as it has had the best test of time, with no evidence of recurrence four years from the date of discharge.

CASE I.—John L——, aged fifty-three years; a carpenter, with excellent family and personal history, has never been seriously ill, but has had nasal catarrh for fifteen years and gradually increasing deafness for ten years.

Examination revealed a typical case of hypertrophic rhinitis. The watch tick could be faintly heard with the watch in very close contact with the left ear. The tick could be heard at a distance of three inches from the right ear. The left ear was selected for the test.

Diagnosis: Chronic catarrhal otitis media, with sclerosis and displacement of the tympanum, ankylosis of the ossicles, slight dilatation of the Eustachian tube, and some labyrinthine involvement.

The diagnosis was confirmed by two colleagues of reputation as aurists, before treatment was instituted. Regular, systematic treatment, continued for two

years before this experiment was made, had scarcely stayed the progress of the disease.

Treatment: The ear was thoroughly cleansed with alcohol for several days before treatment was instituted. The patient was then seated in a comfortable chair, the ear examined and found perfectly clean. Narrow strips of dry gauze were packed into the ear and a large pad of dry gauze placed over the ear. The ear was then covered with the canvas-sleeve hot-air conductor, and a current of air sent into the canal at a temperature which gradually attained 400° F.

The temperature was easily borne, if gradually increased until a high point was reached, the only discomfort attending the treatment arising from a severe headache which always followed it, but which was promptly relieved by a dose of codeine.

Following the hot-air treatment, the Eustachian tube was always inflated with a warm stimulating vapor

from a nebulizer, vibratory massage with the nebulizer completing the treatment.

The patient was not allowed to leave the office for a half-hour after treatment, and the ear was tightly packed with warm cotton before he went out.

The nose and pharynx received appropriate treatment with antiseptic washes, etc.

Treatments were continued on alternate days for three months, at the end of which time he could hear the watch tick distinctly at thirty-four inches, and surprised his friends by invariably replying to their whispered references to him.

The right ear was then similarly treated, and in ten weeks an equally good result was secured.

Examination showed that the ears were normal in appearance. The patient was discharged January 6, 1897, and careful tests made at frequent intervals since have shown no tendency to recurrence.

During the four years subsequent to this experiment the writer has treated sixty-two characteristic cases of this disease with but four failures, and these occurred in very old people, all of whom had extensive labyrinthine involvement.

It may have been my fortune to find cases which were especially amenable to this treatment, but, in my opinion, any physician who will study technique closely can secure fully as good results. As to the philosophy of this treatment, little can be said at this time.

The intense heat seems to stimulate the circulation through the blood supply on the posterior side of the manubrium, causing absorption of the articular deposits; removing atrophy and relieving the rigidity of the tensor tympani. The ossicles lie so near the surface that they receive the full benefit of heat applied to the tympanum, and adhesions between portions of the ossicular chain and the adjoining bony walls of the middle ear are readily removed.

Naturally, much better results are secured in the same period of time in hypertrophic cases than in those characterized by hyperplasia; but many cases of the latter type, which would ordinarily have been regarded as hopeless, have gradually improved under this treatment until marked benefit was secured.

The writer has always regarded as contraindications to the employment of this treatment: (1) Arteriosclerosis, (2) serous effusion into the tympanum, and (3) perforations of the tympanum.

More recently he has treated several cases in which small perforations existed, without meeting with any difficulty, but ordinarily it would be advisible to exercise unusual care in treating such cases by this method. Aside from the headaches previously mentioned, there have been no troublesome after-effects to require attention. Such accessory forms of treatment as may be indicated should not be neglected.

Apparatus: For generating the necessary superheated air the writer prefers the device illustrated. This apparatus is a simple room-heater operating either by gas or oil, and having a funnel-shaped top, which sends the hot air through the canvas sleeve to the ear under treatment.

A few points in the construction of this device are of importance: (1) There must be sufficient draught to secure perfect combustion, without having an excessive draught, which wastes heat, and (2) there must be at least one perforation in the canvas sleeve near the point of contact with the ear, or the dead-air space present will prevent hot air from reaching the ear.

The gauze packing within and over the ear takes up all moisture as rapidly as formed, preventing burning and making the application of very high temperatures easy and without discomfort.

Although it is difficult to introduce currents of hot air to a cavity like the ear, which is open at only one end, if the above-mentioned precautions are observed no difficulty will be experienced.

The writer has experimented with a number of more elaborate heating-appliances in these cases, but none has given better results than the simple one above described.

1016 New England Building.

Bony Junction of the Hyoid and Thyroid.—P. Sebileau reports a curious formation occurring in a patient coming under his observation. It consisted in a bony prolongation from the middle of the body of the hyoid bone on its anterior surface downward to about the middle of the anterior surface of the thyroid cartilage. This condition is one of normal occurrence in certain of the lower organisms (especially the reptilia), and shows in the opinion of the author that the thyroid cartilage is of branchial origin and that it does not properly belong, from a developmental point of view, to the cartilaginous skeleton of the larynx.—*Annales des Maladies de l'Oreille, du Larynx, du Nez et du Pharynx*, April, 1901.

THREE CÆSAREAN SECTIONS—RECOVERY.

By J. F. BALDWIN, A.M., M.D.,
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CASE I.—Mrs. W——, aged twenty-four years, weight one hundred pounds, height forty-seven and one-half inches, was seen with her physician, Dr. Heeter, July 12, 1889. She was a typical rachitic dwarf at about full term of gestation. Examination showed a uniformly contracted pelvis with a conjugate diameter estimated at one and one-fourth inches. Her hygienic surroundings were bad, as she lived with her husband in a cellar basement. Nevertheless arrangements were made for a Cæsarean section as soon as labor commenced. July 16th, 10 P.M., I saw her again. Labor had commenced, the pains were short and frequent, and the os just beginning to dilate. She had felt the pains for about five hours. Morphine was given, hoping to delay labor until daylight. The pains, however, increased, and at 2 A.M. on the 17th it was evident that longer delay was inadvisable. At this time the pains recurred every three minutes and the os had dilated to the size of a twenty-five-cent piece. Assistants were at once secured and the operation was performed. Chloroform was administered by Dr. W. H. H. Nash. Dr. E. J. Wilson assisted directly, while Drs. Leeper and Kistler performed the special duties prescribed for them. The operation was done after Tait's method. The abdomen was opened in the usual way, a rubber tube thrown around the cervix and drawn tight, a longitudinal incision made in the uterus, this incision being torn by the fingers to a sufficient extent, a leg was grasped and the child promptly delivered. The placenta was at once extracted, the womb lifted out of the abdomen, the rubber band still further tightened, the cervix transfixed by knitting needles, and the womb, together with the ovaries and tubes, cut off. There was no hemorrhage. The incision was closed in the usual way down to the stump, which was treated with perchloride of iron. Convalescence was prompt in every way, and the patient was dismissed in three weeks. The child weighed seven and one-half pounds, and was nursed by the mother as if delivery had occurred in the usual way.

According to the statistics of Dr. R. P. Harris, of Philadelphia, this operation was the ninth among American Porro operations, and was the third successful one. It was the first Porro operation in Ohio.

CASE II.—Mrs. McC—— aged twenty-nine years, was seen with her physician, Dr. E. J. Wilson, May 8, 1900. She was pregnant at full term and had been in labor for about ten hours. Her physician had been called about four hours before and found her in hard labor, the membranes ruptured, and the os thoroughly dilated. She had been delivered by another physician, two and a half years previously, by craniotomy. This operation had been found difficult, as so reported by her physician, and she had been left with a vesico-vaginal fistula. Knowing the previous trouble, her physician on this occasion waited two hours, hoping that the head would engage. This failing, he applied the forceps, but was unable to secure any engagement. After waiting two hours more and finding no advance he asked for consultation, with the view of a Cæsarean section. On making a personal examination I found the conditions as above indicated. The presentation was by the vertex, L. O. A. The woman's condition was still good, although she was suffering greatly from her pains. The fœtal heart could be distinctly heard. Under the circumstances, therefore, and in view of her previous labor, a Cæsarean section seemed clearly indicated. The patient assenting, she was at once transferred to the Washington Avenue Hospital and the operation commenced at 11:30 A.M. Chloroform was administered by Dr. C. M. Shepard, Dr. E. J. Wilson assisting directly, and Drs. S. B. Taylor, Chapman, Fisher, and Willey, and H. A. Baldwin being present to aid as needed. The abdomen was opened in the usual way sufficiently to permit the withdrawal of the uterus, back of which towels were placed to protect the intestines. The organ was then incised transversely across the fundus. Hemorrhage had been guarded against, although perhaps unnecessarily, by my assistant grasping the broad ligaments on each side so as to control the flow of blood through both the uterine and ovarian arteries. The placenta was attached to the left side and was not in the line of incision. A presenting knee was at once seized and the child extracted without difficulty. The placenta was then easily delivered and the incision closed with chromicized catgut in two layers, numerous superficial sutures being used so as to leave no raw surface exposed. The Fallopian tubes were removed into the horn on each side, so as to prevent future pregnancies. The ovaries were entirely healthy and were left. The incision was closed in the usual way. The child, which was a large-sized male, was not asphyxiated at all, but in a moment cried lustily. Mother and child left the hospital in about two weeks.

CASE III.—Mrs. W——, aged thirty-two years, was first seen August 18, 1900. She was married two years, and had menstruated regularly, the last time being December 26, 1899. Motion was first detected May 7th. She presented marked deformity of the pelvis with congenital dislocation of both femurs. August 26th she was carefully examined by Dr. E. J. Wilson and myself. Our measurements, which agreed exactly although made independently, gave the diameter between the iliac crests 24 cm.; between the iliac spines, measured by Harris' method, 21 cm.; external conjugate, 15.5 cm. The patient's abdomen gave every evidence that she was about eight months pregnant. The case was clearly one for Cæsarean section, and this operation was advised and consented to. September 17, 1900, the patient notified me that she was in labor, and on visiting her at her residence I found this to be the case, and accordingly took her in my carriage to Grant Hospital, where the operation was performed as soon as the patient could be gotten into condition, at 3 P.M. Chloroform was given by Dr. C. M. Shepard, and Dr. L. J. Chapman acted as my assistant. A number of physicians of the city who had known of the case were present by invitation, together with several of the hospital nurses. The operation was conducted precisely as in Case II., the transverse incision through the uterus in this case, as in that, giving remarkably little hemorrhage. The incision came directly down upon the placenta, but this was immediately separated so that there was no special loss of blood. The child presented by the buttocks and was easily extracted. It was slightly asphyxiated, but was resuscitated with no special difficulty. In this case, as in the second, the Fallopian tubes were removed so as to avoid future pregnancies. The anæsthetic was not well borne, so that the operation was somewhat prolonged owing to the struggles of the patient, but was completed without any special delay. The child was a male of average size and thrived from the first. The mother left the hospital in excellent condition in three weeks.

The indications for a Cæsarean section in these three cases seem to have been very clear, and the results, both in the entire absence of mortality, either maternal or fœtal, and in the absence of morbidity, all that could have been desired. The technique of the Porro operation was in accordance with the teaching of that time. Were I to have a similar case to-day which for any reason it seemed best to complete by Porro's meth-

od, the uterus would undoubtedly be removed, as in any other case of abdominal hysterectomy, with dropping of the stump and immediate closure of the abdomen. Unless, however, there was some special reason for removing the uterus, such as the presence of tumors or sepsis, it would probably be best to close the uterine incision, as was done in the other two cases, and allow the organ and the ovaries to remain. While the physician should not render a woman sterile without her knowledge and assent, and that of her husband, I personally do not feel that it is right to subject a woman a second time to a Cæsarean section without her own expressed desire. In both the cases the matter was fully presented to the patients, and both promptly expressed a desire to be left in such condition that subsequent pregnancies could not occur.

Columbus has been unfortunate, apparently, in the mortality of its Cæsarean sections. From careful inquiry I have learned that during the last twenty-five years there have been, including the above cases, nine Cæsarean sections made in Columbus, these operations having been made by four different surgeons. In six of these cases the mothers all died promptly. The fœtal mortality has not been learned. The total maternal mortality therefore has been sixty-six and two-thirds per cent.

ETHER AS AN ANÆSTHETIC.[1]

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Mr. President and Fellows: In presenting these lines for your discussion this evening, it is not my intention to bring before you the many ways in which ether can be administered or its physiological action, but to formulate a few suggestions which may be of value.

The one idea in every operative case in which narcosis is needed, is to choose some form of anæsthetic which will render the patient unconscious, and, at the same time, with the least possible amount of danger.

Many will say, "Why do you bother us by bringing this oft-told subject up for discussion?" How often is ether given, and how few are the deaths! How few? Yes, and could not these few have been spared had a more careful physical examination been made, more care used in the administration of the anæsthetic, or a more expert anæsthetist been present? This is the object in bringing this paper before you to-night.

Can we not, by more careful attention to all these details, render disaster an almost unheard-of occurrence? In ether, properly given, with but few exceptions, we have a safe and reliable anæsthetic. Even in the case of children, with whom chloroform was formerly invariably used, ether is fast taking its place. In pregnancy, kidney disease, and the varoius pulmonary troubles, it is generally contraindicated, but in many of the operations around the face and throat, ether is fast coming into favor. Its physiological action is too well known to detain us, but its safety lies in its being a respiratory and cardiac stimulant.

Many of the objections put forward by the antagonists of ether can be summed up as follows: First, it takes a longer time to get the patient anæsthetized. Second, it irritates the throat, fauces, and lungs. Third, it causes a sensation of strangulation. Fourth, it congests the kidneys, causing some form of kidney disease. Fifth, it causes vomiting, and frequently nauseates long after the operation has been finished.

Granted that ether may take a few moments longer in its effect than chloroform, in competent hands its action is prompt and sure. When these many objections are brought to your notice, before you condemn the ether, ask a few questions. Was that ether fresh, and, if so, was it given properly and by a competent person? Was the cone a proper one, and made to fit the patient's face? Was the ether frequently added, and in small quantities, or was a cone saturated with stale ether slapped down over the face of the already scared and nervous patient, and allowed to remain there to fill with foul secretions before fresh ether was added? If so, is it a wonder a patient struggles and complains of strangling, irritation of the throat, and vomiting? When a patient vomits and is nauseated for hours after ether, can any one wonder, since a filthy cone, seldom changed, has been held over the face for a long time? If pulmonary trouble follows, instead of condemning ether, we should look to its method of administration; see how much more ether was given than was necessary; see if frequently during the narcosis the patient was not allowed to vomit, thereby allowing some of the vomited matter to get into the air passages; or see if, possibly, some physical sign indicating a pulmonary trouble has not been overlooked in the hurried physical examination. The same holds true of the kidneys or any of the other organs; therefore, before condemning ether, we should look to its administration.

Just for a moment let me remind you of a few of the points in its administration. Time does not permit me to dwell at length upon the urinary or physical examination, but this should be thorough. No food should be given six to ten hours before the administration of an anæsthetic, especially ether. The giving of a glass of milk three or four hours before the commencement of anæsthesia is a practice to be condemned, and it needs but one experience with vomited milk curds to make one see its danger. Ether should never be given without a hypodermic of strychnine and stimulants ready for instant use. Oxygen and an electric battery should also, if possible, be at hand; the head low, chest and abdomen free, false teeth and plates removed, are a few of the well-known points. A cone of towel and paper forms a clean and convenient inhaler. Fresh ether, frequently added but in drachm doses, should be used, and we should begin the inhalations with the cone at some distance from the face, allowing the throat and fauces to become accustomed to its vapor before bringing it down closely over the face. The mouth gag and tongue forceps are at times convenient, but seldom necessary. With the jaw held forward, and a little care taken in a patient's position, these instruments will enjoy a much-needed rest in the pocket of the skilled anæsthetist. The anæsthetist should give the ether and nothing else. His undivided attention should be given to the patient, watching for any and every sign of danger. To him belongs the entire responsibility of bringing that patient successfully through the narcosis. No one sign should be overlooked. Everything should be carefully watched; pulse, respiration, pupils, face, everything, nothing should escape the vigilant eye of the etherizer. Many times you have seen incompetence at the cone; the anæsthetist first giving too much ether until the patient is profoundly anæsthetized, then letting up until the patient vomits, and, if it happens to occur in an abdominal section, the protruding gut not only annoys the operators, but considerable shock follows the replacing and handling of the intestines and the prolonging of the anæsthesia. In operations around the throat and face, what is more annoying than a vomiting or gagging patient? The question has often come to my mind, whether a great deal of the trouble experienced by operators in the healing of the abdominal wounds was not the result of too much manipulation of the cut surfaces, caused by the

[1] Read before the Syracuse Academy of Medicine, October 23, 1900.

replacing of protruding intestines, or working with rigid abdominal walls, or by the persistent vomiting and retching after a prolonged narcosis.

I well remember a rule which the late Prof. Charles Carroll Lee, of New York, used to insist upon. It had been the duty of the youngest man on the staff to give the anæsthetic, but Dr. Lee always insisted that the post of the anæsthetist should be filled by the most competent man on the staff, and invariably the house surgeon took the ether cone instead of acting as first assistant, thereby insuring a safe narcosis for his patients.

Dr. A. M. Phelps, of New York, some time ago pointed out the fact that by rapid operating and keeping the patient under ether the shortest possible time, shock was greatly lessened; and his results have been surprisingly good.

It would seem to me that the time is ripe for the profession of this city to support a man who makes it his business to give anæsthetics and to administer them properly. In large cities of this country and in Europe this is done, and it is time we did it here.

I never witness an operation, especially if it is a major one, without wondering if the anæsthetist is competent to carry that case through a prolonged narcosis, and if he fully realizes his responsibility. What will be his compensation? Who is it that for many a weary moment watches every sign and symptom of impending danger, keeping the patient safely and quietly anæsthetized, enabling the operator to work unhindered by tense and rigid muscles, by vomiting, retching, and the various unfortunate occurrences; and, when the operation is finished, the patient is carried to bed, not to remain in a profound stupor for hours, but soon to show signs of returning consciousness. Who is it that is responsible for that patient's life during the narcosis? You know only too well, should death interrupt the proceedings. Do you believe it fair for the operator to receive a good fee for his work, while the man who is responsible for the welfare of that patient receives sometimes a "V," seldom a three, and generally nothing? I think it is a disgrace to the medical profession—the treatment and pay of the average anæsthetist. I do not refer to charity patients or when the operator works for but little, for any one is willing to help his fellow-practitioners, but in good cases the average anæsthetist receives mighty scant remuneration.

Ask any physician who is about to undergo an operation whom he wants to have to give him an anæsthetic. Will he ask a nurse, a medical student, or an unskilled physician to officiate? No, not by a good deal; and we owe our patients the same consideration. It is a fact well known that a mighty small percentage of medical men, and surgeons at that, can properly administer ether, to say nothing of chloroform. The failure of our medical schools to give this subject its proper place is a great mistake. A student should be instructed day after day at the operating-table, watching the different symptoms as the narcosis continues, familiarizing himself with every detail, so when at last a patient's life is trusted to his care the operator can operate, and the assistant and nurses attend to their proper duties. Why? Because the anæsthetist knows his business, and the operator is free to work as only one can with whole heart and mind at his task. I firmly believe it is absolutely wrong for any one to allow an inexperienced person to give an anæsthetic when an experienced one can be obtained. In emergency cases this cannot always be done, but we can attempt it. I fully believe a competent anæsthetist will carry many a desperate case successfully through the dangerous stages of an operation, and, when it is completed, the patient will have more vitality left with which to make a new start in life.

There is one little point which has often come to my notice, and it might be well to mention it here. A great many men before operating, if they are to use chloroform as an anæsthetic, will try to secure some one who has had some experience in its administration. For that reason, deaths from chloroform are not so numerous as they would be if the operators took the same chances they do with ether. Taking into consideration how much ether is given every day, and often by incompetent persons, the death rate is remarkably small, which speaks volumes for its safety as an anæsthetic.

A few years ago, after some rather unpleasant experiences with chloroform, the following notice was posted in the operating-room of a New York hospital: "Chloroform as an anæsthetic is not to be used in this hospital, except in obstetrical cases and children, without calling in consultation another member of the attending staff of this institution." In alcoholics, who as a class are undesirable for any anæsthetic, ether, if properly given, will be found to be satisfactory. The preliminary use of hypodermics of atropine and morphine is good in certain cases, but, when possible, they should not be used. The practice of beginning narcosis with chloroform and then changing to ether should be condemned. Those who live in the country will say, "How can we obtain a skilled anæsthetist?" Possibly you cannot, but if more care and attention are given to a few important details, the results of an ether narcosis will be much better.

To sum up briefly: First, ether from its physiological action is the safest of anæsthetics. Second, more care is necessary in preliminary examinations, and more care in regard to the position and condition of patients during the narcosis. Third, a good inhaler—the simpler the better is needed—with fresh ether, made by a reliable firm, and for this purpose the small quarter-pound cans are the best; the ether is to be added in small quantities frequently, beginning the narcosis with the inhaler a short distance from the patient's face and gradually bringing it down. Fourth, the more detailed study of this important subject is called for in our schools and hospitals. Fifth, the presence of a trained anæsthetist at all operations is necessary.

A FEW OBSERVATIONS FROM THE LORENZ ORTHOPEDIC CLINIC.[1]

By LEONARD W. ELY, M.D.,
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It was the writer's good fortune to be in Vienna for a while this last summer, and he improved the opportunity to see Lorenz. Lorenz gives a regular course in the general hospital, at which a number of Americans are usually present, and besides this, if one be lucky enough to have an introduction to him, one is invited to a private hospital where he does much of his work.

In the public hospital he has no wards of his own, but treats his patients there in his ambulatorium, his out-patient department, occasionally, it would seem, sending them up into what were, at the time, Albert's wards. His quarters are small and are usually crowded with assistants and spectators. His first assistant gives the anæsthetic; a practice more common on the other side than on this, and worthy to be copied.

It seems strange to see many of our well-established ideas set aside and ridiculed, and appliances adopted which we would consider clumsy and unscientific. Where we use plaster, Lorenz often uses a brace, and for our brace he substitutes plaster. In spinal caries

[1] Read before the orthopedic section of the New York Academy of Medicine, December 21, 1900.

we discuss the merits of the Taylor brace and the plaster jacket; some use one, some the other, and some use both. Lorenz discards both and advocates the use of a corset. This corset is made of two broad strips of perforated celluloid strengthened by metal bands, running down the back and over the hips and moulded to fit over a plaster cast. These are continuous with some stout stuff like canvas, the halves of which, meeting in front, are laced like an ordinary corset. Lorenz is wont to descant on the merits of this appliance, and probably in an ordinary case it is a fairly efficient brace; very much like many of our corsets, keeping the spine more or less rigid, and so rendering the patient comfortable; but that it prevents deformity and "splints the spine" hardly seems likely. It seems clumsy. His patients, as a rule, are poor, and the hospital supplies no free braces, but the supply of plaster is apparently unlimited. Unfortunately a stay of a month or so does not afford a chance to measure increase of deformity or occurrence of complications, and the careful tracings by which we set such store are conspicuous by their absence.

In the treatment of diseases of other joints, plaster is the favorite material. In hip-joint disease, Lorenz discards braces and puts the limb up in a plaster spica, which usually has an iron strip running down from the bottom to take up the weight of the body. In certain cases the method would appear to be a good one, especially in adults, and in children in the stage of recovery. In the former all brace treatment is difficult, and in the latter it is not very efficient in preventing deformity. Theoretically a spica should be a good weapon with which to combat troublesome persistent flexion and adduction.

Of the machine for the forcible correction of deformities you have all heard. It is a most impressive instrument and serves many purposes, but, except in the matter of time-saving, it seems to have little advantage of the hand. It can, of course, do considerable harm if not properly used.

His lateral curvature cases Lorenz treats in classes, and probably gets the same brilliant results as the rest of us do. The writer did not get a chance to see the children under treatment.

And now for the work with which Lorenz's name is so closely connected, and which we go to see him do —his congenital dislocations. His material is great, so that in a month with him one sees as many cases as in an ordinary clinic in a year. Patients are sent there from all over Europe. The Sultan of Turkey, the writer believes, has a child on which he wants Lorenz to operate in Constantinople. Even young sultanesses have the same diseases as the rest of us. The man is an enthusiast on his operation, and his results seem remarkable. His statistics are more favorable than any one's else. We may assign this to his method and technique or to his enthusiasm. Probably both causes contribute. His new book gives a detailed account of his operations, and tells how he does them. In actual practice he does not appear to cut tendons with as much freedom as in his book he advocates, nor, as a rule, did he use instrumental traction. It did not fall to the writer's lot to see him do an open operation. All the work done was without the use of the knife.

Besides those patients operated on during the writer's stay there were quite a number in the various other stages of treatment. Lorenz puts on the first spica, and then tells the patient to go away and stay for several months. He evidently has great confidence in the staying powers of his spicas, and this is remarkable when one considers how narrow is the bridge across the pubes—about two inches. They are certainly things of beauty, carefully moulded on the pelvis, do not include the trunk, and run only to the knee.

The results of the bloodless operation are good, at times brilliant, and leave no doubt, in the minds of those who have seen them, of the wisdom of operating. If not operated on, nothing is left for the patient but the life of a hopeless cripple. If operated at an early age, almost always great improvement results, often a good joint, and sometimes an almost perfect one. It is worth trying in a single case up to ten years, and in a double case up to seven, and even if this operation fails there is still hope with the knife.

Lorenz looks forward to the time when, owing to the spread of knowledge, these little patients will be brought earlier for operation, and the age problem will not confront us. Failures then would be few. Says he: "Das interessirte Publicum nimmt sehr lebhaften Antheil an den Fortschritten der Luxationstherapie, und ist, nach meinen Erfahrungen darüber, in der Regel weit besser unterrichtet als im Allgemeinen selbst die Aerzte."

Now, of course, Lorenz is one of the most modest of men, for he says, again speaking of his earlier operation, that it seems impossible to imagine how any better operation could possibly be devised for this deformity, and then proceeds to tell how it has been surpassed (überholt) by his later one (p. 159).

In conclusion it might be remarked that one is strongly impressed by the willingness with which Lorenz demonstrates his methods. He has the air of one convinced of the merits of what he is doing, and gave us all the chance to get our hands on the patients, and see for ourselves what was done.

170 West Fifty-eighth Street.

A CASE OF MEMBRANOUS ANGINA, DUE TO STREPTOCOCCI, FOLLOWED BY PARALYSIS OF THE SOFT PALATE.

By MOSES KESCHNER, M.D.,
NEW YORK.

M. B——, aged twenty years, was admitted on April 3, 1900, to the Reception Hospital. Previous family and personal history was good. She had been ill one day before admission. On admission the lungs, heart, and abdomen were found negative. Throat: The tonsils, uvula, anterior and posterior pillars of the fauces were covered with a thick, dirty, yellowish-gray, tenacious membrane. A smear from the same showed short-chained streptococci, a few staphylococci; no Klebs-Loeffler bacilli; a culture on blood serum examined after twelve hours' incubation showed almost a pure growth of streptococci. By April 7th the membrane began to break up, and had entirely disappeared by the 10th. During all this time the patient presented the classical symptoms and signs of local diphtheria, and gave evidence of profound systemic infection, a marked feature of which was maniacal delirium, lasting for seventy-two hours, which could be controlled only by large doses of hyoscine hydrobromate. On the 11th, it was noticed that the patient had difficulty in swallowing; the voice began to acquire a nasal twang, and on the next day liquids regurgitated through the nose on deglutition. On inspection, the palate was seen to hang more vertically than normal, and when she was asked to say "Ah," the palate was not raised. There was also a distinct loss of sensibility in the palate. There was no loss of the knee jerks; the pupils reacted to light normally; vision was not impaired. There was no evidence of paralysis in any other part of the body. Large doses of strychnine were administered by the mouth, and on April 20th the patient was discharged with only beginning improvement of the paralysis.

In the article on diagnosis in diphtheria in almost all text-books, one finds the statement that "paralysis following a pseudo-membranous angina is proof positive that the angina was caused by the presence of Klebs-Loeffler bacilli, but that the bacilli were so few in number that they may have been overlooked in the examination, or that they may have been overgrown by the cocci." As far as overlooking of the bacilli is concerned, I would say that this can be ruled out on the grounds that the bacteriological technique in the case was almost perfect, the cultures and smears having been carefully examined by two members of the hospital staff, and the results confirmed by the bacteriologists in the laboratory of the health department of the city of New York. This would rule out "personal error." The question of overgrowth is overruled by the fact that the successive serum cultures examined were in the thermostat for ten, twelve, and eighteen hours, and besides smears directly from the membrane were examined daily and found to contain only streptococci, with a few staphylococci and diplococci.

A third objection might be the possibility of the Klebs-Loeffler bacilli having disappeared from the throat prior to its examinination in the hospital. This, although possible, is not very probable, inasmuch as the case was seen on the first day of illness by the health department inspector, who took a culture (as is the rule with all cases before admission), and it was returned negative as to the presence of Klebs-Loeffler bacilli, and, although anatomically a "straight" case of diphtheria, was admitted to the Reception Hospital as a "suspect."

The above points would seem sufficient to exclude the Klebs-Loeffler bacilli as the etiological factor in the production of the paralysis in the case, and I should ascribe the paralysis to one of two things, or possibly both: (1) Pressure paralysis from direct action of the inflammatory process. The palatine nerves being contiguous to the inflammatory process of the primary disease, it is probable that they are influenced by the abundant growth of micro-organisms in the false membrane, which often penetrate into the substance of the mucous membrane, and even to the tissue beneath. (2) A neuritis with paralysis, due to the action of a toxin generated by the streptococci, in the same manner as we get a neuritis from the toxins generated by Pfeiffer's or Eberth's bacillus. Indeed, some experimental work has been done by Widal and Bézançon (*Annales de l'Institut Pasteur*, tom. ix., part ii., p. 104), in the course of which the authors succeeded in causing paralysis in seven rabbits out of one hundred and sixteen by inoculating them with toxins of various streptococci.

Baginsky (*Archiv für Kinderkrankheiten*, Band xiii., p. 455) reports a case of diphtheria with fatal paralysis of the diaphragm. No Klebs-Loeffler bacilli were found. He says that possibly they had disappeared, but he believes not.

Bourges (reviewed in *Rev. Mens. des Mal. de l'Enfance*, tom. xiii., No. vi.) reports: A seven-year-old boy had a pseudo-membranous angina, lasting seventeen days. Bacteriological examination demonstrated the absence of diphtheria bacilli and streptococci. The mother was infected, and her throat was also negative as regards the diphtheria and streptococci. Fifteen days after the disappearance of the pseudo-membrane, the child developed a convergent strabismus, followed in a few days by paralysis of the soft palate, and then by an incomplete paraplegia, lasting one month. The development of these symptoms accords perfectly with that of diphtheritic paralysis, in spite of the positive absence of specific bacilli.

I do not review this case because it is similar to the one that I report, for in Bourges' case there were not even streptococci present, but to show that paralysis after a pseudo-membranous angina is not positive evidence of the presence of Klebs-Loeffler bacilli.

These are the only cases that I could find in the available literature.

In conclusion, I wish to thank Dr. E. G. Bryant, resident physician of the Willard Parker Hospital, for permitting me to report the case.

352 East Fourth Street.

Practical Hints.—C. Lederer says that if foam remains on the urine for an hour or two one should suspect albumin, while a thin iridescent scum forming on the surface over-night points toward the presence of sugar. Martins has observed that non-coalescence of the cartilages of the ninth and tenth ribs is a sign of weak kidneys and the probability of subsequent Bright's disease. Finely powdered and well-baked clay is a simple, cheap, and efficacious dusting-powder for exuberant granulations about the sinuses of abscesses. Umbilical hernias in infants may almost invariably be cured by the following procedure: A bottle-cork one inch in diameter and one and one-quarter inches in thickness is tapered off at one end, covered with adhesive plaster, and then placed in the centre of a Maltese cross of the same material. The smaller end is pressed into the hernial ring and the apparatus held in place by the cross of plaster. In two weeks the size of the opening will have decreased so that a smaller cork will have to be fitted, and in six weeks the cure is usually complete. Beginning ventral hernia in adults may be treated in the same way.—*Der Frauenarzt*, April 19, 1901.

The Prevention of Puerperal Eclampsia.—L. F. Bennett believes that much can be done in the way of prevention by overcoming intestinal putrefaction by the use of strychnine with salines, by exercise, careful attention to the skin, exertion by the lungs, and ventilation. The urine should be carefully tested not only for albumin and specific gravity, but to know the amount secreted in twenty-four hours. The pulse is a good index to kidney elimination. An increase in arterial pressure is suggestive. Vasomotor constriction should put us on our guard as to the retention of toxic material. The alimentary canal will bear careful scrutiny. Many and various poisons are absorbed from this canal which are a sore trial for the kidneys and are almost entirely unnecessary in the maintenance of life. A saline draught, as some of the aperient waters, should be given, or a teaspoonful or more of Rochelle salts in a half-glass of hot water every morning. The liver should be looked after carefully, and if enlarged or congested will tell us that it is being overwhelmed with toxic material, and the appropriate treatment will at once suggest itself.—*Obstetrics*, April, 1901.

Disinfection from a Purely Practical Point of View; its Efficiency a Problem for Solution.—Results of a series of experiments detailed in J. J. Archinard's paper lead him to the following conclusions: I. Sulphur dioxide, being a disinfectant of low efficiency and, worse still, a destroyer of dyes, while utterly impracticable for thorough application, should be discarded at once. II. Formaldehyde, on the contrary, is an agent of a great penetration and high disinfectant efficiency, though practically harmless to colors and fabrics. Apparatuses are now being made for disinfecting rooms and contents by means of simple, cheap, harmless, and easily managed methods of rapidly generating this gas. Therefore the immediate adoption of formaldehyde is much to be desired. III. Bichloride of mercury recommends itself as a handy and efficient means of treating washable fabrics. IV. Sprink-

ling with twenty-per-cent. solution of formalin and keeping in closed containers for twenty-four hours enables us to dispose of woollen and other wearing-apparel not amenable to treatment by method III. V. Chlorinated lime is our best method for disinfection of excreta, privy vaults, yards, drains, etc. VI. Incineration is the best method of disposing of substances of no intrinsic value, such as rags containing dejecta, etc.—*New Orleans Medical and Surgical Journal*, May, 1901.

The Effect of Alcohol on Animal Life.—The New York *Herald*, Sunday, April 7th, says: "The result of recent experiments on a large scale on animals, made by M. Lainier, a French doctor, to test the effect of alcoholism on the system, will rejoice the hearts of the opponents of strong drinks. He has proved that animals alcoholized are utterly unable to resist infection with the bacilli of tuberculosis or anthrax, and still less with the poison of diphtheria. Moreover, the progeny of alcoholized guinea-pigs are either born dead or are so weak that they survive but a very short time. These experiments will again direct attention to the subject of alcoholism in connection with the decrease of population in France."

Medical Education of Women in Russia.—In 1861 the first formal request was made by a Russian woman for admission to follow the medical course at a university. Contrary to what took place in England, the proposal encountered practically no opposition, either from the profession or the public, and by the following year the sight of women attending lectures in the St. Petersburg Academy of Medicine and Surgery had ceased to be a novelty to any one. Since then the privilege has for various reasons been temporarily withdrawn once or twice, but the medical education of women in Russia is now so firmly established that one of the largest hospitals in St. Petersburg, containing more than six hundred beds, has just been opened for the instruction of the students. At the beginning of 1900 there were five hundred students attending the Women's Institute of Medicine, a large proportion of whom look with confidence to find an outlet for their energies in the Asiatic provinces of the empire. In 1899 a residential college was completed, at a cost of nearly $150,000, to accommodate one hundred and seventeen students.—ALDER ANDERSON in *Strand Magazine* for April.

Chicago Drainage Canal Complications.—In response to the request of the shipping interests of Chicago, says *The Scientific American*, the Secretary of War has given an order that the flow in the Chicago drainage canal must be reduced to 200,000 cubic feet per minute, which is about one-third less than the discharge for which the canal was designed. When the construction of the canal was authorized by the legislature, it was distinctly laid down that, when the sewage of Chicago was turned into the canal, it should be diluted at the rate of 20,000 cubic feet per minute for each 100,000 population, and that the total flow must not fall below 300,000 cubic feet per minute. These stipulations were made in agreement with the laws and in response to the urgent representations of the residents of the valleys through which the sewage-laden waters of the canal would be carried into the sea, and it would simply seem as though the provision for a flow of 300,000 cubic feet per minute is none too ample in view of the unsavory burden that the canal waters carry. Unfortunately, the discharge of this volume of water produces a current which, it is claimed by the shipowners, is dangerous to navigation in the Chicago River. Moreover, the authorities of the city of Chicago are disposed to make much trouble over the question of canal bridges. Thus this magnificent enterprise would seem to be just now placed "between the devil and the deep sea." It is not likely that any of these opposing interests would seriously deny that the drainage canal is a necessity, and that its completion and execution are one of the greatest sanitary works of this or any other age. That a large city like Chicago should continue to pour its refuse into Lake Michigan, with the prospect of ultimately bringing it into the absolutely disgusting condition which obtains to-day in Havana harbor, is a proposition that neither the inhabitants of the Illinois and Desplaines valleys, nor even the city of St. Louis, would justify for a moment. Since the canal is there, and there to stay, it is surely possible in such a reasonable age as this for the contending interests to meet and consider the matter in a practical and broad-minded spirit, and to make a compromise which shall do justice to every interest affected.

Pathology of Pharyngo-Mycosis.—From a microscopical study of tonsillar tissue containing mycosis deposits D. Braden Kyle is inclined to believe that the action of the leptothrix in their production is secondary, and that it is more than likely that the chemical change brought about by the pathological alteration in the submucosa causes a change in the glandular secretion and forms a soil which is a suitable nidus for the proliferation of certain bacteria. The degenerative changes in tissue (as in the tonsils) seem to be largely hyaline. The process of degeneration is controlled by nutrition, and why we have hyaline degeneration in one condition and fatty in another can be explained only from the standpoint of chemical pathology. That the tissues and fluids under certain chemical conditions bring about definite pathological changes is governed by the same general laws that control chemical reaction. Bacteria of the throat, found present in diseased conditions, may be only associated etiological factors. In mycosis, in which so many bacteria are found present, their import is lessened. The life and growth of the bacteria are largely determined by the character of the secretion. It may be possible that owing to the peculiar chemical change in the tissue requisite to the pathological alteration, as shown in mycosis so-called, the chemistry of the secretion is suitable to the growth of the leptothrix.—*Laryngoscope*, April, 1901.

The Discovery of the Cause of Malaria.—Dr. Louis Sambon, writing in the London *Practitioner*, says: "It is to Alphonse Laveran that the discovery of the malarial parasites is entirely due. It was in Algeria, while engaged as an army surgeon, that Laveran took up malarial pigment. He began his researches in 1879, and soon became aware that the pigment cells described by Meckel were living organisms, but it was only on November 6, 1880, that he was able to pronounce Eureka. On that memorable day he was, as usual, in the military hospital of Constantine patiently examining malarial blood. He had been a long while observing the peculiar ebullition-like turmoil of the pigment granules in one of the larger spherical bodies, when suddenly the cell projected several long, slender filaments, which began to wave about very actively, lashing and displacing the surrounding erythrocytes. There could be no further doubt as to the animate nature of these bodies, and Laveran sent a short note of his observations to the Paris Académie de Médecine, which was read at the meeting of November 23, 1880. Soon after he published a second paper, giving the points of difference between the malarial parasites and melaniferous leucocytes, and in 1881 he published a small illustrated monograph on 'La Nature Parasitaire des Accidents de l'Impaludisme.' In 1884 Laveran published his famous 'Traité des Fièvres Palustres.'"

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PRELIMINARY REPORT OF THE COMMITTEE ON ORGANIZATION OF THE AMERICAN MEDICAL ASSOCIATION.

THIS report has just been published and provides ample material for reflection. Reforms are badly needed in matters medical in this country, and the praiseworthy object of the committee of the association is to pave the way for these most necessary changes by first putting in order its own house. The committee wisely premises its recommendations by the statement that, after due consideration of all the attendant circumstances, it early reached the conclusion that it would be useless at this late day to suggest the adoption of either half-way or compromise measures, consequently the proposed plan of campaign is thoroughly comprehensive.

The first recommendation made is that a business section be constituted, to be known as the House of Delegates, which shall proportionately represent the State societies in accordance with their numerical strength, with the addition also, as directly representative of the scientific work of the association, of one delegate from each section. It is suggested that the present representation for the State societies be fixed at one delegate to every five hundred members.

There can be little dissent from the proposition that the number of representative delegates is at the present time excessive, and that, instead of helping on the business of the association, they act rather as a cog in the wheel. When the association was founded conditions were altogether different; there were only about twenty-five thousand physicians in the United States, and the system of representation was fully equal to the demands of the situation, and continued to be so for a considerable time. Fifty-five years have now passed; there are one hundred and twenty thousand physicians and between thirteen and fourteen hundred regular medical societies, and still the original scheme of representation is in force. Such, certainly, is an anomalous state of affairs. For the reason alone that work will be expedited, this suggestion of the committee deserves the earnest support of the medical profession throughout the country.

But other reasons almost as convincing may be urged in favor of the recommendation. These are, that its adoption will prevent delegates from the States near the place of meeting from wielding a preponderating influence; that under the existing system a correct registration of delegates is practically impossible, in consequence of which many attend meetings and vote who are really ineligible; and that a large number of members are not interested in medico-political matters and perform the duties thereto pertaining in a perfunctory manner or probably wholly shirk them.

The committee summarizes the objections to the existing mode of representation as follows: 1. It is not representative. 2. It detracts from the scientific value of the annual meeting, wasting the time of those who are not interested in medico-political subjects. 3. The time devoted to the general sessions does not give opportunity for deliberate consideration of the living problems of the profession of our country. 4. The body as now constituted has become so large and unwieldy that it is impossible for it to transact business deliberately and calmly, and take up and consider the important questions affecting the medical profession.

The committee asserts, and undoubtedly with truth, that one hundred and fifty representative delegates will be a number quite adequate to transact the necessary business, and in proof of this statement draws attention to the fact that those societies which do the most effective work have invariably a small executive.

Before leaving the question of the business section, the conception of which is so excellent that we cannot but think it must impress medical men favorably, and which will doubtless carry their best wishes for its realization, it may not be out of place to make a suggestion, namely, that it might be in the interests of both the profession and the association if the annual meeting of that body were conducted in all departments upon more strictly business principles than have up to the present time prevailed. The next recommendation of the committee is for the uniform organization of both State and county medical societies, as being directly subsidiary to the plan outlined for the association itself. This also is a most important and radical proposed measure, the successful conduct of which will take much delicate and diplomatic handling. It is indeed the hinge upon which the whole question hangs. The committee in the argument appended to its report says: "No successful organization of the profession is possible without the mutual co-operation of the national and State societies." But will these societies consent to be virtually absorbed into the association?

In this connection it may seem somewhat ungracious to rake up old troubles; but the physicians of New York yet bear in mind that some years ago, in consequence of a disagreement upon a point of medical ethics, their State society was put under the ban of the association, and denied re-admittance into that body. That is now a dead issue, and if it can be clearly demonstrated that to have a successful organization of the profession the mutual co-operation of the national and State societies is essential, then the State society of New York will doubtless for the sake of the common weal consent to bury the hatchet forever and work loyally and harmoniously with the association. The aims of the organization committee as set forth in its

report are lofty, and if only they can be reached, the heartfelt gratitude of all American physicians will surely be its just due.

THE OPERATIVE TREATMENT OF RECTAL CANCER.

THE problem of how to deal with rectal cancer has always been interesting to surgeons, and never so much so as at present when we seem to have established certain facts in regard to this form of malignant disease. It has long been known that the varieties of carcinoma observed in the rectum may be either of the epitheliomatous or of the adenomatous type, that the course in this part of the body has been rather less malignant than in most localities, and that many patients have lived for considerable periods when the dangers of sepsis and continued irritation have been obviated by colostomy. In one way the comparatively slow and insidious course of rectal carcinoma has been a drawback in the development of the surgical treatment of the disease, since this fact tends to make a late diagnosis frequent, often after very extensive infiltration.

The first requisite for the successful treatment of cancer of the rectum is an early diagnosis, and in the light of our present experience and with our present resources, we may say in passing that to treat malignant disease in any part of the body with success the very first thing the importance of which we must recognize is this same early diagnosis. In discussing the surgical treatment of this disease we should place in a separate class those cases which originate in an epitheliomatous ulcer in or near the anal muco-cutaneous border. These cases when not too extensive are treated by operative means quite different from those used in more typical cases in which the disease occupies an area beginning an inch or so above the sphincter and extending upward a variable distance. The ordinary case of carcinoma of the rectum belongs usually to this latter type, and most of the specially devised methods of operation are directed against cases representing this type. We may take it as proved that, in order to gain satisfactory access to the field of operation in the average case of rectal carcinoma, we must resort to some osteoplastic or bone-removing method of which that named after Kraske is the best known. There are several modifications of Kraske's original plan, but they all involve temporary or permanent removal of that portion of the sacrum below the third foramen, so that this part of the operation is pretty well established and needs no particular comment. Through the exposure afforded by this plan of operation, very extensive removals can be effected, and if the disease has not involved any tissue beyond the rectal wall, very complete extirpations can be accomplished, followed often by long periods of immunity. The technical difficulties of the operation consist largely in clearing away the disease anteriorly and in reaching its extreme upward limit, and later in preventing incontinence as much as possible. Carwardine, an English surgeon, has recently suggested (*British Medical Journal*, October 29, 1899) a slight modification in operative procedure, which ought to be serviceable in many instances. After the bone resection is complete, he does a linear proctotomy, extending as far upward as is necessary, and thus lays open the whole rectum. This affords a very complete exposure, and makes dissection much easier. The further work is done on the plan of the Whitehead operation for hemorrhoids.

The prevention of incontinence is an aspect of the question which, so far, is not in a satisfactory condition. The mechanical devices used to maintain obturation are all more or less imperfect, and the operative means of getting an artificial sphincteric control, when it has been necessary to remove the sphincter, are still far from satisfactory. However, much work is being done in this line, and we may hope for increasingly good results. The success of the operative treatment of rectal carcinoma depends upon early diagnosis, completeness of extirpation, and ability to restore some sort of intestinal control, and it is for the attainment of perfection in these particulars that we should work. There has been considerable discussion upon the desirability of preliminary colostomy, and at present the weight of authority is in favor of performing this operation in all cases requiring extensive extirpation, so as to avoid the dangers of infection and the discomforts of constipation.

SUGAR AS A FOOD.

ONE can, without much effort of memory, recall those days when physicians inveighed in grave terms against the use of sugar. Mothers were warned of the injury to the health of their offspring which would assuredly follow the consumption of sugar in any but the most sparing quantities.

Sugar was "heating"; it caused constipation, and required a large amount of gastric juice to digest it properly. Moreover, it affected injuriously the respiratory organs and favored the production of intestinal worms. Now, *nous avons changé tout cela*, and more enlightened views prevail. In various countries physicians became convinced of the errors of their ways, one of the first converts to the belief that sugar is a healthful food being Michel Levy, the well-known French hygienist. Proudhon and Cruveilhier supported these views, the former of whom was the author of the aphorism that "sugar constitutes the poor man's pharmacy," his pocket alone suffering.

At the present time sugar from being almost universally condemned has been advanced to a pedestal in the dietary list, and bids fair—unless due discretion be used in its consumption—to lead its lovers into excess with its consequent evil effects.

However, the truth that sugar is a valuable food cannot be gainsaid, and when, as stated recently in an editorial in the *Sun*, it is learned that its consumption has doubled for the world in fifteen years, and that in Great Britain is three times as great per capita as it was forty years ago, a good idea will be had of the appreciation with which the saccharine matter is regarded by the present generation. The *Sun* in the same editorial also refers to an interesting article by

Dr. H. Willoughby Gardner on the dietetic value of sugar, in which he points out that it is easily digested and absorbed into the system; it is readily stored up as glycogen, forming a reserve of force-producing material; it is in this form readily available when required; it becomes completely oxidized without any waste, and leaves no residue. Dr. Gardner, who is an enthusiast as regards the merits of sugar, attributes to the fact that the British people are the largest consumers of sugar in the world, the reason that they have so greatly increased in height, weight, and health in the past half-century.

The German army authorities in 1897 made some experiments with regard to the sustaining and invigorating properties of sugar, which proved conclusively that it is an adjunct to the soldier's diet of almost inestimable value. It was declared that a few lumps of sugar acted like a charm against fatigue as well as in quenching thirst. The British government followed the example set it by the Germans, and now provides its soldiers with 37 gm. of sugar daily. The result of the experiment has been most satisfactory in the South African campaign. Our army, too, in its revised ration scale is allowed a generous amount of sweet food, but the time of trial has not yet been long enough to pass judgment as to its effects, although there is no reason to doubt that the American soldier will assimilate sugar with as much benefit to his health as have his European fellows.

THE COST OF CRIME.

Mr. Eugene Smith, of New York, read a paper with the above title before the annual meeting of the National Prison Association, held at Cleveland, Ohio, in 1900, in which the question is reviewed chiefly from a monetary standpoint. Few persons grasp the significance and the far-reaching importance of crime regarded from any point of view; and although it may appear somewhat sordid to endeavor to arouse the interest of the general public in the subject from the pecuniary aspect, yet after all this is the phase of the matter which will appeal most closely to the ordinary individual. The science of penology has advanced, and the treatment of criminals is conducted upon much more intelligent and humane lines than ever before; but, notwithstanding this fact, the large mass of the population exhibits an apathetic indifference with regard to the system, and refuses to be instructed. According to Mr. Smith there are several explanations of this popular indifference. The mistaken belief that the subject is abstruse and beyond comprehension; incredulity as to the possibility of reforming criminals; aversion to the criminal as an enemy of mankind beyond the pale of sympathy; the idea that repression of crime is a function of government and outside the scope of individual responsibility—all these causes contribute to lead the public to dismiss the whole subject in favor of other matters believed to be more important.

The controlling cause, however, of the popular indifference, beyond all of those already mentioned, is the utter failure of the public to grasp the importance of the subject and to comprehend how enormous is the burden and how terrific the danger with which crime oppresses the world. It is therefore thought that if an estimate as approximate as possible is made of the cost of crime in dollars and cents, and if the general population is by these means impressed with a clear conviction that it is a question which closely concerns their own pockets, this apathy may give place to a practical interest. Of course to say unhesitatingly what share of public taxation is properly chargeable to crime is wholly impracticable, as crime exerts its influence to a greater or less extent upon every department of life.

Mr. Smith thinks the most hopeful method of reaching a near estimate to be that of analyzing the statistics of certain cities or towns where the figures are known to be accurate and complete; and when definite conclusions have been drawn from them, it may reasonably be inferred that the same conclusions apply to other cities and towns similarly situated. For this purpose typical cities, widely separate from each other, and each one the central point of a large section of country of which it is fairly represenative, have been selected, such as New York, Cleveland, Chicago, St. Louis, San Francisco, Richmond, Charleston, Savannah, and New Orleans.

The general result of an analysis of the fiscal reports of these cities is as follows: The cost of crime included in taxation in the city of New York gives an average charge of over $6 for each individual in its population; in San Francisco about $5; in the other cities named the per capita tax runs with slight variation from $3 to $3.50, including county taxation $4 to $4.50 for each inhabitant. The final computation of the annual cost of crime taxation in the United States is placed at the conservative figures given below: City and county taxation chargeable to crime—30,000,000 inhabitants of cities at per capita rate of $35, $105,000,000. Town and county taxation chargeable to crime—45,000,000 inhabitants of the open country at per capita rate of $1, $45,000,000. Federal and State taxation chargeable to crime—not less than $50,000,000. Total, $200,000,000. This sum, immense as it is, merely represents an outlay in the prevention of crime. Mr. Smith further estimates the annual income of criminals to average $400,000,000, which, added to the yearly taxation caused by crime, gives a total of $600,000,000. This amount almost makes the head reel, and should have the effect of convincing unthinking members of the community that it would be well if they were to insist upon prison reforms and upon the abolition of methods and abuses existing in many parts of the United States. We shall have criminals always with us, as we have the poor, but at the same time there can be no doubt that many sinners may be reclaimed from a life of crime by treatment conducted on scientific principles.

The continual occurrence of cases of smallpox in New York has called forth an earnest appeal from the health board for all unprotected persons to be vaccinated. In those districts in which this protection has been assured the disease has disappeared.

News of the Week.

Dr. John Duncan Emmet, formerly surgeon of the Sixty-ninth Regiment, N. G. S. N. Y., was recently elected lieutenant-colonel of the same regiment.

Dr. Vaughan on Women Physicians.—A correspondent from Kalamazoo, Mich., sends us a clipping from a local paper containing a denial from Dr. Victor C. Vaughan, of Ann Arbor, of the remarks derogatory to women physicians attributed to him in a recent alleged interview. Dr. Vaughan says he never made the statement attributed to him in the newspapers, or anything like it, and that the interview as published was false.

In Honor of Professor Hansen.—It is proposed to present Dr. G. Armauer Hansen, of Bergen, the discoverer of the bacillus of leprosy, with an international testimonial on the completion of his sixtieth year in July, 1901. For this purpose an appeal has been issued for subscriptions in amount from 10 to 20 marks ($2.50 to $5) to be sent to Dr. Sandberg, Bergen, Norway. The American members of the international committee are Dr. James Nevins Hyde, of Chicago, and James C. White, of Boston.

The Tribulations of Faith Curists.—A man named Pierson was recently convicted in White Plains, N. Y., of having violated the penal code by failing to provide medical attendance for his sixteen-months-old adopted daughter, who died from pneumonia through lack of proper care. Judge Lent sentenced him to pay a fine of $500 and to stand committed one day for each dollar until the fine is paid. Pierson refused to pay the fine, and so was sent to jail. Dowie, the Chicago "Zionist," was arrested in that city last week pursuant to the action of the coroner's jury, which has declared him "criminally responsible" for the death of a woman who was an inmate of Dowie's "Zion." Her infant also died. On testimony before the coroner that the ordinary treatment given by medical practitioners would probably have saved her life, her husband, her two nurses, and Dowie were held to await the action of the grand jury.

A Proposed Leper Hospital Burned.—The opposition to the establishment of a lazaretto on the Elkhorn Plantation, Jefferson Parish, Louisiana, which has been pronounced ever since the idea was first broached, culminated on May 23d in the burning of the plantation house just purchased by the board of control of the lepers' home. The lepers are now confined at Indian Camp, and it was but a few days ago that a delegation composed of the State senator from Jefferson, the district attorney, members of the police jury, the board of health, and others waited upon the leper board to protest against placing the hospital there. The matter was taken under advisement, but it was believed generally that the board would refuse to grant the request.

A Bequest to the Home for Consumptives.—Miss Maria Sprague Meeker, who died recently in Brooklyn, left her residuary estate to the Hospital for Breadwinners, which at the time of the execution of the will was about to be organized. If the hospital was not incorporated, the residuary estate, amounting to about $12,000, was to go to the Brooklyn Home for Consumptives. The Hospital for Breadwinners was not incorporated at the time of the death of Miss Meeker, and the surrogate decided that the residuary estate must go to the Home for Consumptives.

Dr. Robert Lewis, Jr., has been appointed aural surgeon to the New York Eye and Ear Infirmary.

The National Confederation of State Medical Examining and Licensing Boards will hold its eleventh annual meeting in the senate chamber of the Minnesota State capitol, St. Paul, on Monday morning and afternoon, June 3d. The president of the confederation is Dr. J. N. McCormack, of Bowling Green, Ky., and the secretary Dr. A. Walter Suiter, Herkimer, N. Y.

The Tuberculosis Congress.—The following are the names of the officers elected by the Congress on Tuberculosis recently held in this city: Dr. A. N. Bell, of New York, former president, *Honorary President;* Dr. Henry Holton, of Vermont, *President;* and Clark Bell, of New York, *Secretary and Treasurer.*

Tobacco Inconsistency.—The governor of Michigan has a cabinet whose members nearly all smoke large dark cigars without reproof from his excellency. Yet there is little doubt that the governor will sign the law making it criminal to sell or give away cigarettes. This is another example of swallowing the camel. In the State of Connecticut they do somewhat the same. In the school text-books the children are taught that a drop of nicotine will kill a full-grown cat in one minute, and that the smoker shuffles in his gait and loses ambition, and at the same time the same State spends $500 a year to encourage experiment in tobacco growing.—*The Medical Age.*

Dental Surgeons in the Army.—The following have been appointed contract dental surgeons in the army, in accordance with the provisions of the army reorganization law: John S. Marshall, Illinois; Robert T. Oliver, Indiana; Robert W. Morgan, Virginia; Emmet J. Craig, army; Samuel W. Hussey, army; Clarence Lauderdale, New York; S. Davis Boak, West Virginia; Franklin T. Wing, Montana; George L. Mason, Massachusetts; Hugo C. Rietz, Wisconsin; William H. Ware, California; Ralph W. Waddell, Ohio; Frank H. Wolven, New Jersey. These men are not commissioned by the President, but serve under three-year contracts made with the surgeon-general. They are not designated as officers, but wear the uniform of a first lieutenant, save that the braid on the shoulder straps is silver instead of gold.

Philadelphia Pediatric Society.—At a stated meeting held May 14th, Dr. Thomas Luther Coley read "A Report of Five Cases of Paralysis in Childhood," with exhibition of the patients. One of these was a case of cerebral hemiplegia, associated with epileptic convulsions in the sequence of some of which eyesight and the light-reflex of the pupil on the affected

side were abolished temporarily. The question arose as to the indication for surgical intervention. The remaining cases were instances of acute anterior poliomyelitis, two of which occurred in brothers, though not simultaneously. Dr. Augustus A. Eshner read a paper entitled "Nodding and Rotatory Spasm of the Head with Nystagmus in Rachitic Children." He reported two cases, one in a colored child in which the movements of the head were at times nodding and at other times rotatory, with sometimes lateral and sometimes vertical nystagmus; the second case was in a white child in which also the movements took place in both directions. The condition bears some analogy to spasmodic torticollis in adults, of which a case was reported. Dr. A. H. Davisson exhibited "A Case of Cretinism," and also "A Case of Microcephalus." Dr. James K. Young exhibited "A Case of Cured Lumbar Abscess in Pott's Disease," and he described the method of through-and-through drainage now generally employed. Dr. Henry R. Wharton exhibited "A Case of Stricture of the Œsophagus," resulting from the accidental swallowing of lye by a young colored child, in which relief was afforded by gastrostomy followed by retrograde dilatation by means of rubber tubing of progressively increasing size. Dr. William J. Taylor read a paper entitled "Œsophagotomy for Foreign Bodies in Children," detailing a case in which this operation was performed for the removal of a "drawer-clasp" that had been swallowed seven months previously and was located with the aid of a skiagraph. Dr. H. M. Shriner read the "Report of a Case of Enteric Fever with Hæmatemesis." Dr. D. J. M. Miller read "A Brief Report of a Case of Tænia Saginata in a Child of Twenty-four Months from the Use of Rare Scraped Beef for the Relief of Chronic Intestinal Disturbance."

The New York Academy of Medicine.—At the stated meeting to be held on Thursday evening, June 6th, there will be the presentation of the portrait of William H. Thomson, M.D., formerly president of the New York Academy of Medicine, by W. H. Polk, M.D. Also the following papers: "The Freezing-point of Urine; its Determination and the Inferences which May be Drawn from it," by J. H. Huddleston, M.D.; "The Early Recognition and Management of Arterial Degeneration," by Louis Faugères Bishop, M.D.

Camden County (N. J.) Medical Society.—At the annual meeting held at Camden, N. J., on May 14th, delegates to the American Medical Association, the New Jersey State Medical Society, and other medical societies were elected, as well as the following officers for the ensuing year: *President*, Dr. William R. Powell; *Vice-President*, Dr. J. Doron; *Secretary*, Dr. Paul M. Mecray; *Treasurer*, Dr. E. R. Ramsdell; *Historian*, Dr. H. H. Sherk; *Reporter*, Dr. J. Doron; *Standing Committee*, Drs. Charles Braddock, F. W. Marcy, J. Anson Smith, J. K. Bennett, C. G. Hoell; *Censor*, Dr. John R. Stevenson; *Trustees*, Drs. E. L. B. Godfrey, W. A. Davis; *Committee of Arrangements*, Drs. William H. Iszard, Sylvan G. Bushey, and John F. Leavitt.

New Medical Laboratories at the University of Pennsylvania.—The authorities of the University of Pennsylvania have projected new medical laboratories to be devoted to instruction in physiology, pathology, and pharmacodynamics. For this purpose there will be constructed a quadrangular building, two stories in height above a basement, three hundred and forty feet long by nearly two hundred feet deep. The first floor will be devoted to the branches of physiology and pharmacodynamics and the second floor exclusively to pathology. The entire front of the building will be occupied by laboratories, each thirty-one by forty-four feet, for advanced students. The east wing will be occupied by a laboratory of experimental pathology and the west wing by a museum, forty-four by sixty-five feet, for pathological specimens. There will also be a hall for demonstrations in morbid anatomy, and a pathological histological laboratory thirty-seven by one hundred feet in size, with a front almost entirely of glass, facing north upon a spacious court, and seating one hundred students. It will be especially adapted for microscopical work. There will also be laboratories for instruction in comparative pathology, neurological pathology, and surgical pathology. Four lecture rooms are to be provided, two of which will accommodate one hundred and eighty-five students each, and the other two four hundred each. The building is to be but one of a group for the teaching of medicine, the construction of which is contemplated by the trustees. This group will include a new medical hall, an anatomical building, and auxiliary buildings.

The Library of the Kings County Medical Society.—This excellent library was founded in 1845. Its first home was at 356 Bridge Street. When these quarters became inadequate, the society erected a fireproof structure at 1313 Bedford Avenue. On May 19, 1900, the library of over 30,000 volumes, 15,000 pamphlets, and some 500 current medical periodicals was throw open free to the public. In addition to the latest publications, the collection is especially rich in classics. The earliest printed volume is a folio published A.D. 1474. The first donation to the permanent invested endowment was the "Dr. John Lloyd Zabriskie Memorial Library Fund," presented in 1899 by Mrs. Zabriskie as a memorial of her husband, the late Dr. John Lloyd Zabriskie. The library is open free to the public daily, except Sundays and legal holidays, from 10 A.M. to 10 P.M., and books are loaned to members of the Kings County Society and of other affiliated societies of Long Island. The officers of the library have recently issued an appeal for contributions to the endowment fund and for gifts of medical books and journals.

"Vratch."—Dr. Viatcheslav Manasseïn, the editor and proprietor of *Vratch*, the leading Russian medical weekly, died a few weeks ago. A year or two before his death he gave explicit directions that whenever he should die the publication of his journal should be continued only to the end of the current year. The journal, an excellent publication and a model of its

class, has been in existence seventy-one years, and it is to be hoped that it will not be allowed to die in consequence of Dr. Manasseïn's curious whim, or at least that some one will establish a new journal on the same lines which will continue the work where *Vratch* drops it.

Decrease in the Consumption of Absinthe in France.—As an immediate result of the new French liquor law greatly decreasing the taxes on wines and ciders, the consumption of these increased fifty per cent. during the first four months of the year, the drinking of white wine having largely replaced the use of absinthe.

A League against Syphilis.—As an outcome of the Congress on the Prophylaxis of Syphilis held in Brussels in 1899, a league against syphilis has recently been founded in Paris. The president is Professor Fournier; the vice-presidents are Drs. Bérenger, Brissaud, and Le Pileur. Dr. Barthélemy is secretary-general.

The Staten Island Ambulance.—An effort is being made by citizens of Richmond Borough to compel the S. R. Smith Infirmary, the only charitable hospital on Staten Island, to inaugurate an ambulance service. The hospital receives an annual appropriation from the city for the care of the sick, and it owns an ambulance which was donated to the institution some years ago. The horse died, however, and has never been replaced. At present patients are removed to the hospital in a police wagon.

Philadelphia County Medical Society. — At a stated meeting held May 22d, Dr. John H. Musser delivered the annual address of the retiring president, taking for his subject "Streptothrix Infections." He reviewed the comparatively scanty literature of the subject, and reported two cases that came under his personal observation. In one of these there were at first symptoms merely of bronchitis, but eventually those of broncho-pneumonia, with elevation of temperature, were superadded. Examination of the scanty sputum obtainable at this time disclosed the presence of streptothrices and streptococci. Death took place, but post-mortem examination could not be secured. In the second case there had been loss of consciousness with convulsive seizures, followed by unilateral hyperæsthesia. A tuberculous lesion of the brain of undeterminable situation was thought to be present, but upon post-mortem examination an abscess was found in the left Rolandic area, the contents of which were found to be sterile, except for the presence of streptothrices, which were detected in the pus and in the walls of the abscesses in but small number and only after the examination of large numbers of preparations.

The King and the Doctors.—The Prince of Wales was last year elected an honorary member of the British Medical Association as well as a fellow of the Royal College of Physicians and Surgeons. It appears, however, that in the passage from prince to king such honorary memberships lapse, and the king has refused to enter the association again. But he has softened the sting of refusal by consenting to be a patron, which is taken by his loyal subjects to indicate that he does not disapprove of the work of the association.

Mumps in Central America.—Nearly every part of the Central American states has been visited recently by mumps of quite a severe type. The disease has occurred not only as parotiditis, but frequently also as orchitis, metastasis to the testicles being quite common.

The Colorado State Medical Society.—The next annual meeting of this society will be held in Denver on June 18, 19, and 20, 1901. Among the special features will be a series of papers on the history of medicine in Colorado, and a symposium on diseases of the kidneys.

A Collective Investigation of Cancer in Russia.—The Russian government has undertaken to collect statistics regarding the prevalence of cancer in all parts of the empire. The cancer census paper, besides asking for information about the antecedents—personal, hereditary, and collateral—of cancerous persons, also demands facts concerning birthplace, habitual residence, pecuniary means, use of tobacco, diet, drinks, etc. It is thought that it will be possible to compile a cancer map of the country, showing that the disease is practically confined to certain districts.

Texas Fever in Germany.—According to a despatch to *The Sun* from Berlin, a German medical weekly announces that Dr. Ziemann has discovered Texas fever in north Germany. Heretofore the disease has been known only in Texas, Roumania, Finland, and Sardinia. Dr. Ziemann has identified a cattle disease prevailing in the Neuenburg district of Oldenburg with Texas fever. It has been known under a local name for at least one hundred years throughout Ammerland district. The local veterinary surgeons thought the disease was the result of poisoning by a certain weed growing in the district.

Female Medical Practitioners in Germany.—One of the first ladies who have taken advantage of the recent relaxation of the rule excluding women from the study of medicine in Germany is Fräulein Mathilde Wagner, of Frankfort, who has just passed the final examination in medicine at Freiburg-in-Baden. She received her certificate of "maturity" in Berlin some years ago, studied medicine at Zurich, passed her first examination there, and was about to take her final one last autumn, when it became possible for her to obtain a license in her native land. She is now at liberty to practise medicine in Germany. Six ladies graduated at German universities last winter, and others are about to follow their example.—*British Medical Journal.*

The Mississippi Valley Medical Association.—It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th, and 12th of September

to the 12th, 13th, and 14th of September. This change has been made necessary because the dates first selected conflicted with those of another association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12th, good for returning without extension until September 15th. By depositing tickets with the joint agent at Cleveland and paying fifty cents, the date can be extended until October 8th. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can be obtained by addressing the secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Members of the profession are cordially invited to attend this meeting. Those desiring to read papers should notify the secretary at an early date.

The Philadelphia Medical Club tendered a reception on May 23d to Dr. Walter Wyman, supervising surgeon-general of the United States Marine-Hospital service.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending May 25, 1901. Passed Assistant Surgeon R. M. Kennedy ordered home by public conveyance. Assistant Surgeon M. V. Stone detached from the *Buffalo* and ordered home to await orders. Assistant Surgeon C. H. DeLancy detached from the *Bancroft* and ordered to the *Buffalo*. Assistant Surgeons F. M. Furlong, D. B. Kerr, E. J. Grow, A. G. Grunwell, D. G. Beebe, and C. D. Langhorne ordered home by public conveyance. Assistant Surgeon J. Stepp detached from the *Castine* and ordered to the *Isla de Luzon*. Assistant Surgeon E. J. Grow detached from the *Isla de Luzon* and ordered to the *Castine*. Assistant Surgeon E. Thompson detached from the *Solace* and ordered to the *Petrel*. Assistant Surgeon R. W. Plummer detached from the *Petrel* and ordered to the *Nashville*. Assistant Surgeon F. M. Furlong detached from the *Brutus* and ordered forward to Guam, Leeward Islands.

Pathological Society of Philadelphia.—At a stated meeting held May 23d, Dr. M. P. Ravenel exhibited specimens of "Scabies in Rats." The condition is a form of mange, and is due as in man to a variety of sarcoptes. The ears, the tips of the nose, and the tails were affected. Dr. Ravenel exhibited also "Unusual Types of the Tubercle Bacillus." One of these was of the bovine variety, secreting an unusually large amount of fat. Two others were cultures of human tubercle bacilli, displaying chromogenic properties when grown on dog-serum medium. Drs. W. M. Welch and J. F. Schamberg exhibited "Specimens from a Case of Variola." The patient had been a young unvaccinated white man, in whom the cutaneous lesions had been widespread and in part confluent. Death occurred in the stage of suppuration. In addition to a segment of skin and sections through the lesions, the greatly injected stomach and the œsophagus containing a few lesions were demonstrated. Dr. R. M. Pearce presented a communication on "The Increase of Connective Tissue in the Lung in Chronic Passive Congestion." He demonstrated an increase of elastic tissue in the walls of the bronchioles, the vestibules, the alveoli, and the air-vesicles, the purpose of which it was thought was to give support to the capillary blood-vessels. Drs. F. A. Packard and S. Flexner exhibited specimens from "A Case of Probable Primary Intestinal Tuberculosis in an Adult with Multiple Metastases." The case was one in which cerebro-spinal meningitis had been suspected during life, but post-mortem examination revealed a small area of old fibrous tuberculosis of the lung and adjacent pleura, with hyperplastic and obliterative tuberculosis of the vermiform appendix, slight tuberculosis of the adjacent ileum, and tubercles on the serous coat of the bladder, together with a large tubercle in the optic thalamus on one side, old tubercles of the choroid plexus, and recent miliary tubercles of the pia at the base of the brain. Dr. W. F. Hendrickson exhibited a specimen of "Teratoma of the Testicle" removed surgically. Drs. W. S. Wadsworth and W. F. Hendrickson exhibited a specimen of "Tuberculosis of the Heart," obtained from a man who had died suddenly. A large tubercle was situated in the wall of the left ventricle, and smaller tubercles were present in other situations in the myocardium.

Physicians in Conflict with the Health Board.—Proceedings were recently instituted by the health department of this city against two physicians who are accused of having failed to report cases of smallpox under their care.

An Experiment in Human Stirpiculture in France.—A despatch to *The Sun* announces that the Count de Pierrecourt, who recently died without any heirs, left the greater part of his fortune, said to amount to 10,000,000 francs, to his native city of Rouen on condition that an annual prize of 100,000 francs be founded to form a settlement for the tallest man and woman who agree to marry each other. The count's object, as stated in his will, is to regenerate the species.

Census of Samoan Islands.—The Associated Press reports that a census of the Samoan group has been taken. The number of Samoans in Upohe and other islands under the German government is 32,000, while the population of the six islands under the United States government is returned at 5,800. The slight increase in the past thirty years is about the same in proportion all round. The infant mortality is greatest, and this is due in a large measure to the ignorance and carelessness in dieting the young. It is only since the United States took possession that people have been able to receive medical advice and treatment. With the sanitary laws now in force, and the laws concerning the health of the people generally throughout the island, it is hoped that in the next decade there will be a considerable increase of the native population.

Obituary Notes.—Dr. Alonzo C. Casler died at his home in St. Johnsville, N. Y., on May 11th, of tuberculosis. He was a graduate of the Albany Medical College in the class of 1880.

Dr. Henry D. Whitbeck, for many years a practising physician in Auburn, died recently at the Soldiers' Home Hospital, at Bath. He served in the Civil War in Company A, Ninety-eighth Regiment, New York Infantry.

Dr. John A. Wells, of Englewood, N. J., is dead. He was born in 1856 in this city, and was a graduate in arts from Yale in the class of 1876. After graduation in medicine from the College of Physicians and Surgeons in 1879, he began practice in New York, but removed to Englewood in 1883. Dr. Wells was keenly interested in improving the sanitary condition of Englewood, and was largely instrumental in establishing and maintaining the Englewood Hospital, of which he was house surgeon. He was a member of the Medical Society of Bergen County. He was an enthusiastic sportsman, being particularly devoted to shooting, fishing, and golf. He was a member of the executive committee and one of the board of governors of the Englewood Golf Club, in which he always took an active and leading part.

Dr. Thomas F. Rumbold, of St. Louis, died on May 23d at the age of seventy-one years. He was born in Scotland, but came to this country in early life. He was a graduate of the Jefferson Medical College in 1862. He was a laryngologist and rhinologist of much repute.

Dr. Conrad Wienges died at his home in Jersey City on May 23d at the age of fifty-three years. He was born in Charleston, S. C., and was a graduate of the College of Physicians and Surgeons, New York, in the class of 1883.

Progress of Medical Science.

The Medical News, May 25, 1901.

Tuberculosis of the Iris.—William F. Mittendorf states that there is close connection between tuberculous affections of the eye and pulmonary or general tuberculosis. The iris and choroid are much more frequently invaded than any other part of the eye. The starting-point of the tuberculous iritis may be in the iris or in the ciliary body or the choroid, but it soon spreads, and the entire eyeball is apt to become involved. It is sometimes primary but usually secondary. There are the solitary and the multiple forms, and the latter may be acute or chronic. Generally it is a disease of youth or early middle life, and nearly always only one eye is affected. The first class described comprises those cases which are usually connected, more or less directly, with tuberculous disease of the general system. One or more grayish nodules develop in the iris, with intense pain in the eye and forehead; many synechiæ form; the eyeball becomes red and painful to the touch, and the disease resembles in many respects an acute attack of rheumatic or specific iritis. Gradually the whole eyeball becomes involved. Another form of tuberculous disease of the iris, which is not so violent in its onset, occurs usually during the earlier stages of pulmonary tuberculosis. This is characterized by multiple tuberculous deposits in the iris. There are pain and photophobia and more or less invasion of the papillary border of the iris which leads to the formation of posterior synechiæ. This is much slower than the first form, and there is not usually much change in the appearance of the eye. The third form shows itself in the shape of a single tuberculous deposit at the bottom of the anterior chamber, projecting into the aqueous humor and frequently involving the ciliary body from the outset. As a rule the eye will have to be enucleated. Treatment should be that employed for tuberculosis in general, *e.g.*, creosote. Atropine solution, gr. iv. or vi. to the ounce of water, is most valuable for the iritis or irido-cystitis. Morphine may be given for great pain. If the disease appears to be progressive in spite of the usual remedies, the eye must be completely removed.

The Mineral Waters of Mt. Clemens, Mich., as Viewed and Compared with those of European Watering-Places.—By Richard Leuschner.

The Treatment of Chronic Purulent Otitis Media.—By James F. McKernon.

Some Notes on Medical Diagnosis.—By William N. Berkeley.

Boston Medical and Surgical Journal, May 23, 1901.

Municipal Care of the Consumptive Poor.—S. A. Knopf urges the establishment of sanatoria for poor tuberculous patients. Pure air, sunshine, good food, and constant medical supervision cannot be obtained in tenement houses, and in general hospitals the risk of infection for the other patients is too great. Tuberculosis in early recognized cases has fifty to eighty per cent. of chances of cure. In special sanatoria, moreover, training is given as to prevention of colds, and treatment of accidents which may occur in the course of the disease. That sanatoria would be appreciated is shown by the statistics of the Rutland Sanatorium, which in one year had 1,233 applicants, of whom fifty-nine per cent. were turned away for lack of room or too advanced condition of the disease. Some fear contagion from a sanatorium, but the records of over fifty years for the towns of Goerbersdorf and Falkenstein, where there are five sanatoria, show that the mortality from tuberculosis has been decreased to one-third of what it was before the establishment of the institutions.

Echinococcus of the Liver with Perforation into the Lungs and Bronchi.—By William F. Gay.

Plastic Operation of Hand and Plastic Operation of Arm.—By C. B. Porter.

A Case of Myxœdema and Arrested Development.—By J. M. Jackson.

Case Operated on for Exaggerated Roman Nose.—By J. P. Clark.

Enteroptosis.—By C. B. Porter.

New York Medical Journal, May 25, 1901.

Nasal Conditions Observed in the Aged.—Beaman Douglass has examined a number of persons, forty-five years or more of age, with a view to determine the presence or absence of nasal lesions in advanced life. He was led to this by the casual observation that individuals more than fifty years of age seldom applied for treatment of nasal troubles. He found that, while elderly persons not uncommonly had nasal lesions of one sort or another, these seldom produced symptoms of sufficient intensity to lead the subjects to seek medical advice. He suggests that this may be explained on two hypotheses: that the physiological activity of the nose has been increased so as to overcome the damage from the lesions; or that the lesion, with its resulting discharge and reflex pain, is in some way less active, and allows the nose to resume its physiological functions.

Antistreptococcus Serum in Two Cases of Puerperal Septic Infection.—A. J. Primrose reports two cases in which there was prompt subsidence of septic symptoms on the use of antistreptococcus-serum injections.

Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); a Clinical Study.—By H. Illoway.

What Routine Shall we Adopt in Examining the Eye Muscles?—By Alexander Duane.

The Importance of the Early Recognition of Abdominal Infection.—By W. D. Hamilton.

Ossiculectomy for Chronic Suppurative Otitis Media.—By J. A. Stucky.

American Medicine, May 25, 1901.

On the Use of Alcohol in the Treatment of Carbolic-Acid Burns and Poisoning.—F. Pirkner relates how Powell demonstrated his discovery that alcohol is an antidote to carbolic acid. He filled his mouth with pure carbolic acid, allowing it to remain thirty seconds; he then filled his mouth with pure alcohol, and suffered no bad results whatever. The writer rubbed some pure carbolic acid into the skin of his right hand so as to cause a local dermatitis. Two minutes afterward he bathed the spot with eighty-per-cent. alcohol, which relieved the pain immediately. Alcohol is an antidote to carbolic-acid poisoning; this is not so well known as the fact that alcohol is a safe and sure

specific against the escharotic action of pure carbolic acid. In order to obtain the best effects when used as an internal antidote, the administration of the alcohol must be made as soon as possible after the ingestion of the acid.

A Hitherto Undescribed Reaction following the Inoculation of Vaccine Virus; a Preliminary Report.—By Heinrich Stern.

Pregnancy Complicated by Fibroid Tumors: Cæsarean Hysterectomy at the Eighth Month.—By Mary Almira Smith.

Peripheral Venous Thrombosis in Cardiac Disease, with Report of a Case.—By J. A. MacGregor.

Disease and Deformity of the Knee; Etiology, Diagnosis, and Treatment.—By Daniel W. Marston.

Chronic Heart Disease in Children Relieved by Systematic Movements.—By John Madison Taylor.

A Case of Intermittent Claudication.—By David Riesman.

Apoplexy and Hemiplegia.—By Harold N. Moyer.

Journal of the American Medical Ass'n, May 25, 1901.

An Overlooked Nasal Factor in Ear Disease.—Chevalier Jackson says that this condition consists of hypertrophic thickenings usually on both sides of the vomer near the posterior free margin, which deflect the in-rushing blast of dust-laden, drv, cold air against the Eustachian orifices, resulting in constant irritation of the mucous membrane in the vicinity of the tube mouths. The growths are soft but only partially erectile. They have been present in twenty-five per cent. of the writer's private ear cases and in eleven per cent. of dispensary nose and throat cases. Removal is obviously called for, together with that of posterior turbinal hypertrophies. For this purpose, either a Bryan's ethmoid curette, Reiss' curette, or a long-shanked tube-pointed tenotome will answer.

Tuberculosis of Fascia.—By J. C. Stewart. The following are the author's conclusions: (1) Tuberculosis of the fascia occurs with sufficient frequency to entitle it to more attention than it has received in the past. (2) It occurs in two well-marked forms. (3) The recognition of these forms is essential to its proper surgical treatment. (4) Fibrous tissue associated with, and resulting from, tuberculous infection is to be viewed as tuberculous tissue and treated accordingly. (5) Such fibrous tissue may in some cases need the test of animal inoculation absolutely to prove its tuberculous character.

Tubercular Disease of the Knee-Joint and Hip-Joint in Children; Diagnosis and Treatment.—By Edward A. Tracy.

A Case of Epithelioma Developed on the Basis of a Healed Lupus Vulgaris Treated by X-Rays.—By David Lieberthal.

Ureteral Implantation into the Bowel for Diversion of the Urine—an Experimental Research.—By Jacob Frank.

Compound Fracture of the Olecranon with Dislocation of Both Bones of the Forearm.—By B. N. Torrey.

The Pathology of Active Tuberculosis of the Pericardium.—By H. Gideon Wells.

Cough due to Reflex Irritation in the Upper Air Passages.—By F. S. Milbury.

Sarcoma of the Pancreas.—By George A. Boyd.

Philadelphia Medical Journal, May 25, 1901.

Two Cases of Lobar Pneumonia following Ether Anæsthesia, with Unusual Course.—W. S. Schley reports these two cases: the pneumonia in one occurred after the administration of ether for ventral suspension of the uterus; in the other, for herniotomy. There was nothing remarkable in anæsthesia, operation, or condition of patient preceding operation. Both cases, however, developed typical lobar pneumonia upon the first and third days, respectively, following operation. In each case the right lower lobe was the portion of lung involved. There was in both cases subsidence of temperature within sixteen hours, and beginning resolution within two days after the administration of a single large dose of calomel (gr. xx. to xxv.). The mercury was given within sixteen hours of the initial rise of temperature, and dry on the tongue. These were the only cases of pneumonia occurring in the surgical division of the hospital (St. Luke's) after several thousand anæsthesias extending over a period of about two and a half years. The use of mercury in this connection is very old. There is reason to believe that a certain number of patients have been benefited by such treatment. A large class undoubtedly will not be.

Trauma as an Exciting Cause of Paralysis Agitans.—F. Savary Pearce concludes that the later the origin of the disease, the more apt is trauma to have been the exciting cause. In any event it is more apt to produce an aberrant type of the malady, especially when the insult to the nervous system has been primarily in the periphery of the body rather than of the central neurons. Treatment would differ essentially in one particular to obtain better results of therapeutics. Nerve stretching seems to be a rational procedure in cases as here reported, when the tremor is localized, and especially when reflex origin below the cerebrum seems to be pretty definitely the cause of the irritation of the motor neurons.

Late Results of the Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus.—By William B. Coley.

The Surgical Treatment of Chronic Ulcer of the Stomach.—By A. W. Mayo Robson.

The Lancet, May 18, 1901.

Is the Murmur of Mitral Stenosis Systolic or Presystolic in Rhythm?—Hugh Walsham says that his belief that the murmur of mitral stenosis was presystolic in rhythm was shaken, though not destroyed, some years ago by a paper on "The Presystolic Murmur, Falsely so Called," by Dr. W. H. Dickinson. With the introduction of the Roentgen rays as a diagnostic aid in medicine he began a new series of investigations, and has satisfied himself by an ocular demonstration that the murmur is really presystolic. He says that, in a well-marked case of so-called pure mitral stenosis, if the hand be placed over the precordial region at the point of maximum intensity of the thrill (and this can be done without obliterating the shadow of the heart on the screen) and the cardiac shadow be watched, one finds that the thrill corresponds to the advance of the left border of the shadow of the heart to the left and ends abruptly with the retreat of the shadow toward the median line—that is to say, the thrill is obviously presystolic in rhythm and ends with the systole. It begins with the advance of the left border of the cardiac shadow to the left—that is, during the auricular systole—and ends with the retreat of the shadow toward the middle line—that is to say, with the ventricular systole. Again, if while one is watching the heart with the screen, the chest-piece of a binaural stethoscope be placed on the screen at the point of maximum intensity of the murmur (previously determined) it will be found that the murmur begins at the moment when the shadow of the left ventricle is advancing to the left—that is, during the auricular systole—and ends abruptly when the shadow retreats toward the middle line—that is, with the ventricular systole. The author says he has examined a good many cases of pure mitral stenosis with reference to this point, and has convinced himself that the thrill and murmur are truly presystolic in rhythm.

Opotheraphy in Gynæcology.—John Phillips speaks of the effects of three of the many animal extracts more or less extensively used in gynæcological practice, viz., thyroid, ovarian, and mammary gland. Of the first only he speaks with any confidence; this he says is certainly of value in amenorrhœa accompanying extreme obesity and myxœdema. It is said also by some to be beneficial in metrorrhagia complicating fibroid tumors. Ovarian extract the author has given in many diseases, but in none has he obtained any satisfactory results except possibly in cases of natural and artificially induced menopause. The use of mammary extract has produced no effects, good or bad, beyond a suspicion of improvement in lactation during its administration.

A Case of Symmetrical Retinal Detachment Occurring during Labor and Associated with Albuminuria Resulting in Complete Recovery.—By Reginald G. Hann.

A Simple Form of Electric Light and Heat Bath, with Eight Cases of Osteo-Arthritis Treated by it.—By F. C. Eve.

The Erasmus Wilson Lectures on the Pathology and Diseases of the Thyroid Gland.—By Walter Edmunds.

A Pharyngeal Pouch of Large Size Removed by Operation.—By Rickman J. Godlee and T. R. H. Bucknall.

Cases Illustrating the Surgery of the Thyroid Gland.—By Henry Betham Robinson.

Some Questions with Regard to Acute Middle-Ear Inflammation.—By P. McBride.

Flies and the Science of Scavenging.—By G. V. Poore.

British Medical Journal, May 18, 1901.

Some Remarks upon an Analysis of Five Thousand Cases of Death from Malignant Disease.—E. N. Nason speaks first as to the proportion of cases occurring in the two sexes. Of 5,000 cases, 1,837 were males and 3,018 females (in 145 the sex was not stated). Of all the female cases it is found that in forty per cent. it is either the uterus or the breast that is affected, so that the excess of female cases is due to the fact that the female possesses these two special organs, and not to the greater tendency to cancer in the female. If the sexual peculiarities of both sexes be eliminated, the male is found to be the more often affected, in the proportion of about fifty-three to forty-seven per cent. Trauma

and syphilis, the important predisposing causes to cancer, come into the life of man far more frequently than in that of woman. During the last thirty years there has been noted a remarkable and steady increase in the general cancer mortality, but this increase is greater in the case of males than of females. One reason for this is probably the increased care and skill in diagnosis, as well as the great advance in the surgical treatment of cancer of the uterus and breast. About three-quarters of all the cases of cancer in the male occur in the alimentary tract. As to age, the liability to cancer of the stomach between the ages of fifty-one and sixty is exactly one-half what it is between the ages of seventy-one and eighty, the liability to cancer of the breast a little less than one-half, and that to cancer of the rectum only one-third. In regard to the uterus, the maximum liability is reached immediately after the cessation of functional activity, and the later years of life are associated with a considerably lessened liability to cancer of the uterus. Certain studies in this subject have shown that owing to the great difficulty of diagnosis in many cases of internal cancer the death rate from cancer is probably at present underestimated. Contamination of the soil or subsoil for long periods with decomposing organic matter is very probably a factor in the production of a high death rate from cancer. A damp, ill-drained, waterlogged soil is more often associated with a high cancer death rate than is a dry, well-drained soil. There is abundant evidence of the existence of groups of houses in which cancer is found with marked frequency. Cancer occurs more frequently in old than in new houses and districts. Under certain circumstances cancer may possibly be transmitted from one person to another in constant close association. The writer believes the following to be some of the more certain predisposing causes: (1) Prolonged local irritation, due to various causes, setting up local inflammatory changes in the irritated tissue. (2) The immediate or after-effects of direct and sudden injury, whether mechanical, thermal, or chemical. (3) Syphilis and possibly other constitutional diseases which are associated with local tissue changes. (4) The tissue degenerations of advancing years varying with age. (5) Individual proclivity. (6) The presence of fœtal remnants or "cell rests." If a specific parasitic organism exist, how does it gain entrance into the body? This might take place in one of several ways: (1) Absorption from the intestinal tract. (2) Absorption from the respiratory tract. (3) Direct inoculation, (*a*) through abrasion of skin or mucous membrane, (*b*) by the bites of blood-sucking insects.

Erythema Multiforme and Vaccination.—Norman Walker has observed several cases of erythema multiforme closely resembling smallpox. All of these cases had been recently vaccinated, and all showed features which seem to make it certain that the vaccination was causally related to the eruption. In one striking case, the hands presented an absolutely typical picture of erythema iris. The legs were also affected. The eruption spread up the arm beyond the usual limitation of erythema iris. The vaccination lesions presented an appearance quite out of keeping with the time which had passed since the operation was performed. Although a month had elapsed, the scabs were still moist, and they were surrounded by a raised erythematous patch of the same character as the eruption elsewhere. All of these cases were vaccinated with glycerinated lymph, and in all of them the early course of the vaccination was uneventful. The eruption developed always on the hands and the face, but on other parts as well. At the same time the vaccination area showed evidence of fresh activity. The course of the erythema was uneventful, the eruption rapidly disappearing.

Triplets with Single Placenta.—E. Barnes reports this case. This was the seventh or eighth pregnancy of the mother. The children were in full time, and consisted of two boys and one girl; a boy first, vertex presenting; then the girl, with the breech presenting; and then a boy with vertex, and a large single placenta.

The Dangers and Diagnosis of Breech Presentation, and its Treatment by External Version Toward the End of Pregnancy.—By Herbert R. Spencer.

The Ingleby Lecture on the Lower Uterine Segment and the Contraction Ring.—By W. J. Smyly.

Some Instances of Cystic Affections of the Breast, with Remarks.—By A. Marmaduke Shield.

A Case of Hæmatemesis Occurring in the Course of Appendicitis.—By R. M. Matheson.

Poisoning by Bromoform.—By F. W. Burton-Fanning.

A Case of Suprapubic Cystotomy.—By C. J. Horner.

French Journals.

Contribution to the Study of Pernicious Comatose Fever.—Jean P. Cardamatis believes that pernicious comatose fever, which is one of the malignant forms of malaria, is without doubt the most frequent type and the most dangerous manifestation of paludism. He is speaking in regard to his own country, Greece. This type of fever ordinarily makes its appearance in July, perhaps even in June, increasing in frequency during the autumn and becoming more rare in the winter. The predisposing causes are debilitated states of the organism, such as anæmia, the cachexias, the different pathological conditions, physical and intellectual fatigue, alcoholism, etc. There are two principal forms of this fever, the mild and the severe. The former consists of an increase in severity of the symptoms of the intermittent form of malarial fever; the latter is characterized by the complete abolition of consciousness, and it menaces the life of the victim with imminent danger. Every trouble of the nervous system which is noticed in the last stages of a simple intermittent fever, as for example the tendency to sleep, should be considered a prodromal phenomenon. Debilitated states of the organism may be the cause of the evolution of a simple intermittent fever into the comatose form. In this latter form the temperature varies ordinarily from 38.5° to 40°; it rarely reaches 41°, and still less frequently the condition of hyperthermia. In every case in which a differential diagnosis has to be made between this fever and sunstroke, when the temperature is above 41°, and when a microscopical examination is not possible, the case ought to be diagnosed sunstroke rather than comatose fever. In order to establish a certain diagnosis the former condition of the patient must be known, since sunstroke occurs very suddenly, in the midst of health, while comatose fever never attacks one who has not suffered from malaria. The prognosis of pernicious comatose fever depends on various conditions. Under favorable conditions, for example, when prompt treatment is instituted, mortality is decreased to about twenty per cent.; in unfavorable conditions it is increased to about fifty per cent.—*Progrès Médical*, April 20, 1901.

Note on the Treatment of Leprosy by Ichthyol.—H. de Brun gives his experience in the use of this drug in leprosy. It was in February, 1898, that he first gave it internally in a case of leprosy. The patient was a young woman aged twenty-four years, who had suffered from tuberculous leprosy for four or five years. The administration of the drug was begun in very small doses (0.30 cgm. of ichthyol a day), and the results were remarkable. In a few months the tubercles which disfigured the patient disappeared, and the ulcerating rhinitis decreased to such an extent that the writer hardly recognized the patient in October, when he saw her. From that time he gave ichthyol to all of his leprous patients, with the most surprising and gratifying results in cutaneous leprosy. In the nervous form, however, its results were *nil*. The difference in its action was most clearly shown in a mixed case which came under the observation of the writer. After four months of treatment by the internal administration of ichthyol in doses of 1 gm. increasing up to 6, 8, and 10 gm. a day, the leprous rhinitis, of which the patient complained almost exclusively on her entrance to the hospital, was absolutely cured. Rhinoscopical examination showed that everywhere the nasal mucosa was rosy and healthy, and that there was no infiltration nor ulceration. On the contrary, the nervous symptoms persisted with no attenuation. The dose may be begun at 5 gm. without fear. It may be gradually increased. The author has not obtained results from the external or topical application of ichthyol as advised by some authors.—*La Médecine Moderne*, April 24, 1901.

Resection of Gasserian Ganglion for Facial Neuralgia.—M. G. Marchant reports a case operated on by M. Bouglé, which had not yielded to numerous methods of treatment, not to mention the extraction of several teeth. The operation was performed by the temporosphenoidal route. It was easily accomplished and almost the entire ganglion was removed. The recovery was satisfactory, the only drawback being the development of an ulcer of the cornea with hypopyon. Vision was interfered with for some days, but little by little it returned, and at the end of some months the cure was complete. The writer has seen such happy results from the surgical treatment of cases of this kind that he wonders if it would not be well to adopt this line of treatment in the future instead of attempting every other known means first.—*Le Bulletin Médical*, April 29, 1901.

Treatment of Paralytic Luxation of the Shoulder.—Bothezat thinks that in difficult cases three methods of investigation should be tried. Electrical examination should be most minutely tried. It should be made several times, and ought to include all of the muscles of the paralyzed member. The duration of the paralysis should be precisely determined. When the paralysis is undoubtedly of three years' standing, one can count on its being incurable by medical treatment. If with these data the degeneration does not seem to be sufficiently demonstrated, a third means should be utilized—the medical treatment of paralysis. By the electrical treatment it can be learned with

certainty whether the muscles are of any further use or whether they are absolutely useless.—*La Presse Médicale*, May 1, 1901.

Münchener med. Wochenschrift, May 7, 1901.

The Symptomatology of Rheumatism (Tendinitis Rheumatica Ocularis).—A. Pichler gives the history of a patient who for fifteen years had been suffering from typical articular and muscular rheumatism, and who had for four years been affected by an apparent localization of the rheumatic diathesis in his eyes. The general attacks presented nothing of interest, occurred at frequent intervals, and never involved the eyes in the least, till suddenly, together with the usual general symptoms, the sclera of both eyes became infiltrated and reddened, and a painful swelling developed over the insertion of the inferior rectus. The subsequent attacks were always accompanied by these ocular manifestations, which sometimes were much more severe and involved the insertions of all the recti. The conjunctiva, iris, and ciliary body exhibited no changes, and there was never any mucous or purulent secretion. Several similar cases have been reported, and the author considers the affection sufficiently clear cut to justify the erection of a new clinical heading: "tendinitis rheumatica ocularis."

The Diagnosis of Frontal Tumor.—Höniger details the histories of three cases of new growth in the frontal lobes, the diagnosis being confirmed by autopsy in one instance. The conclusions to be drawn are that localization in the frontal region is to be suspected when a new growth of the brain is from the first accompanied by psychic manifestations, or when such develop in the course of the malady. The diagnosis becomes positive only when frontal ataxia, convulsions of the trunk musculature, and disorders of speech occur as focal symptoms, and motor affections or involvement of the basal nerves and ganglia, according to the line of growth taken, appear secondarily. The tendency to make puns and jokes is peculiarly characteristic of new growths located in this region, and is to be explained by the stimulation of the speech centre, and hence is most often observed when the lesion is left-sided.

Phototherapy with Ultra-Violet Rays.—Görl refers to the work of Finsen, who concentrates sunlight with large glass lenses, and the arc light through lenses of quartz, in order to obtain his bactericidal light rays. Inasmuch as doubt has been cast on the propriety of interposing the water cells which serve to absorb the useless yellow and red heat rays, but are alleged also to cut off the whole or a portion of the violet rays, the author has been conducting experiments taking the induction spark as a non-heating source of light. Healthy skin exposed for one hour reacted by hyperæmia, itching, desquamation, and permanent pigmentation, while two cases of lupus were apparently cured.

Tuberculous Meningitis Accompanying Tuberculosis of the Male Genital Tract.—By M. Simmonds.

The Action of the Kissingen Carbonic-Acid Brine Baths in Heart Disease.—By Leusser.

Extracranial Ocular Manifestations of Syphilis.—By O. Schwarz.

A Gunshot Wound of the Bladder.—By B. Bayerl.

Heart-Disease Baths.—By Stifler.

Berliner klinische Wochenschrift, May 6, 1901.

Pernicious Anæmia.—Rumpf, after mentioning the various conditions that have been supposed to underlie this disease, such as the presence of intestinal parasites, pregnancy and labor, syphilis, malnutrition, and disease of the stomach, and particularly of the intestinal tract, goes on to state his opinion that the belief in the infectious nature of the trouble, founded on the finding of small rounded motile bodies in the blood, is not justified, as, together with Hayem, he considers that these are not micro-organisms, but microcytes. Chemical analyses of the blood in this condition have been but few, and the author gives the result of several such investigations made by him. The most noteworthy facts presented by these figures are the high water percentage of the blood with a low amount of solids, the large chlorine figure, and diminished potassium, iron, and fat. Analyses were also made of some of the internal organs, such as the liver, heart, brain, and spleen, with the general result that while the liver was richer in potassium than usual, the organism as a whole is very deficient in this metal as well as in fat, while the chlorides are correspondingly high. The poverty in potassium may be ascribed to the destruction of so large a proportion of the red cells with the consequent excretion of the potassium thus set free, or it may be explained by a somewhat more complicated hypothesis. If pernicious anæmia is dependent on excessive red-cell destruction, with a relative insufficience of the hæmogenetic organs, and if this degeneration is also accompanied by the formation of toxic principles, it is possible that these toxins may have some relationship to the potassium of the red cells, and that the removal of this element may be followed by the cellular degeneration. If this assumption is correct, the administration of absorbable potassium combinations ought to be of great value in the treatment, and so the author has found it, as is shown by the histories of four cases in which permanent cure has followed the use of this plan of treatment. The salts used were the carbonate, citrate, and tartrate, variously combined with ferratin and quinine.

Why does Cerebral Syphilis Seem Difficult to Cure?—O. Ziemssen says that, like any other syphilitic manifestation, cerebral lues requires the most thorough and energetic treatment, even when apparently only slight in intensity. One of the reasons why many cases are refractory is that the older belief that the use of mercury is conducive to nerve lesion still persists and renders the physician timid in his use of the metal, while the author believes that such fear is wholly unfounded. The difficulty of early diagnosis, and the fact that the effects of the treatment are slow to appear, and the therapeutic test often does not react positively, because too soon abandoned, are further reasons for bad success in managing these cases. The chief requisites are vigorous and prolonged mercurial inunctions combined with iodide. Inunctions are to be preferred because they permit maximal dosage without danger to life, and the treatment must be continued till all symptoms, both subjective and objective, have completely disappeared.

New Experimental Observations on the Action of Anthrax Serum.—By A. Sclavo.

Resection of the Lower Turbinated Body.—By J. Fein.

Nervous Tachypnœa.—By Reckzeh.

American Journal of the Medical Sciences, May, 1901.

Conclusions Based upon Three Hundred and Thirty Outbreaks of Infectious Diseases Spread through the Milk-Supply.—George M. Kober states that sour milk, or milk which is on the point of turning, is very liable in infants, children, or persons with feeble digestion to produce gastric and intestinal catarrhs of an acute or chronic character. The sediment, so common in milk, is composed of epithelial débris, hairs of the cow, organic and inorganic dust particles, bacteria, fungi and spores of every description, and excrementitious matter from the cow. Fully ninety per cent. of the bacteria found in such specimens are fecal bacilli, which multiply very rapidly and hasten decomposition of the milk. Some samples of milk which have been analyzed showed a higher number of bacteria than the sewage water of the city. Milk may be rendered unfit for use and cause sickness in children by reason of improper food of the animal or while the animal is being treated with strong remedial agents, which may be excreted in the milk. Milk may be morbific as the product of a diseased animal; tuberculosis, for example, may be transmitted. Milk may acquire infective properties after it leaves the udder of the animal. Numerous instances have been observed in which outbreaks of typhoid fever, scarlet fever, and diphtheria, by their sudden and explosive character, affecting families living in streets and localities supplied by the same milkman, naturally pointed to the milk-supply as a common cause. Bacteriologists have proved that disease germs not only live but often also proliferate in the milk. Infection may be carried by water, through the agency of scrubbing-brushes, dish-cloths, and flies. In the epidemics analyzed the largest number has been recorded by English authors, the next by American. This is probably due to the fact that English and Americans usually drink raw milk, while on the Continent it is nearly always boiled. Since careful inspection has been given to the milk-supply, there was shown in one year a decrease of about fifty per cent. in the deaths from diarrhœal diseases of children, and even then the inspections extended over only one-third of the source of milk-supply.

Laryngeal Hemorrhage from an Apparently Normal Larynx.—George B. Wood believes from his investigations in this subject that active bleeding unaccompanied by destructive disease of the larynx is of very rare occurrence. He reports the following case: Mr. D——, aged thirty-six years, has been a healthy man all his life; somewhat addicted to alcohol, though never excessively so. The writer saw him first on August 10, 1899. He was spitting up a small quantity of bright-red blood every few minutes. There was no cough. His lungs were found to be in perfect condition. The nose was normal, excepting a small septal ridge on the left side, and no blood could be seen by anterior rhinoscopy. The vault of the pharynx, the posterior pharyngeal wall, and the lingual tonsil were flecked with small blood clots. The arytenoid cartilages and the intervening fold of mucous membrane were red and covered with blood which evidently came from the larynx. The vocal cords and anterior wall of the trachea were also covered with blood. The actual bleeding spot could not be determined

Later examination showed a small red point at the anterior end of the left vocal cord, possibly the source of the bleeding. On February 13, 1901, the patient returned with practically the same symptoms. This time a thin streak of blood was seen running down the anterior wall of the trachea. The consultant believed that the hemorrhage came from the larynx, and almost surely from a spot just below the anterior commissure. There was marked dilatation of all the veins of the gums, pharynx, and larynx. Suprarenal extract, locally applied, stopped the bleeding for three or four hours, when it returned again in very slight quantity. In the general examination only one abnormality was discovered—a marked oxaluria. It seems hard to believe that the dilatation of the veins was due to the condition of the oxaluria, though the coincident decrease in the size of the vessels following decrease in the amount of oxalates in the urine was somewhat suggestive. The author, in reviewing this case, can see no assignable cause for the hemorrhage which seems to him conclusive.

Blastomycetic Dermatitis of the Gluteal Region.—Frederick G. Harris reports this case. The patient, a woman of seventy-eight years, nearly four years ago noticed a pimple on her left hip, which became a roughened area of intense itching, and later, on account of scratching, became apparently denuded of epithelium. The growth gradually increased in size and the itching persisted, but with a lessened intensity. She was admitted to the hospital as a case of syphilitic ulcer; later a diagnosis of epithelioma was made from microscopical examination. The patient complained only of itching; there had been no actual pain. The neighboring glands were but slightly enlarged. In the core of the growth, so to speak, were irregular masses of epithelium, many of which were hollow, and contained corium infiltrated with round and plasma cells and leucocytes. Here and there in these islands of epithelium were miliary abscesses so characteristic of this disease. These were composed mostly of multinuclear leucocytes, desquamated epithelial cells, more or less granular material, an occasional giant cell, and the specific organism. The abscesses were most numerous deep in the corium, where the organisms and giant cells were also more common. Once in a while a giant cell was seen containing the blastomycetic organism. This organism was the typical double-contoured circular or oval body having a mass of deeply staining, granular protoplasm, usually eccentrically placed, and often containing one or more vacuoles. The organisms varied much in size, and were found in groups of two or more. The appendages of the skin, hair follicles, and glands had entirely disappeared. The treatment was complete excision of the affected area and the sliding of cutaneous flaps to cover the defect. There is no evidence of recurrence.

Subinvolution of the Uterus: Three Suggestive Cases.—L. W. Atlee describes his treatment in cases of this nature: First, to produce daily evacuation of the bowels a drachm of sulphate of magnesium is given half an hour before breakfast. It has a better mental effect when given in a solution with aqua menthæ piperitæ, one drachm to half an ounce, to be taken in a half-glassful of water. A one-grain Bonjean's ergotin pill is to be taken an hour after meals. The only topical application in this case described was one gallon of water at 110° F. twice a day, in the dorsal position, with the hips well elevated. Plenty of good, wholesome food should be taken, and the patient should remain in bed as long as it is painful to stand erect. The most common causes for subinvolution are too early rising after childbirth or miscarriage, lacerations of the cervix or perineum, and septic infection resulting in the various inflammations of the pelvic contents, also the displacements of the uterus due to the laxity of the supporting structures from the same condition of subinvolution in them. Again, concerning treatment: iron and tonics are invaluable; plenty of fresh air; three glasses of warm, fresh milk every day, one hour before meals, is a great help; the warm salt bath is beneficial; ergot is most valuable; the application of the proper electric current is of use, but it is expensive. The heavy uterus should be sustained by a soft-rubber ring pessary. All heavy skirts should hang from the shoulders.

1. Thoracic Aneurism. 2. Carcinoma of Superior Maxilla. 3. Cholelithiasis and Suppurative Cholecystitis. 4. Inguinal Hernia of (a) Bladder; (b) Cæcum.—By Bern B. Gallaudet.

The Carbohydrates of the Urine in Diabetes Insipidus.—By David L. Edsall.

The Protozoon of Cancer.—By Harvey R. Gaylord.

The Physician and Surgeon, April, 1901.

The Management of Trachoma.—Charles H. Baker points out that, as the disease is of germ origin, antiseptic treatment is required. In the acute stage pain and smarting can be relieved by the use of a two- to four-per-cent. collyrium of cocaine and boric acid, being careful to use crystallized cocaine hydrochlorate. The patient may also apply to the lids a saturated solution of boric acid—either very hot or very cold. Once daily the surgeon should evert the lids and apply to the conjunctiva, with considerable friction, a solution of chloride of mercury, 1:1,000 or 1:600. If granules form, they must be emptied. The author finds Knapp's roller forceps the best for this purpose, and describes the process, which usually bring about a cure in two or three weeks.

The Etiology and Rational Treatment of Disease.—George B. McCallum gives all credit to the scientists who are investigating the etiology of disease with the view of discovering the remedy. Meanwhile, he says, we must not forget that a reduced system is essential to the development of disease. The causes of deterioration are often overlooked: overeating, improperly cooked food, the lack of sufficient liquid in the system, lack of bathing and exercise, the wearing of heavy, stiff, impervious fabrics, improperly fitted, worry, etc., all tend to reduce vitality and prepare a suitable lodging-place for the germs of disease. Drugs are of use, but far more are used than are necessary.

The Non-Surgical Treatment of Diseases of the Middle Ear.—Eugene V. Riker says that if the Eustachian tube is involved in the inflammation, causing a closure of the tube, inflation should be performed, and should be gradual as to force. For the relief of pain the patient should be put to bed and given a saline cathartic, and dry heat should be applied and a dose of some of the coal-tar products given. Moist heat, oils, and aqueous solutions should be avoided. Opium should not be used, as it might mask symptoms of purulent inflammation with possible mastoid involvement. If relief does not come speedily from these simple measures, paracentesis should be performed.

A Short Sketch of the Surgical Treatment of Otitis Media Suppurativa.—By Emil Amberg.

The Causes of Failure after Club-Foot Operations.—By Daniel Laferte.

Predisposing Causes of Pulmonary Tuberculosis.—By Donald S. Campbell.

The Early Diagnosis of Pulmonary Tuberculosis.—By Preston M. Hickey.

The Elimination and Curability of Syphilis.—By William F. Beakey.

Archives of Pediatrics, May, 1901.

The Value of the Widal Reaction in Infancy and Childhood.—John Lovett Morse believes that in children the Widal reaction occurs under the same conditions and with the same limitations as in adults. There is some evidence to show that it appears earlier, is feebler, and persists for a shorter time. It is of especial value in two ways in the diagnosis of typhoid in children, first in ruling out many cases of gastro-intestinal disorders which might otherwise be mistaken for typhoid, and second, in making a positive diagnosis possible in many mild cases which might otherwise pass unrecognized. In early infancy the agglutinating power may be transmitted from mother to infant through the milk, not only during the course of typhoid, but also during convalescence and after recovery. It is therefore of somewhat less diagnostic value than in older children and adults. The Widal test promises to be of great value in the determination of the frequency, symptomatology, and pathology of infantile typhoid, concerning all of which much difference of opinion still exists.

Experience in an Epidemic of Typhoid Fever; Fœtal and Infantile Typhoid, Scarlatina Complicating Typhoid, and Vice Versa.—J. Finley Bell, in making a blood test in typhoid, found an enormous leucocytosis for which it was impossible to account by the physical signs or the symptoms present. An examination of unfiltered water, used in making the solution, showed that it contained granular cells with rather distinct nuclei, closely resembling leucocytes. This seems a very possible source of error in the use of the solution in clinical work. The author also reports several cases of typhoid in one family. The mother, who was eight months pregnant, had the disease. An apparently healthy child was born and at once developed a temperature which registered 103.4° the day after birth. A positive Widal reaction was obtained. Three other children in the family had typhoid and scarlatina conjointly.

A Case of Streptococcal Infection Successfully Treated by Antistreptococcus Serum.—J. S. Fowler reports the case of a child suffering from streptococcal stomatitis which led to a general infection. Double pneumonia supervened, and the child's chance of life seemed very poor. Antistreptococcus serum was injected in doses of 5 c.c., night and morning, for several days, with striking results as to temperature, local and general conditions. A second attack of pneumonia occurred a little later, but was of a milder type and was also overcome by serum treatment. The author has never seen any ill consequences from the

use of antistreptococcus serum. Some collapse may occur an hour or two after the first injections, and it is well to give stimulants in anticipation.

The Blood in Infancy and Childhood.—By Alfred Stengel and C. T. White.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ARMY MEDICAL REORGANIZATION—GYNÆCOLOGICAL SOCIETY ON RETROVERSION—ROYAL SOCIETY—HONORS FOR SIR F. TREVES AND MR. FRIPP—OUTBREAKS OF SCARLET FEVER AND TYPHOID.

LONDON, May 10, 1901.

NATURALLY our attention is very much occupied by the war and the proposed reorganization of the army, which is now before Parliament. With regard to the medical service the minister of war has promised to make it effective, but there are as yet no indications that he will be able to accomplish so desirable a reform. The intense jealousy of the military is a curious phenomenon when you consider that every soldier is liable to become dependent on the doctor for help. In civil life the officers who treat the army surgeons so badly know how to behave to the advisers they call in. And yet even on active service they too often exhibit an assumption of superiority which their manners and education combined show they are far from possessing. But let these thoughts pass. We are considering day by day the manner of improving the service, and every one seems to have some suggestion or other. Accordingly, the council of the British Medical Association has adopted a report of a committee of experienced officers, and *The Lancet*, after a series of articles analyzing the report of the royal commission, has formulated its suggestions for reorganization of the service. The former report is issued in a supplement to the journal, filling eight pages, and is entitled "provisional." It may not be too long for some, but others will regret that the council again buries its proposals in so much verbiage. Attention is once more called to the fact that the medical service is two hundred below what it was forty years ago. That is one proof of the way this service has been starved and even strangled. But the militia once had three hundred surgeons attached. These have been got rid of, so that the combined service is five hundred short of the old number.

It has not been without warnings that successive governments have thus determined to run the utmost risks, trusting if war did break out the profession would rush to the rescue. But with the best intentions the civilian profession can only supplement, not take the place of a trained service. Thirteen years ago a reserve was arranged for. It was only a paper reserve and served only to throw dust in the eyes of the nation. The War Office has not dared to call up this reserve, knowing right well what a revelation doing so would be to the public. It is just as great a sham as the vaunted competition, and I have several times told you that there have been more vacancies than candidates at the "competitive examinations." It is now proposed to abolish this method of entering the service. Both the reports recommend this, but they differ somewhat as to providing a substitute. There is in some quarters a sort of tenderness toward the examination system and a fear of nomination pure and simple. Some sort of compromise is accordingly sought. It will require all the energy of the war minister to carry out his own proposals for the army, and we may fear he will have but little left to free the medical service from the trammels of the War Office and its red tape.

Among its other recommendations *The Lancet* would have the Army Medical School removed from Netley to London. That is a bold proposal. It would perhaps have certain advantages, but there are very great difficulties in such a removal and some obvious objections. Still it may be worth considering at a time when not only the medical department, but every branch of our military service, is being subjected to keen criticism with a view to its complete reorganization.

A discussion has been held at the Gynæcological Society on retroversion of the uterus. It was introduced by Dr. Macnaughton-Jones in an elaborate paper touching on the etiology, clinical and pathological consequences, the preventive, palliative, and radical treatment of backward displacements generally. At the outset he referred to the character of the society, which numbers among its fellows a goodly number of general surgeons who are also eminent gynæcologists. Procidentia he passed by as having been recently dealt with by the late president, Mr. Bowerman Jessett. He therefore devoted himself to retrodeviations, accepting Schultze's definitions, distinguishing between the terms retroposition or deviation and retroversion with flexion. Clinically, backward displacements are naturally divisible into those in which the uterus is movable and reducible, with or without complications, and those in which it is adherent and irreducible and in which adnexal complications, not necessarily but generally, co-exist. A general clinical division of this kind, although it may seem somewhat vague, is of considerable use in reference to the question of surgical intervention. Having considered the cases requiring operation and the methods of proceeding, he added his authority to the numerous gynæcologists who have advocated the Alexander-Adams operation in reducible cases.

Dr. W. Alexander then spoke. He mentioned the clinical results which followed backward displacement. The symptoms are prominent in acute recent cases, and pass by as the disease becomes chronic, to which fact he attributed the statement sometimes made that it gives rise to no symptoms. He said this would be paralleled by a surgeon who said that dislocation of the shoulder produced no symptoms because he found a case of old luxation mobile. Palliative treatment, he admitted, might often relieve all the symptoms, but required much time, care, and skill. These were so often unavailable that operation was necessary. In his own operation, he said, failure would occur if the uterus sloped back ever so little, and this he thought was the cause of many failures. If adhesions were present he opened Douglas' pouch and broke them down with his finger until he could push the uterus forward into anteversion. Then he shortened the round ligaments, having packed the vagina with gauze. If any lesion were found in the pelvis, he removed it by the vaginal opening at the same sitting.

Prof. J. W. Taylor said backward displacement was a dislocation which, when recent, caused great suffering, although when chronic and unaccompanied by enlargement of the uterus it might give rise to no symptoms. It was the recent, or else the intractable, cases with enlarged uterus which called for treatment, and this should deal with both the displacement and the enlargement. He gave his experience of the several operations proposed, and concluded that Alexander's was far the best for uncomplicated cases. When chronic endometritis was present, he began the round-ligament operation by disinfection and curetting.

Dr. Routh believed that many cases would yield to a stem pessary, and be intractable to other treatment without the pessary.

Mr. Jessett also held that many cases could be cured by a proper pessary; also that under an anæsthetic a uterus which had seemed quite fixed could often be easily replaced in the normal position. When operation was necessary, he preferred ventro-fixation.

Dr. Elder spoke of the importance of bad miscarriages and labors as causes. He had given up Alexander's operation in favor of abdominal ventro-fixation.

Professor Sinclair said a stem ought not to be left in more than a fraction of a week. He had done Alexander's operation forty or fifty times, and found it suitable only when no complications were present. But such cases could be cured without operation. In old cases, when operation was needed, the only safe one was ventro-fixation. If a subsequent pregnancy could occur, the fundus must not be involved in the stitches, and the natural play of the round ligaments must not be impaired.

The discussion was then adjourned.

The *conversazione* of the Royal Society took place on Wednesday evening. There were a brilliant gathering and some beautiful exhibits to entertain the assembly. Among these were samples of the dust constituting the "blood-rain" which fell in Sicily and was duly recorded by telegraph in all countries. There was also a collection of specimens of African parasitology exhibited by the Liverpool Tropical School. I hear that the usual second gathering of the society—sometimes called the ladies' night—will be omitted this year on account of Queen Victoria's death.

Major Ronald Ross is recommended by the council for the fellowship. So is Dr. C. J. Martin, of Melbourne University, and Major A. W. Alcock, of the Calcutta Medical College. Knighthood of the Victorian Order has been conferred on Mr. Treves, who had previously received A.C.B. Mr. Fripp is made a C.V.O. and is appointed surgeon in ordinary to the King; the appointment he held to His Majesty when Prince of Wales.

An outbreak of scarlet fever in Bethnal Green and Shoreditch has apparently been traced to infected milk.

From the report of the medical officer of the county council two localized outbreaks of typhoid fever seem to have been caused by fried fish. But this will require further investigation, especially considering that the fish was cooked—if insufficiently.

DR. HILL'S REJOINDER TO DR. DALTON ON "WOUNDS OF THE HEART."

To the Editor of the Medical Record.

Sir: Professor Dalton, of St. Louis, says in a recent issue of the Medical Record: "My attention has been called to an article in your journal of December 15, 1900, by Dr. L. L. Hill, of Montgomery, Ala., on 'Wounds of the Heart.' Dr. Hill had evidently not seen my article in the *Annals of Surgery*, February, 1895, in which I reported, 'A case of stab wound of the pericardium, terminating in recovery after resection of a rib and suture of the pericardium.' My operation was done in September, 1891, while I was in charge of the St. Louis City Hospital." I desire to say that I had read the report of Dr. Dalton's case in the *Annals of Surgery*, had seen it referred to by Dr. Duncan Eve in Park's "Surgery," and by Drs. Keene and Da Costa in the *American Year-Book of Medicine and Surgery*. I wish to remind Dr. Dalton that my paper was upon "Wounds of the Heart" and not upon the "Wounds of the Pericardium." If I had intended reviewing the surgery of the pericardium, I should certainly not have overlooked paracentesis pericardii, first performed by Romero, of Barcelona, in 1819, and would have given a full account of pericardotomy for the removal of foreign bodies by that great Scotchman, John Bell, who died the year following Romero's operation. I would not have ignored the achievements of Dr. John B. Roberts, of Philadelphia. If so high an authority as Professor Giordano, of Naples, is to be credited, Farrina, in 1896, sutured with three silk stitches a wound of the right ventricle 6 mm. in length. Cappelen, in 1896, sutured a wound of the left ventricle four-fifths of an inch in length. These were the first cases of suture of the human heart, though Roberts, of Philadelphia, had suggested it in 1881, and Del Vecchio, of Naples, in 1894, demonstrated its feasibility before the Eleventh International Medical Congress in Rome, by his experiments on dogs. Dr. Dalton says: "Dr. Hill states that the first operation upon the heart was done in 1896, by Farrina and Cappelen. My operation upon the pericardium antedates this by five years." In his original article he says: "Before closing the pericardial wound I inserted my index finger but could not discover that the knife penetrated the heart." These are separate and distinct surgical procedures, and I fail to see how Professor Dalton's claim of being the first to suture the pericardium in 1891 disproves my statement that Farrina and Cappelen were the first to suture the heart in 1896, or in any way vitiates their claim to priority.

L. L. Hill, M.D.

Montgomery, Ala.

OUR PARIS LETTER.

To the Editor of the Medical Record.

THE TREATMENT OF FLOATING KIDNEY BY MASSAGE—TUFFIER ON SPINAL ANÆSTHESIA—DEATH OF DR. HENRY NAPIAS—ECONOMY IN HOSPITAL MINISTRATION.

Paris, May 14, 1901.

Sir: Dr. Richelot, surgeon of the St. Louis Hospital, has been trying a new treatment in his service for floating kidney. At the meeting held by the Society of Surgery on May 1st, he said that the usual methods of treatment, such as bandages or nephropexy, proved ineffectual in a great number of cases. Floating kidney is often due to a certain degree of congestion, akin to that seen in the uterus when the patient is nervous and arthritic. Massage would naturally have a tendency to decrease the congestion of the kidney and thereby bring it back to its original position. This treatment was tried in several cases and the results were highly satisfactory.

The discussion on the use of intrarachidian injections continues to be as fierce as ever. Dr. Tuffier has sent another article to the *Presse Médicale* of April 24th. He remarks that he has now performed some four hundred operations with this method, and he is therefore able to discuss the question more thoroughly than some eighteen months ago. He admits that Corning's name is inseparably linked to the history of medullary cocainization, but he does not approve the way in which his American colleagues have taken up arms in his behalf. Bier was the first to use this method as a means of producing operative anæsthesia, but Dr. Tuffier says that, if he had been obliged to use the technique indicated by his colleague of Greifswald, he would never have cared to undertake it. Dr. Tuffier went on to describe his method, and said he used a two-per-cent. solution of cocaine. He had tried other preparations, such as a saline solution more or less condensed, tropa-cocaine and others. The results were, however, unsatisfactory. A saline solution does not give any result. As for one-per-cent or 0.50-per-cent. solutions the effect is not lasting enough. Dr. Tuffier remarked that the intrarachidian tension played a rôle of importance, as the anæsthesia was more perfect when it was high. The injection should be made very slowly, at least a minute being taken to inject one gram. Dr. Tuffier has sometimes been able to obtain anæsthesia in the upper two-thirds of the thorax by using 3 cgm. of cocaine and making the injection rapidly. The most important part of Dr. Tuffier's article was his discussion of the danger due to the use of cocaine injections. He said, first of all, that he had not so far been aware of a single nervous accident happening after the use of cocaine, when administered according to the technique he has recommended. Of course, if a surgeon uses a medium-sized trocar, as Bier did, and allows a large quantity of liquid to escape, if he makes the injection rapidly, if he changes the dose, accidents will occur. As for the mortality due to this method, great care should be taken to examine well the statistics furnished and to compare them with those given for chloroform or ether narcosis. The mortality due to chloroform is one in every twenty-five hundred, that of ether one in seven thousand, that is, during the operation. But the deaths taking place afterward should be taken into consideration, and Schultze, in his report on forty-nine hundred and nineteen etherizations, mentions eighteen pneumonias, nine of which proved fatal. As for medullary anæsthesia, there has not been reported so far a single case of death. All the cases of death cited so far are due to complications after the operation. Of the six cases cited by Dr. Reclus, two—those of Jullien and Tuffier—have seemed doubtful even to Dr. Reclus. As for the other four, one—that of Henneborg—was a case of tuberculous meningitis, in which puncture was only a means of making the diagnosis, and not a single drop of cocaine was injected. The second case was that of Dumont. The patient was suffering from acute tuberculosis and died the sixth day after the operation. The autopsy showed general tuberculosis. The third was that of Goilav, of Bucharest. Death took place twenty hours after the operation, but there is no indication of the way in which the injection was made, and no autopsy was carried out. The same uncertainty is to be found in Jonnesco's case, and even more so in that of Keen, which neither Dr. Reclus nor Dr. Tuffier have been able to verify. Dr. Tuffier considers this last case all the more suspicious in that this author, Dr. Keen, makes out that Dr. Tuffier has had six deaths.

Dr. Tuffier ended his article by saying that one could judge what value one should give to the documents presented to the Academy. He did not wish to show himself too ardent a defender of the use of chloroform, though he had lost only one patient by its use, but he considered that Dr. Reclus had been rather premature in pronouncing its funeral oration.

Dr. Henry Napias, the general director of the Assistance Publique, has just died. He had filled this position during the last three years. He was navy surgeon until 1871, when he established himself as physician in Paris and became editor of the *République Française*, Gambetta's newspaper. Later he was named inspector of hygiene, published a book on the subject, and became a member of the Academy of Medicine. One of the causes of the increase of the number of physicians in France is the military law of 1889. By this law medical students are required to do only one year of military service, and a great many young men take up medicine as a profession to escape having to serve three years.

At a recent meeting held under the direction of Mr. Krantz, a deputy, this subject was brought up, and he recommended the striking out of the article allowing any dispensation to physicians.

The general administration of the Paris hospitals has just sent a notice to the physicians of the hospitals notifying them that the increase in expenditure has been so great that it has been found necessary to establish a commission which will study the means of decreasing the expenses by replacing certain drugs by others less expensive, and by diminishing the use of them. A few facts speak rather eloquently as to the increased expenditure:

Codeine is much more used, 45 kgm. being employed whereas twelve years ago only 2 were found needful. The well-known Todd's potion is the cause of great expenditure, as 135,000 francs worth of rum has to be bought; 50,000 francs are spent for camphorated alcohol, and 250,000 for other alcoholic preparations. Certain drugs, such as musk, which costs 4,500 francs per kilogram, and pilocarpine 3,000, will henceforth be given only when the physician-in-chief has made out a special order for the same. It is astonishing how dear some drugs are, crystalline digitalin costing 30,000 francs per kilogram, homatropine 20,000 francs. Ergotinin is the dearest of all, costing 35,000 francs per kilogram.

According to recent statistics, suicide is more frequent among males than females, the proportion being four to one. Carbolic acid is the most used of all the poisons.

Reviews and Notices.

THE HISTORY OF MEDICINE IN THE UNITED STATES, with a Supplementary Chapter on the Discovery of Anæsthesia. By FRANCIS RANDOLPH PACKARD, M.D. 8vo, pp. 542. Philadelphia and London: J. B. Lippincott Co. 1901.

IT is always a pleasure to meet with a new book on a new subject. The present work partakes of both characters in a special degree. The topics discussed are of the greatest interest as showing the evolution of American medicine from the earliest colonial history to the close of the Revolutionary War. The painstaking labors of the author cannot be too highly appreciated by the reader when the great difficulty of collecting the facts of the history is duly considered. While numerous books and essays have been published regarding local medical history of different parts of the United States, no special effort has been made in the direction of a general history of early medicine. The plan of this work is admirable in every respect, and is that of a history of epochs with the leading facts of interest training in due chronological order. The reader is edified at every turn, whether in acquainting himself with the early struggles of the pioneers, or learning of the strange remedies of years ago, the peculiar theories of disease, the prayers against plagues, and the struggles to establish our early hospitals and colleges. From the historical point of view the volume is of peculiar value from the fact that it is unique in design and purpose. Within the limits of a cursory review it is impossible to deal with its contents in detail. It may be enough to say that as a history of medicine it is a model in its way. Not the least interesting part is the chapter on Anæsthesia, which naturally finds its place in every account of American achievement in medicine. Several of the portraits are quite rare, and many of the other illustrations present an equally interesting feature of the work. In those bygone days there were quacks, quarrels, and the usual generous rivalries for social and political preferment that obtain even in this day, making history repeat itself in all the essential particulars that pertain to men and things here and everywhere. One of the many admirable qualities of the book is the pleasant narrative style of the author. Altogether it is a work which does credit to the literature of medicine and must find its place upon the shelf of every well-appointed medical library.

THE FEEDING OF INFANTS: Home Guide for Modifying Milk. By JOSEPH E. WINTERS, M.D., Professor of Diseases of Children, Cornell University Medical College. 12mo. New York: E. P. Dutton & Co. 1901.

THIS handy little volume, though intended by the author for the instruction of mothers and nurses in the modification of milk for infant feeding, will be found a very excellent guide for the general practitioner. Although it is a book of less than fifty pages, the reader obtains a clearer practical knowledge of infant feeding than is to be had from many of the more voluminous works on the subject. It is not always an easy task to nourish an infant properly, and occasionally the physician finds that his best efforts in that direction have been rewarded by nothing more brilliant than a case of rachitis. It has been well said that one baby's food may be another baby's poison. We believe, however, that with an intelligent use of the formulæ given by the author, which are based upon an extensive experience, for modifying milk for different periods, from birth to the twelfth month, it must be an exceptional case that cannot be successfully managed. Attention is directed to the very important fact that fresh raw milk is superior in nutritive value to that which has been changed by pasteurization, and that when proper cleanliness is observed in the production and handling of milk pasteurization is unnecessary. The author concludes with a terse and logical discussion of so-called "Infant Foods," in which he expresses the belief that our knowledge of the composition of human milk and our ability correctly to modify cow's milk as a substitute for it will eventually eliminate preserved foods forever from the nursery.

THE TECHNIQUE OF SURGICAL GYNÆCOLOGY: Devoted Exclusively to a Description of the Technique of Gynæcological Operations. By AUGUSTIN H. GOELET, M.D., Professor of Gynæcology in the New York School of Clinical Medicine. 12mo. New York: International Journal of Surgery Co.

IF there be justification in the publication of another work on gynæcology, we feel that the author of this book has no reason to make an apology for increasing the number of already published books on this subject. The object of the book, as he states, is "devoted exclusively to operative technique, preparation for operations, and after-care of the patient, giving no space to diagnosis or to a discussion of the necessity for operation." We can only praise this volume in the highest terms, not alone that the specific object in writing is attained but because the explicitness of plain sense is evidenced in every line and page. There is no waste of words, there are no pros and cons to confuse the reader. The whole volume is replete with good, safe teaching. Everything is to the point, every statement is compact. The plates are exceptionally good, plainly suggestive, and are taken from life. The author attempts to give, as he states, but one method of procedure described for each condition—one which he has found most satisfactory in its execution and most successful in its results. This one feature mars to some extent the otherwise great value of the book, especially so in the chapter on Appendicitis. Here mention is made only of the direct cutting operation—absolutely no mention of the most valuable of all, the muscle-splitting methods, which every one must know are of inestimable value. Except for this, which can be easily remedied in a new edition, we praise the work in its entirety with unstinted enthusiasm and feel well assured that the book will have the large sale it well deserves.

ORAL SEPSIS AS A CAUSE OF "SEPTIC GASTRITIS," "TOXIC GASTRITIS," AND OTHER SEPTIC CONDITIONS. By WILLIAM HUNTER, M.D., F.R.C.P., etc. London, Paris, New York, and Melbourne: Cassell & Co., Ltd. 1901.

THIS is a reprint of an article in *The Practitioner* in which the author wishes to call attention to the serious consequences of septic conditions in the mouth. He adds a number of illustrative cases.

SURGICAL AFFECTIONS OF THE TRUNK, THE MAMMÆ, AND THE GENITAL ORGANS OF THE FEMALE; Statistics and Observations. By DR. POLAILLON, Honorary Surgeon to the Hôtel Dieu, Professor of Medicine in Paris, Member of the Academy of Medicine. 8vo, pp. 874. Illustrated. Paris: Octave Doin. 1901.

IN the work before us we have one part of a series of compilations by the same author. The entire work appears to be in two large volumes, of which the book before us is the end of the present series. It makes a valuable addition to the already overstocked market of gynæcological works. But yet it must remain unique in its particular field, since it introduces a radical departure from what we are accustomed to expect in volumes written on the diseases peculiar to women. Any writer with the enormous experience of Professor Polaillon in his many years of constant close observation must of necessity be able to give to his colleagues much of the greatest value when he writes a large work such as the one before us, basing his remarks on the data derived from personal observations in his own practice. His own statistical evidence and observation are consequently the keynote of this extremely valuable book. Naturally, therefore, one expects to find matter of great practical value, and, what is of greater importance, every line is clean lean meat and remarkably well stated, without the least bit of the "ego" one would naturally expect in a book written and formed on the lines. This work, which is but the first part of the second volume, consists of seven hundred and forty-eight pages of closely printed lines. It treats in the beginning of affections of the female breast. The second subdivision treats, in a systematic fashion, of the various gynæcological lesions, which are most thoroughly discussed and dilated upon by an array of carefully selected histories illustrating the diseases under discussion. In this way to the reader is imparted much useful knowledge which it is impossible to give in any other way. In short, as a thoroughly practical treatise it is one that can be read with profit by the general practitioner, and for such, and such only, can it be recommended. As a guide for the student, while it may make pleasant reading for leisure moments, it appears to us to be entirely too practical and to yield too little theoretical knowledge to be of much value.

Relative Value of Anæsthetics.—The danger rate begins to increase after the thirtieth year under chloroform, but with ether it remains constant until after the fiftieth year. Apparently none of the mixtures of ether or chloroform gives such satisfactory results as ether alone. Nitrous oxide with or without oxygen shows the lowest percentage of complications. The final conclusion of the anæsthetic committee of the British Medical Association is that the most important factor is the skill of the anæsthetist, and that to insure the best results he must be one of large experience and good judgment.—*Ed. Albany Medical Annals*, April.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Sixty-third Regular Meeting, Held on Friday, April 5, 1901.

JOSEPH D. BRYANT, M.D., PRESIDENT PRO TEM.

Sarcoma of the Inferior Maxilla, Twenty Years after Partial Resection.—DR. WILLIAM T. BULL presented the patient, a woman thirty-eight years old, upon whom he had performed a partial excision of the lower jaw for giant-celled sarcoma in June, 1880, now nearly twenty-one years ago. At that time the growth had been in existence about one year. It involved the floor of the mouth and part of the jaw corresponding to the incisor and canine teeth of both sides, and presented the characteristic features of a central sarcoma about the size of an egg. It was removed, together with a margin of healthy bone on each side, and the patient made an uneventful recovery. The microscope showed the growth to be a giant-celled sarcoma. Since the operation she had enjoyed perfect health. There had been considerable atrophy of the muscles of the lower jaw, of which only the part carrying the molar teeth was left behind. The chin had fallen in slightly. Dentists had been unable to fit her with a satisfactory artificial plate. There was no impairment of speech, and she was able to masticate her food fairly well with the assistance of her tongue.

DR. JOSEPH D. BRYANT said it was important that cases like this should go on record, as they would serve to influence those who were similarly afflicted to submit to early operation. The speaker asked Dr. Bull whether there was any exciting cause in connection with the case.

DR. BULL replied that none could be elicited. There was no history of cancer in the family.

A Case of Fracture of Both Bones of the Forearm, with Skiagraphs.—Dr. Bull presented a man fifty years of age, who, about two years ago, had fallen from his bicycle, sustaining a fracture of the left radius and ulna, the bones being broken about an inch and a half above their lower extremity. An *x*-ray picture, taken at the time of the accident, showed considerable overlapping of the fragments of the radius and angular displacement of those of the ulna. The displaced fragments were adjusted as well as possible, and appropriate pads applied. A second *x*-ray was then taken, which showed that the displacement was not affected by the efforts at reduction. Without any further attempts the arm was put up in lateral splints with pads. Firm union resulted after five weeks, and three months later it was found that the cosmetic and functional results were entirely satisfactory. In connection with this case, Dr. Bull exhibited a number of skiagraphs, taken before and after the treatment, which showed that there was still marked displacement of the fragments, in spite of the excellent functional result. This fact had long been known to surgeons, but to patients the study of such skiagraphs was apt to give rise to much worry and discomfiture.

DR. BEVERLEY ROBINSON said the case reported by Dr. Bull, and the skiagraphs shown in connection therewith, were important in view of the fact that the treatment of fractured bones was so commonly the cause of malpractice suits. Dr. Bull's case showed that a good functional result might be obtained without perfect approximation of the fragments, and that it was not always possible to obtain the latter.

DR. BRYANT said that several weeks ago he was called to see a case of injury about the elbow-joint. The parts were so much swollen that it was impossible to make out the exact condition of affairs. An *x*-ray picture was taken, which disclosed fracture of the lower end of the humerus; it also showed that the upper end of the lower fragment was overriding its fellow. This displacement persisted after the condition had been treated by the attending surgeon, a very competent man, and the inspection of the skiagraph disturbed the patient and his friends to such a degree that they decided to transfer their allegiance to another surgeon. Dr. Bryant said he had no doubt that this patient would have made a perfectly satisfactory recovery under the care of the original surgeon, and the deformity would not have been suspected but for the *x*-ray picture. In another case which came under the speaker's observation there was a fracture of the lower end of the femur with about a quarter of an inch shortening, which the *x*-ray showed to be due to an overriding of the upper fragment. This overriding was demonstrated by repeated examination with the *x*-ray, could not be overcome in spite of every effort, and the patient recovered with an entirely satisfactory limb.

Varicose Veins of the Abdomen and Extremities.—DR. EDWARD G. JANEWAY showed a physician, fifty years old, with numerous varicose veins coursing over the surface of the abdomen and lower extremities. The varicosities on the latter had existed for thirty-two years, while those in the abdominal region had been first noticed about ten years later. They were tortuous and very prominent, and it was readily demonstrated that their current of blood flowed upward. Dr. Janeway said the patient gave no history of syphilis, and cirrhosis of the liver could be excluded. The right lobe of the liver was considerably smaller than usual, while the left lobe was somewhat enlarged. There was no enlargement of the spleen. The only explanation he could offer for this rather unique condition was that there was some obstruction to the passage of the blood through the vena cava. This vein travelled through a groove in the under surface of the liver, and in some way its lumen might have become narrowed and its current of blood diverted. The man suffered no inconvenience from his varicose veins, and he had not consulted Dr. Janeway because of them, but for a slight albuminuria.

DR. ROBINSON said that such a condition must be extremely rare, and he asked whether Dr. Janeway had ever been able to verify it at autopsy.

DR. JANEWAY replied that in advanced cirrhosis he had seen the vena cava constricted, but in this case the cardinal symptoms of cirrhosis of the liver were absent. The spleen was not enlarged and the man never had ascites. In addition to this patient's albuminuria, he complained of being very weak, which weakness might be due to an impairment of the function of the liver.

DR. ROBINSON, in speaking of the treatment of varicose veins in the extremities, mentioned the fact that Dr. Musser, of Philadelphia, had suggested the internal use of hamamelis in large doses.

Systolic Murmur in the Second Left Interspace, with Thrill.—DR. JANEWAY presented a man of twenty who was under his care for albuminuria. The interesting feature in connection with the case was the presence of a systolic murmur in the second left interspace; it was heard only upon forced expiration and was accompanied by a distinct thrill. Dr. Janeway said that several months ago Dr. Brannan had presented a patient with a murmur in this situation (but without a thrill), which he had felt inclined to attribute to mitral insufficiency, without the existence of a murmur below. Dr. Janeway said he was rather inclined to the opinion that the murmur and thrill in his case were the result of compression of the pulmonary artery by the forced expiration.

DR. ROBINSON suggested that the thrill might be ex-

plained by the presence of adhesions at the apex, which were put upon a stretch during expiration.

Dr. Janeway said he thought the bruit came not from the apex, but from the pulmonary artery.

Two Cases of Fracture of the Patella Treated by the Conservative Method.—Dr. William T. Bull said that the question of the best method to pursue in the treatment of a fractured patella was still the subject of considerable discussion among surgeons and one of doubt in the mind of the general practitioner. Not very long ago, when the present King of England sustained a fracture of the patella, the attending surgeon did not suture the fragments, and on that account he was criticised by one of his French colleagues. Both the patients shown by Dr. Bull were physicians, and in both cases the fractured patella had been treated by conservative methods. In one of these patients, thirty years old, the fracture had occurred eleven years ago, as a result of muscular action. There was an interval of about an inch between the fragments. The knee was put up in plaster of Paris, and the patient was up and about in two months. Movement was much impaired at first, but the functional result gradually improved and was perfect at the end of a year. There was ligamentous union. When the splints were removed the fragments were separated about a quarter of an inch; at present the separation was about half an inch. The second patient was twenty-eight years old; the fracture resulted from a fall on the knee while he was crossing the ocean in 1893. The effusion was so great that retentive strips of plaster could not be applied till the end of three weeks. Union apparently bony in character occurred. An *x*-ray after six years detected no ligamentous structures between the fragments. The motions of the joint were regained slowly, but at the end of one year the limb was strong and the movements were perfect.

Dr. Andrew H. Smith said that about fifteen years ago he had seen a case of fracture of the patella in which the conservative treatment was employed with excellent results. The fragments were kept in apposition by means of a bandage. Union was slow, but, in spite of the fact that there was a separation of about an inch and a half at the time of the accident, union was apparently perfect. At the present time the patient was scarcely able to find the line of fracture.

Dr. V. P. Gibney said that in former years one of the favorite methods of treating a fractured patella was by means of an apparatus known as a knee-cap or bandage. This consisted, essentially, of a piece of canvas, which was laced over the joint, with a strip of cork above and below. While this apparatus was not very efficacious and was out of order about half the time, yet the functional results obtained with it were in many instances very good. The speaker said he recalled one case in which both patellæ were fractured at the same time and treated in this way. In spite of the wide separation of the fragments at the time of the accident, which occurred eight or ten years ago, there was scarcely any disability at the present time. Even in cases in which there was considerable separation, the function of the joint was often fully restored. The method of bringing the fragments together by means of strips of adhesive plaster, to which Dr. Bull had referred, often gave excellent results.

Dr. Joseph D. Bryant said he did not think a fractured patella should be wired in every instance, nor was it generally practised. It should not be thus treated unless there was some special indication for doing so. The speaker said that out of twenty-two cases in which he resorted to this procedure, two resulted badly. One of the patients died from delirium tremens, from which he might not have suffered had he not been subjected to the influences incident to wiring the patella—a fact not justly chargeable against the operation. The second case was that of a young woman, who, after the operation, and apparently in spite of every precaution, developed a peri-arthritis followed by limited intra-articular involvement and a stiffened joint, from which the patient suffered to-day.

Dr. P. F. Francke said he had sustained a fracture of his patella eight years ago. It was treated by the conservative method with excellent results. The speaker said he suffered no discomfort from the fracture, excepting that he was at times a little timid in using the limb, fearing a refracture. There was slight atrophy of the quadratus muscle on the affected side, probably the result of his habit of favoring it.

Dr. Le Roy Braun, whose patella had been fractured in 1890 and treated conservatively, said that for the first year or two after the injury he had suffered from occasional attacks of rheumatic pain in the affected knee, which were more pronounced during certain changes of weather. During the past eight years, however, he had suffered no inconvenience whatever from the old injury. He considered one leg as strong as the other, and was able to take long bicycle rides without suffering any discomfort.

A Case of Typhoid Fever in which an Operation was Done for Supposed Appendicitis.—Dr. William T. Bull reported this case. The patient was a married woman, twenty-two years old, whose previous history was unimportant with the exception of two attacks of right-sided abdominal pain, without nausea, occurring in August, 1900. These attacks were three weeks apart and of one or two days' duration. On November 24, 1900, she returned home late at night from a football game at New Haven. She was much fatigued, felt chilly, did not rest well during the night, and complained of moderate generalized abdominal pain. On the following morning she was seen by Dr. S. W. Lambert, who found that her pulse was normal; her temperature, 100° F. The patient complained of pain in the right iliac fossa. Later in the day the pulse rose to 98; the temperature to 101.5°. Some tenderness in the right iliac region and a small indurated area could be made out. There was no muscular rigidity. On this day Dr. Bull saw the case in consultation. On the following morning, November 26th, the pulse was 100; temperature, 100.5°; in the afternoon the pulse was 110; temperature, 103°. Menstruation began without pain. The pain in the right iliac fossa persisted, with headache and backache. The bowels moved upon the administration of an enema. A vaginal and rectal examination proved negative; there were no pulmonary symptoms. On the following day there was muscular rigidity of the right rectus muscle, and a tender indurated area, about the size of the thumb, could be made out in the right iliac fossa. The morning temperature on this date was 101°; pulse, 110; in the afternoon the temperature was 101.8°; pulse, 116. There was slight nausea. After another consultation with Dr. Bull, it was decided, on account of the rising pulse rate and temperature, that the case was one of appendicitis. The muscular rigidity, preceded by localized pain, induration, and tenderness, in addition to the fact that the patient had had two previous attacks of abdominal pain, favored the diagnosis of appendicitis; while in favor of typhoid fever were the facts that there had been no decided drop in the temperature and that the headache and backache were marked. Dr. Bull operated at 10:30 P.M. on November 27th. At that hour the temperature was 103°; pulse, 120. A three-and-one-half-inch incision through the outer border of the right rectus disclosed a distinct, hard induration immediately underneath. When the peritoneum was opened no fluid escaped. About an inch and a half above the junction of the ileum with the cæcum there was a marked swelling in the inner wall of the latter portion

of the gut at its mesenteric junction, due to the presence of an indurated mass about the size of a walnut. It was first supposed to be the appendix, covered with adhesions; the appendix, however, was found below, apparently normal in appearance. It was removed and the stump buried. The cæcum was then opened by an incision through its outer wall; the indurated mass referred to was situated beneath the serosa of the bowel. On its mucous surface was a small ulcer with sharp, punched-out edges and a yellow, sloughy base. The bowel incision was thereupon closed with silk Lembert sutures, and after packing of the wound with gauze down to the involved area in the cæcum, the abdominal incision was partly closed. No enlarged glands were seen, and the ileum for a length of two feet was normal in appearance. The immediate results of the operation were negative. The temperature continued to rise, gradually going up to 105° and 106° four days after operation. Dr. Janeway saw the patient about this time, but did not venture a positive diagnosis. On the ninth day of her illness a Widal test by Dr. Lambert established the diagnosis of typhoid fever. No leucocyte count had been made. The typhoid fever pursued a very severe course, and during the fourth week it was complicated by a double pneumonia and pleurisy on the right side. On December 9th and 10th she had a severe intestinal hemorrhage, lasting twenty-four hours. From December 30th to January 10th the temperature ranged below 101°, but was irregular. From January 10th to January 23d the patient had a relapse, and since then she had made a slow recovery. The duration of her illness was about three months, and during that time her life was despaired of on several occasions. Dr. Bull said that the abdominal wound in this case presented no unusual features, and had apparently no influence on the course of the fever. There was very little discharge, and it healed slowly at the expiration of six weeks.

Dr. George L. Peabody said he had seen two cases of typhoid fever which had been mistaken for appendicitis and operated on. Both patients recovered. On account of the presence of the abdominal wound the hydrotherapeutics of the cases were materially interfered with, and on this account one of them ran a more severe course than it otherwise would have done.

Dr. Janeway said that in obsure cases of this character leucocytosis alone could not be absolutely relied upon. It should be safeguarded by other symptoms. Osler had shown that leucocytosis—at least one above the ordinary—might be found in typhoid fever. This might be the result of some idiosyncrasy. He had had recently a case in which no inflammation could be found, with a count of 13,000 leucocytes on the first examination and a negative Widal. A few days later the Widal was positive; leucocyte count 8,000. Again care must be taken as regarded the Widal reaction, more particularly that no mistake happened in the laboratory by mixing up blood specimens to be examined. This was the only way by which he could account for the result obtained by one examiner in a case seen in consultation a year ago.

Dr. W. Gilman Thompson said that one was liable to be misled by a single leucocyte count in typhoid fever. He had several times seen the number of leucocytes exceed 13,000 in typhoid fever without complications. Thayer had shown that cold sponge baths might exceptionally increase the leucocytosis beyond 20,000. Dr. Thompson said the case of typhoid fever reported by Dr. Bull recalled the descriptions of this disease in the text-books of thirty or forty years ago, when great stress was laid upon pain and gurgling in the right iliac fossa, symptoms which were now regarded as possessing little or no diagnostic value. In typhoid fever there might be some general abdominal pain, but this was as often on one side as on the other.

Dr. Kinnicutt said it was interesting, in connection with the case of typhoid fever reported by Dr. Bull, that a lesion should have developed in the cæcum as early as the third day. This was certainly unusual. The speaker said he had seen the patient several times with Dr. Lambert in consultation during a relapse of the fever, and had noted the fact that she was of a distinctly neurotic temperament. This, perhaps, would account for some of her subjective symptoms. Some of the abdominal pain of which she complained might also have been subjective in character.

Dr. Robinson, in connection with the remarks made by Dr. Thompson, said that the description of the symptoms of typhoid fever in many of our early text-books was taken from the French writers, and was probably in accord with their observations. The profound adynamia which was so commonly observed in typhoid fever in France was very rarely seen here, probably because the infection in this country was less severe.

Dr. Peabody said it must be conceded that our knowledge of leucocytosis and its significance was still quite limited. We knew, for example, that if blood was taken from a warm finger it would show a considerable proportion of leucocytosis, which it would not show when the blood was taken from the same finger if cold. There were a number of exceptional circumstances which might interfere with the reliability of the leucocyte count. However, if repeated examinations showed marked leucocytosis, the fact would militate strongly against the presence of typhoid fever.

Dr. Kinnicutt said that at the present time the consensus of opinion was that leucocytosis was not present in typhoid fever unless it was the result of some complication or congenital peculiarity. At the Presbyterian Hospital during the past winter every typhoid-fever case was subjected to a blood-count every other day, and the results corroborated this opinion.

A Case of Cerebral Sinus Thrombosis.—Dr. F. P. Kinnicutt read a paper with this title. Cases of sinus thrombosis, he stated, might be arranged under two groups: (1) Cases in which the thrombotic process originated outside the intracranial circulation and extended either by the prolongation of the thrombus per contiguitatem or by the propagation of a phlebitis. Such instances were comparatively common and embraced various extracranial lesions, such as disease of the petrous portion of the temporal bone, caries of the cranial bones from any cause, inflammations of the scalp, lesions of the face, etc. (2) Cases of so-called primary thrombosis, known as marantic or autochthonous thrombosis of the cerebral sinuses. These thromboses had long been recognized as occurring in infants suffering from marasmus, also in adults in the last stages of exhausting disease. A subdivision of this group was suggested by Dr. A. Brayton Ball, in an exhaustive paper on the subject, published in 1889. It comprised cases of sinus thrombosis occurring in anæmic adults, especially chlorotic girls, although they were often enjoying fair health. The symptoms of sinus thrombosis were admittedly obscure, as a rule, and in the group of cases described by Dr. Ball the diagnosis was seldom made. Such symptoms as were present were evidently secondary and due to the extension of the thrombus of the sinus or sinuses into the cerebral veins, resulting in localized destruction of the cerebral tissues by hemorrhage, softening, and in subarachnoid and ventricular effusions. Experimental investigations on animals and pathological findings in the human subject indicated that extensive thrombosis of the sinuses might occur without symptoms and with the maintenance of a satisfactory cerebral circulation,

provided the veins proper were not implicated. The case which Dr. Kinnicutt presented might properly be regarded as one of primary thrombosis of the straight sinus with an implication of the venæ Galeni, causing hemorrhage into and softening of the contiguous tissues. The previous history of the case had been kindly furnished to the author by Dr. Emmett Holt, under whose observation the patient had been. Ten days previous to admission to the hospital the patient had a sudden attack of vomiting. The vomiting was repeated several times at short intervals. The temperature was normal, and physical examination of the various organs gave only negative results. Two days later the patient was up and at work, apparently in her usual health, and her symptoms were believed to be due to an acute attack of indigestion. Five days later she suffered from a very similar attack; there were vomiting, a little headache, and some general indisposition without fever. The following day the vomiting had ceased. The pulse was slow but not irregular. The patient seemed dull and answered questions in a vague way. A few hours later she became very restless, could not be kept in bed, talked incoherently, and it was thought desirable to take her to the hospital. She was admitted to Dr. Kinnicutt's wards at the Presbyterian Hospital on the evening of the same day. The record of the examination on admission was: "Female, aged eighteen years, well nourished, somewhat anæmic. She lies in a semi-stupid condition; is either unable or unwilling to answer questions, but evidently understands. There are no pupillary symptoms, no paralysis, no muscular rigidity. The reflexes are normal. Examination of the various organs gives only negative signs. Pulse, 120, but of good quality; respiration, 36; temperature, 101°." The patient grew rapidly worse after admission. The coma became more marked and she could not be roused. There were irregular convulsive movements of the hands and legs at intervals, and finally, ten hours after admission, there were two severe general convulsions within a short interval, in the latter of which the patient died. Shortly before death the temperature rose to 103.8° and the pulse to 180. The autopsy was made ten hours after death. Anatomical diagnosis: Thrombosis of cerebral sinuses (straight sinus, left lateral sinus, and venæ Galeni); hemorrhagic softening of the left optic thalamus. In the brain there were thrombi, evidently formed before death, in the veins of Galen, in the straight sinus, and in the upper part of the left lateral sinus. The other sinuses were normal. The dura and pia mater were normal, though there was a little opaqueness of the latter over some areas. An area of hemorrhagic softening included the entire left optic thalamus; the neighboring walls of the lateral and third ventricles showed distinct superficial softening. The brain otherwise was normal. Section of the veins of Galen showed that they contained blood clot. There was a great abundance of pigment granules, and many large clusters of polymorphonuclear leucocytes, especially in the peripheral portions, were found. The neighboring pia mater showed some infiltration of leucocytes, many of which contained pigment granules, and about some of them the pigment was found outside of the cell. Section of the left optic thalamus showed abundant extravasations of blood undergoing degeneration, with the formation of a great quantity of pigment. There were a great number of polymorphonuclear leucocytes in and about the small blood-vessels. Careful examination of many sections of the implicated tissues failed to detect the presence of micro-organisms. There was an absence of disease of any of the cranial bones, of otitis, of lesions of the scalp or face. Thrombosis of the deeper veins was absent, and there was no evidence of thrombosis of the superficial veins of the trunk or extremities. Further details of the autopsy were omitted, as the various organs were found to be normal.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, May 7, 1901.

JOSEPH COLLINS, M.D., PRESIDENT.

A Case of Successful Moral Treatment of a Form of Hysteria.—DR. MARY PUTNAM JACOBI reported this case. The patient was a woman aged twenty-four years belonging to a neurotic family. Her symptoms began four years before coming under observation, by an endometritis and a uterine retroflexion. She had been subjected to a good deal of local treatment, including curettage and an Alexander's operation. The latter procedure had relieved the dysmenorrhœa, but had been followed by a fixed pain in the abdomen not increased by pressure. She claimed to be unable to walk or stand because of severe pain in the back and abdomen which it induced. Examination showed no motor inability, and when started to walk she could do so very readily and energetically. The uterine disease had entirely disappeared. She was moderately anæmic and quite constipated. The speaker said that at some portion of the cerebro-spinal tract an area of nerve tissue must be so nearly on the border of exhaustion that an attempt at function carried it beyond this line. It was conceivable that with the exhaustion of the cerebral centre the very thought of the movement would be followed by pain. According to Sanier, such hysterical pains pointed to a partial anæsthesia in the brain. Apart from the intermittent pains excited by the sense of walking, there seemed to be a permanent and distressful sense in the back of requiring support. In a previous experience with a bed-ridden patient she had succeeded in making her walk within a week by the application of a Taylor spinal brace. This simple device had given great relief. The necessary nerve stimulus had been secured by the application of static electricity. This remedy seemed to be almost a specific for hysterical pains. The subject of the present report had been persuaded to leave her home and take a room near Dr. Jacobi's office. At first it was not difficult to get her to walk a portion of a block, but when finally asked to walk a whole block she obstinately refused. All sorts of changes in the treatment and methods of management were necessary in order to conquer the patient's wilfulness, yet this was essential to further progress. Her mode of life for each day was mapped out most minutely. By the most persistent and painstaking efforts exerted for a period of four months the patient was finally conquered. During the last eighteen months she had been living a fairly normal life. Dr. Jaobi said that in hysterics the habitual dependence upon fellow-minds was immensely intensified. To get rid of a false idea it must be starved out and atrophied by an entire lack of support from the minds of those around the patient. The essential element of the treatment of this case was the bringing of the personality of the patient under the control of another mind.

DR. B. SACHS commended the general plan of treatment described in this paper, though admitting that it required far too much expenditure of time and attention to detail to make it generally available.

DR. IRA VAN GIESON expressed his admiration for the report just presented, for, he said, it was an earnest of the time when psychological cases would be treated less by medicine and more by psychology. This case afforded an example of what could and should be done in hundreds and thousands of other similar cases. He had been particularly impressed with the statement

made concerning the necessity for causing an atrophy of each false idea—the reverse of the process by which the hysterical condition was induced. He thought the period of treatment in the case reported might perhaps have been materially reduced by suggestive therapeutics.

Dr. Jacobi said that the objection made to the treatment on the score of its time-consuming nature was hardly sufficient to condemn it. She had seen a number of cases that had gone from one physician to another without benefit, although doubtless physicians generally were well acquainted with the principles which should underlie the successful treatment of such cases.

The Morbid Anatomy of a Case of Progressive Muscular Atrophy which was Clinically one of Amyotrophic Lateral Sclerosis.—Dr. Carlin Philips read this paper. He said that the patient was a woman of thirty-six years who had come under Dr. Collins' observation for the first time on June 17, 1897. She had then complained of severe frontal headache, inability to lift the head from the pillow without the help of the hands, tremulousness of the hands, and easily induced fatigue. She had lost thirty pounds. Examination showed atrophy of the supraspinatus and of the right shoulder girdle, and these muscles showed fibrillary twitchings. The knee jerks were increased; there was ankle clonus on both sides; there was no affection of the special senses. Six months later she had complained of dyspnœa and had shown loss of will power and suicidal impulses, together with some difficulty in swallowing. The atrophy of the muscles was more marked, and extended to the trapezius muscle. She began about this time to have attacks of major hysteria, and the atrophy increased rapidly. The gait became spastic and the body rigid. She had the use of her limbs up to about six weeks before death on May 25, 1899. An autopsy was allowed only upon the brain and spinal cord. The weight of the body was forty-eight pounds. The meninges of the brain were anæmic. The brain was normal in gross appearance, as was also the spinal cord. The latter was carefully segmented and prepared in various ways for examination. In the second cervical segment was a concentric zone encircling each anterior horn and involving the anterior, mesial and anterolateral portions of the fundamental columns, while the tracts of Gowers and the pyramidal tracts were left intact. Corresponding to the degenerated areas in this segment the neurogliar proliferation was very slight. The fourth cervical segment showed a sinking in of the periphery just at the margins of the anterior roots, and this change of contour extended down several segments. The gray matter extended laterally, giving a sickle-shape to the degenerated area. While there was no evidence of the destruction of the cells, the most striking feature was the extensive destruction of these cells. The fifth cervical segment was practically the same as the fourth. The sixth segment showed a tongue-shaped area of degeneration extending almost to the posterior horn. In the seventh segment the anterior roots showed more marked degeneration. From the first to the fourth dorsal segments inclusive there was a zone of degeneration encircling the anterior horns, and becoming less intense until almost invisible in the fourth segment. The disappearance of the motor cells throughout these four segments was more difficult to determine than in the case of the cervical segments, but apparently there was about the same amount of atrophy of these cells. From the fifth to the eighth segment there appeared to be an increase in the neurogliar tissue. From the twelfth dorsal down to the end of the cord the area occupied the peripheral lamina of the ventral half of the cord, and extended around to a point opposite the apex of the lateral horn, where it expanded into a lateral mass. The lumbar and sacral regions were found to be as severely involved as the cervical. Throughout the cord the blood-vessels were apparently normal. Nissl preparations of the medulla showed small areas of periarteritis with small-cell infiltration of the adjacent gray matter. The anterior roots were found to be atrophic. The crossed pyramidal tracts were apparently unchanged.

Therapeutic Hints.

Tuberculosis.—

℞ Iodi puri cryst		1.50
Phosphori puri		0.25
Thymolis, Mentholis	āā	2.50
Guaiacolis		1.25
Ol. morrhuæ sterilisat		50.00

M. S. Inject one to three syringefuls once a day every four to eight days.

—Fliesburg.

Burns of the first and second degree. Apply one or two coats of a one-per-cent. solution of picric acid; allow it to dry, and then apply a thin layer of absorbent cotton; over this a layer of impervious tissue, and outside as much cotton as is required for warmth and protection. In subsequent dressings remove all except the layer next the skin, and reapply the solution.—Allen.

Nasal Turgescence with attacks of sneezing, especially in women. Apply some preparation of menthol locally, and give:

℞ Acidi arsenosi		gr. i.
Strych. sulphatis		gr. ¾
Ext. belladonnæ, Zinci phosphidi	āā	gr. iv
Ext. gentianæ		gr. xx.

M. ft. pil. No. xx. Sig. One pill three times a day.

—S. B. Dabney.

Arthritis Deformans.—Ice bags to the spinal column. Carbonate of guaiacol in five-grain dose three times a day, and citrate of lithium tablets.—M. G. Tull.

Guaiacol applied locally seems to be a safe and efficient remedy in relieving the pain of arthritis deformans, acute articular or muscular rheumatism, sciatica, orchitis, and epididymitis. One part of guaiacol to ten or fifteen parts of vaseline or lanolin should be applied to the painful parts.—*New England Medical Monthly.*

Ko-Sam is the native name for *Brucea sumatrana*, which has been successfully employed in dysentery (779 radical cures out of 879 cases observed). Ten grains are to be given the first day, twelve on the second, third, and fourth days. Quassine appears to be the active principle.—Broughton Knowles, *The Medical Times and Hospital Gazette*, February 16.

Habitual Constipation.—I wish to call the attention of the profession to the following statements: 1. A certain percentage of individuals suffering from habitual constipation are apt to have a spontaneous movement of the bowels the following day after the stomach has been washed for the first time. 2. The majority of such patients will eventually recover the normal function of their bowels, if lavage is continued daily for two or three weeks, and later at greater intervals. 3. The best results are obtained from using cold water, or hot and cold water alternately. 4. The best time for such lavage is one hour before breakfast.—C. D. Spivak, *Journal of the American Medical Association*, April 13th.

Peptonized Thymus is recommended in doses of gr. xv.–xxx. in cachets or pills in chlorosis, exophthalmic goitre and congenital debility. Smaller doses may be given to children mixed with milk.—BLONDEL.

Malarial Coma.—In two cases there was recovery after large doses of quinine.—ACKER.

Poisoning by Chloroform.—Drop upon the back of the tongue dilute hydrocyanic acid in full dose.—*Journal of Medicine and Science.*

Rosacea.—Suprarenal extract in five-grain doses from three up to six daily. The extract is simultaneously employed as a topic.—MUNRO.

Cold in the Head.—Potassium bicarbonate gr. xxx. every four hours in milk or water, the patient resting and being on a liquid diet for two days.—S. HARNSBERGER.

Antitoxin.—Before the serum treatment 54.8 per cent. of diphtheria patients recovered; now the figures are 86.92. There were 80 per cent. of recoveries in progressive croup and 57 per cent. in septic toxic cases.—ESCHERICH.

Acromegaly.—Extract of pituitary body relieves the intense headache and materially lessens the paræsthesia which occurs during the course of the disease, but has not been shown to stop its progress.—*The Medical Press*, March 13th.

Tender Foot is sometimes cured in the West by enforced dancing. Harden recommends five-per-cent. salicylic solution, followed by two-per-cent. formic aldehyde, or a solution of the latter added to tannin and precipitated by hydrochloric acid.

Gastric Anodynes.—Atropine checks the gastric juice almost completely. Morphine increases it. When secretion is excessive as in ulcer, morphine is contraindicated and one of the belladonna preparations will act better.—BIEGEL, *Therapie der Gegenwart.*

Cacodylic Acid or the sodium salt by the mouth, rectum, or subcutaneously in dose of gr. ss. three times a day, gradually increased to gr. i., diminishes hectic fever, cough, difficult expectoration, and improves general nutrition, besides decreasing the hyperidrosis in phthisis.—EWERT.

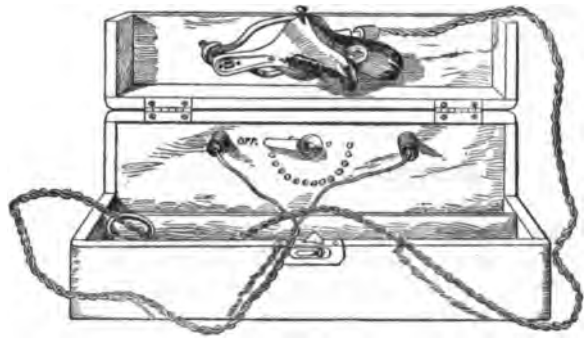
To Arrest Smallpox.—I first scrub the skin of the forearms and hands with a strongly alkaline soap and water, in order to remove the oil naturally existing in the epidermis. Then I wash the skin with alcohol to kill germs and also to remove oil. Next the skin is washed with a 1:500 solution of bichloride of mercury. Then it is washed with a solution of peroxide of hydrogen. Each of these washings is of ten or fifteen minutes' duration. Finally the parts are well wrapped in a thick envelope of borated cotton. The washing is repeated daily for three days. I would suggest, in addition, that the face and other parts to which the bath is inapplicable, should be treated by disinfectants spread on lint and applied to the skin. Also, when the patient is found poisoned by purulent infection, I should not hesitate to recommend the subcutaneous injection of antistreptococcic serum, and the administration of cathartics which have the power to produce watery alvine evacuations. For this latter purpose the sulphate of magnesium would stand foremost. Also digitalis and frequent draughts of water should be used to induce copious diuresis, thereby discharging ptomains, as would the catharsis just mentioned.—ALONZO BRYAN, *The Physician and Surgeon*, January, 1901.

New Instruments.

AN ILLUMINATED VAGINAL SPECULUM.

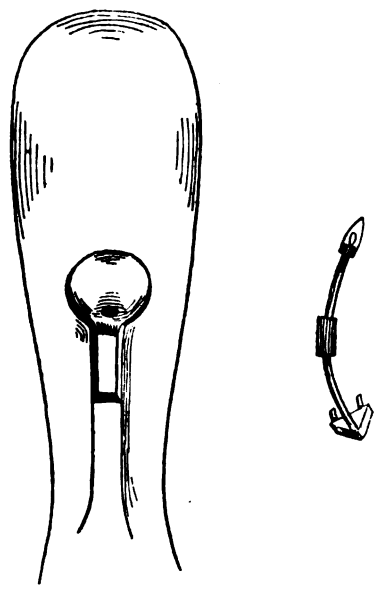
BY W. J. GREANELLÉ, M.D.,
NEW YORK.

THE matter of securing sufficient light in the use of the bivalve speculum is not always a simple one,



either in private practice at the patients' homes, or even in one's office on very dark days or in the evening.

Having wrestled with this problem over and over again, and never being sufficiently satisfied with the various lamps held back of me, I hit upon the idea of carrying an electric light to the inside of the speculum, on the plan of the improved endoscope. Repeated efforts to bring this about in such a way as to meet all difficulties and requirements led finally to the elaboration of a portable case carrying a dry-cell battery, rheostat, speculum, and instruments most needed, as shown in the accompanying illustration. As here shown the anterior half of the lid is raised to provide access to the rheostat and compartments containing the speculum and instruments, the posterior half of the case containing the cells. This makes a compact and complete gynæcological diagnosis (and treatment) case.



Under Side of Upper Blade, Showing Holder for Lamp Carrier, Reflector, and Lamp.

The essential feature of the speculum lies in a tunnel, set in the anterior and lower part of the upper blade just inside the urethral opening and leading to a concave disc. The lamp carrier is made exactly and snugly to fit this tunnel, of such shape and length as to bring the lamp just within the concave disc, which acts as a reflector, throwing the light downward and inward on the cervix and deep vagina and into the fornices. The current is supplied from above, and in no way interferes with manipulations. The lamp, when *in situ*, is so placed as not to be in the way of swabs or instruments, and does not throw any light into the eye of the operator.

I have found this instrument of great value in office

work for purposes of examination and treatment, and more particularly in night work at the homes of patients, where one so often has a patient in a low bed with an overhead light, which is of absolutely no value. For handling uterine hemorrhages, curettages, and cervical ulcerations and erosions, and for post-partum examinations, the instrument is of great value. It is simple, easily cleaned, and affords one a compact gynæcological case ready to take up and carry out, being made in such proportions as to be handy (eleven by six by four inches outside measurements) and comfortable for carrying.

University Heights.

Surgical Suggestions.

Appendicitis.—It is not prudent to subject a recent scar to harmful tension at a premature time. So we make it a standing rule, to which there are no exceptions, to keep our patients in the recumbent position for at least four weeks.—Senn.

Spinal Anæsthesia has been seen by Kammerer to come on as late as forty minutes after application of the cocaine solution and yet be very complete. He usually employs about ten drops of a two-per-cent. solution.

Lime Burn of the Eye.—Cane sugar in concentrated solution forms an insoluble compound with lime, so it may be used after mechanical removal of larger particles. Cleanse every part of conjunctiva with oil, dilute vinegar or water; then use boric solution and perhaps atropine.—Posey.

Surgery in India was held in high esteem in very remote times. They had a proverb to the effect that "a physician who is no surgeon is like a bird with but one wing." They had a large assortment of steel cutting and cauterizing instruments, and held that "what drugs and knives cannot cure may be cured with fire."—Parsons.

Cosmetic Surgery has scored another triumph at the hands of a Vienna surgeon, who injects a mixture of solid and liquid vaseline to remedy disfiguring depressions and voids due to the removal of natural parts as, for example, the testicle. He employs the same method to remedy atrophy of the female breast.

Oxygenated Water, while it disinfects wounds, is painful by contact to raw surfaces, and spoils catgut sutures as well as rubber instruments and leather. In employing catgut sutures oxygenated water should be avoided, since it has even led to fatal hemorrhage.—*The Medical Press*, March 13th.

Endometritis and Salpingitis.—One knows by experience that if one gets the endometrium and the pouch leading to the Fallopian tube into a healthy state, the Fallopian tube almost always recovers itself if merely in a state of chronic inflammation.—Amand Routh.

Cocaine in equal parts of almond and petroleum oil, while it is slower to begin, continues to act longer than the water solution. Two per cent. is strong enough for nose and throat work. A five-per-cent. watery solution with two per cent. of sodium sulphate added acts better by reason of the penetrating power and solvent action upon globulins and proteids of the secretions encountered.—Wingrave.

Popliteal Aneurism.—The case is given of a negro aged forty-two, who had an aneurism situated on the popliteal artery, about the size of a hen egg. The treatment was digital compression, kept up for thirty-six hours by relays of medical students. A splint was applied for three or four days, and in a week the patient was allowed to get up.—Hamann.

Nasal Discharges in Children.—Do not diagnose accessory sinus trouble before the sinuses are developed; remember that the frontal sinus is not developed until the seventh year; that the antrum, although developed early, is quite small until after the second dentition, and that the ethmoidal cells have not bony walls until the fourth year, and at that age they are quite small.—Cobbledick.

Foreign Body in the Ear.—The rubber end of a pencil was extracted by teasing out the end of a small piece of twine, and giving this a good coating of glue, pushing it tightly against the India rubber, and packing it closely all round with cotton wool. This was allowed to remain in position for twenty-four hours, when there was firm cohesion, and not the slightest difficulty was found in withdrawing everything *en masse*.—Macaskie.

Benson relates an instance of the end of a slate pencil being retained and causing deafness for twenty-five years, and Cullen one in which for thirty years a pea-sized piece of tortoise shell had pressed upon the tympanic membrane. In both patients normal hearing was restored.

Disinfection of Soft Catheters.—(1) The disinfection of catheters with bichloride of mercury is unsatisfactory. (2) The use of live steam for the disinfection of catheters is also unsatisfactory, because of the damage done the catheters. (3) The disinfection of catheters with formaldehyde vapor as hitherto practised is too slow and for catheters of small calibre incomplete. (4) The apparatus devised by the writer enables one to render all sizes of catheters absolutely sterile in from ten to twenty-five minutes without any injury to the catheters, by the use of a strong vapor of pure trioxymethylene powder.—Katzenstein, *Berliner klinische Wochenschrift*, September 10, 1900.

Spinal Abscess.—Do not wait to open a spinal abscess until the skin is reddened and involved. So far as possible open the abscess at certain seats of election, *i.e.*, away from the groin, and make more than one opening if possible. Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. Avoid drains of all kinds, and be careful to carry out perfect aseptic measures from first to last. Some patients improve by rest alone, the fluid portion of the pus becoming absorbed, but in many cases the abscess makes its way toward the surface, and then operation should be performed at once, before the skin and subcutaneous tissue have become infected by tubercle, or a persistent sinus may remain.—A. H. Tubby, quoted in *Medical Times and Hospital Gazette*, February 23d.

Cleft Palate.—A modified operation especially adapted to young children includes a curved incision on each side close to the alveolar margin of the palate, commencing posteriorly inside the last molar tooth and curving round anteriorly to terminate in the cleft, and arranged at the same time in such a way that sufficient tissue is left immediately behind the incisor teeth to hold a suture subsequently. With this incision the posterior palatine artery is retained in the flap. The latter is reflected by means of a rugine. The connections between the hard and soft palates are then severed by turning back the flaps which have been al-

ready detached from the hard palate. Silkworm-gut sutures are used, the first being placed posteriorly. At the anterior extremity of the cleft the suture should be passed through the flap from its mucous to its periosteal aspect; the free end of the suture is then carried through the gum behind the incisor teeth in the reversed direction, viz., from its deep to its superficial aspect. This suture anchors the flaps in front during the process of healing.—E. H. TAYLOR, *Dublin Journal of Medical Science*, January 5th.

Chronic Nasal Suppuration may be caused by (1) Suppuration in one or more of the accessory sinuses. (2) Bony necrosis, usually syphilitic in origin. (3) Foreign bodies and adenoids. These are usually found in children, but it should be remembered that the accessory sinuses are liable to disease in children as well as in adults. A purulent discharge in children may be due, during the first few years of life, to an unknown cause, the naso-pharynx being quite clear and the accessory sinuses undeveloped.—COBBLEDICK.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 25, 1901:

	Cases.	Deaths.
Tuberculosis	259	163
Typhoid fever	27	5
Scarlet fever	610	32
Measles	302	10
Diphtheria and croup	296	40
Smallpox	134	13
Chickenpox	92	0
Cerebro-spinal meningitis	0	4

Recent Legislation of Interest to the Medical Profession.—Albany, N. Y., May, 1901. Of course the most interesting bill, to medical men, that came before the last legislature of New York was the one regulating and legalizing the practice of osteopathy in the State of New York, and fixing penalties for the violation thereof. This bill was amended several times, and finally provided that a person must pass a satisfactory examination before the State board of health in order to practise, and also providing that no person of this sort should prescribe medicines or drugs in treatment of diseases. The bill, it is needless to say, never reached the governor.

An attempt was made to repeal the present law to protect the public health by regulating the teaching and practice of hypnotism and mesmerism, and to enact in its stead more liberal provisions for the practice of the same. This bill also failed, as did also an amendment to the public health law, providing that no person shall be regarded as practising medicine who shall use any kind of treatment or appliances. Still another bill failed amending the public health law so as to allow the practice of massage, mechano-therapy, hydro-therapy, and electro-therapy, under proper restrictions of licenses and registry. The chief amendment to the public health law enacted was that abolishing the old and cumbersome State board of health, and creating a new State department of health under a single commission. The commissioner holds office for four years, and has a salary of $3,500. This is certainly a very great improvement upon the former way.

An amendment to the public health law was offered, allowing the regents of the university to admit to an examination students who had not pursued their studies as far as is required at present. This did not pass, neither did a bill permitting the Civil Service Commission to certify for appointment any physician in the State hospitals' service who shall have served in such position for three years. The public health law was amended so as to allow country stores to sell Epsom and Rochelle salts without a druggist's license; also, allowing physicians to compound prescriptions and sell poisons where there is no drug store within three miles. Amendments to the same law failed relative to the practice of pharmacy in State institutions and to the registration of pharmacists and drug stores; and a general amendment to the section of the law relatiug to pharmacy also failed.

The public health law was also amended so as to make much more stringent all of its provisions in relation to the practice of dentistry, and to incorporate therein the statutes relating to dental societies.

Among the other amendments to the public health law which failed were these:

Providing that town boards of health shall be appointed bi-annually instead of annually.

Providing that the State board of health shall enforce a provision requiring all books and newspapers to be published in larger type; and giving the authorities of hospitals, prisons, etc., in certain interior counties of the State authority to deliver cadavers to medical colleges.

The city of Rochester was given authority to remove all sources of pollution of its water supply; but a bill amending the public health law, by providing for the appointment of a chief inspector of plumbing and drainage in certain cities, did not pass.

None of the bills relating to the adulteration of food became laws. One of them amended the public health law so as to include beverages with foods; another amended the agricultural law by inserting a new article prohibiting the manufacture or sale of adulterated food, and a third sought to prevent the use of unhealthy chemicals or substances in the preparation or manufacture of any article used or to be used in the preparation of foods. What is known as the "pure beer" bill, an amendment to the public health law, did not pass.

An amendment to the agricultural law was offered, but did not pass. Its design was relative to diseases of domestic animals; to repeal article four of the public health law and incorporate in its stead certain provisions of the agricultural law relating to the public health, and making an appropriation to carry out the provisions of this act. A similar fate overtook a bill for the protection of the public health by preventing contagious diseases from spreading through the use of old bottles.

An amendment to the insanity law was passed, providing that the president of the State commission in lunacy shall be a physician of ten years' experience in the practice of his profession, and who has had five years' experience in the treatment of mental and nervous diseases or two years' experience in the treatment of committed insane, and fixing the salaries of the commissioners in lunacy at $5,000 a year and $1,200 for travelling expenses.

The public health law was amended by providing that any person who received his degree from a reputable veterinary school prior to January 1, 1897, or who practised veterinary medicine prior to 1896, shall be admitted to the State veterinary licensed examination without further requirements.

A bill failed to pass establishing a State veterinary college for the eastern portion of the State at New York University in the city of New York, and to provide for the administration thereof.

An appropriation of about $35,000 was made for the

quarantine stations at Hoffman and Swinburne islands, and another appropriation of $5,000 was made for the care, maintenance, and repairs of the quarantine establishment at the quarantine station. An amendment to the penal code failed to pass, making it a misdemeanor to go on board vessels at quarantine grounds.

A bill exempting from taxation the property of certain medical societies situated in cities of the first class failed to pass; as did also an amendment to the consolidated school law, relative to teaching physiology, hygiene, and the effects of narcotics.

A bill was passed authorizing the board of estimate and apportionment of New York to pay certain persons for services in the department of public charities, pending the preparation of an eligible list for apothecaries and nurses.

An amendment was passed to the law establishing a State hospital for the care of crippled and deformed children, so as to give more authority to the first assistant surgeon; and another amendment to the law was passed, providing for the annual submission of estimates for appropriations by the New York State Hospital for the care of crippled and deformed children. An appropriation of about $500 was made for the institution.

An appropriation of $10,000 was made for the construction of buildings for the New York State Hospital, for the treatment of incipient pulmonary tuberculosis. A bill was passed relative to the payment to the Pasteur Institute of New York, for services in caring for poor persons in danger of infection with rabies. The charter of the Albany hospital was amended by increasing the powers of the board of governors and making necessary a majority vote of all the governors elected for the suspending or discharging of any member of the medical staff. The common council of Lockport was authorized to raise $5,000 to erect a hospital; and the appropriations made by the board of supervisors of Rockland County for the support and maintenance of inmates of the Nyack hospital were authorized.

A bill failed, allowing the Montefiore Home for Chronic Invalids to maintain a home for chronic invalids and a hospital and dispensary in the city of New York, and one or more sanatoria for consumptives in the State of New York.

Hospital bills failed as follows:

Providing for the construction of a building for hospital purposes and acquiring land for the same in the Borough of the Bronx in the city of New York; providing for a hospital for the special treatment of acute nervous and mental diseases within the city and county of New York; and amending an act to establish a State hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor.

Isolation in Relation to Typhoid Fever.—Dr. Alfred Hill, medical officer of health, Birmingham, England, says: "There can be no doubt that the most important step to be taken at the present time for the prevention of typhoid fever is to provide for the removal to hospital of all patients who cannot be properly isolated at home. The need for a larger number of removals is clearly shown from the fact that 244, or about two-thirds of the cases, were treated at home in the past quarter. Moreover, 101 of the cases treated at home lived in houses with two bedrooms and one living-room only, and a number of these houses contained as many as seven other persons besides the patient. The effect of removal to hospital is very great in preventing further cases in the same house and among the patients' friends and relatives. But it is also most noticeable in increasing the patient's chance of recovery. Thus in the quarter under review, of the patients treated in hospital only 12 per cent. died, while 24 per cent. of the cases treated at home succumbed to the disease. This is not surprising when it is remembered that a great many cases occurred in the homes of the poor, where skilful nursing, suitable diet, and good hygienic surroundings are not generally available."

The Distribution of Beri-Beri in India.—The sanitary commissioner with the government of India draws attention in his last report to the significant fact that, although beri-beri disease has long existed in Burmah, and occurs in certain districts of Madras, no case of it has ever been recorded in the wheat-eating areas of India. In Rangoon, Hindoo natives of India appear to suffer most. Those attacked belong almost entirely to the coolie class, chiefly from Southern India, and are generally people whose diet, though it may be plentiful, is very deficient in nitrogenous elements. In the past three years close upon one thousand cases of beri-beri have been admitted into the Rangoon hospital, very little more than half of them resulting in recovery. The death rate indeed is returned at forty-eight per cent. of the nine hundred and forty-four cases registered. This means more than four hundred deaths. —*Sanitary Record.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended May 17, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
Alaska, Hoonah	May 11th	..	15
Killisnoo	May 11th	4	
California, Los Angeles	April 27th to May 11th	12	
San Francisco	May 4th to 11th	6	
Illinois, Chicago	May 11th to 18th	6	
Indian Territory, Coalgate	May 11th	65	
Kansas, Wichita	May 4th to 18th	37	
Kentucky, Lexington	May 11th to 18th	4	
Louisiana, Baton Rouge	May 5th to 12th	2	1
New Orleans	May 11th to 18th	9	2
Massachusetts, Boston	May 11th to 18th	10	
New Bedford	May 16th to 18th	5	
Michigan, Detroit	May 11th to 18th	58	
Minnesota, Minneapolis	May 4th to 11th	23	
Nebraska, Nebraska City	March 30th to April 27th	5	
South Omaha	April 23d to May 21st	30	
N. Hampshire, Manchester	May 11th to 18th	4	
New Jersey, Jersey City	May 5th to 19th	15	
Newark	May 11th to 18th	4	1
New York, New York	May 11th to 18th	105	13
Ohio, Cincinnati	May 10th to 17th	9	1
Cleveland	May 11th to 18th	54	
Youngstown	May 4th to 18th	2	
Pennsylvania, Lebanon	May 11th to 18th	4	
Philadelphia	May 11th to 18th	3	1
Pittsburg	May 11th to 18th	2	
Steelton	May 11th to 18th	2	
Williamsport	May 11th to 18th	1	
Tennessee, Memphis	May 11th to 18th	12	
Nashville	May 11th to 18th	3	
Utah, Salt Lake City	May 4th to 11th	7	
Washington, Tacoma	May 1st	1*	
West Virginia, Wheeling	May 11th to 18th	8	
Wisconsin, Fond du Lac	May 11th to 18th	1	
Hawaii, Kauai, Lihue	April 23d	1	
Waimea	May 6th	1	
Porto Rico, Ponce	May 6th to 13th	3	
San Juan	May 4th	2	
Smallpox—Foreign.			
Austria, Prague	April 20th to 27th	4	
Belgium, Antwerp	April 20th to 27th	5	
France, Rheims	April 8th to 15th	2	
India, Bombay	April 16th to 23d	..	6
Calcutta	April 13th to 20th	..	93
Karachi	April 14th to 21st	4	3
Madras	April 13th to 19th	..	11
Malta	April 14th to 20th	1	
Russia, Moscow	April 14th to 21st	6	2
Odessa	April 20th to 27th	5	3
Warsaw	April 13th to 20th	..	4
Spain, Malaga	April 16th to 30th	..	1
Yellow Fever.			
Cuba, Havana	May 6th to 11th	2	
Cholera.			
India, Bombay	April 16th to 23d	..	4
Calcutta	April 13th to 20th	..	96
Madras	April 13th to 19th	9.	1
Plague.			
Africa, Cape Town	To April 14th	291	118
China, Hong-Kong	March 23d to April 6th	31	28
India, Bombay	April 16th to 23d	..	459
Calcutta	April 13th to 20th	..	389
Karachi	April 14th to 21st	270	238
Japan, Nagasaki	April 17th	..	1

* From Vashon Island.

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Original Articles.

THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

BY CHARLES A. L. REED, A.M., M.D.,

CINCINNATI, OHIO.

IN approaching the discharge of my duties as presiding officer of the fifty-second session of the American Medical Association, I beg to express my appreciation of the generous suffrages by which I have been called to a position of such conspicuous honor. This appreciation becomes all the more pronounced when I reflect upon the magnitude and achievements of this great national body and upon the lustre of the distinguished men who have presided over its deliberations. This thought brings me to the first duty of the occasion, and that is, officially to bring to your attention the fact that since our last reunion three of my most illustrious predecessors have been called from their worldly activities to the realm of rewards. Alfred Stillé, Lewis A. Sayre, and Hunter McGuire, each a former president of the association, died within a single week. Their lives were known of men, their records are ornaments of our annals, and their achievements are their eulogies. They labored zealously and with beneficent results, not alone in the scientific field, but in behalf of an organized national profession; and to guard zealously the splendid legacy which they, among others, have left us, must be one object of our labors upon this auspicious occasion. The hope is indulged that steps may be taken to procure suitable portraits of these and of other deceased presidents of the association, to be placed in some safe gallery until such time as the Association may be able to transfer them to its own Temple of Fame. I recommend that suitable formal action be taken on this occasion relative to the life, distinguished services, and the death of these lamented *confrères*.

Foreign Relations.—The American Medical Association accredited delegates during the last year to several foreign medical conventions, notably the International Medical Congress at Paris, the Dominion Medical Association of Canada, the Mexican National Association, and the Pan-American Medical Congress at Havana. To each of these organizations the American Medical Association sustains relations of peculiar intimacy. As one of the great scientific nations of the earth, the United States is naturally an integral part of the International Medical Congress. This association, by a resolution presented by your present executive officer, took the initiative in 1891, in organizing the Pan-American Medical Congress. The first reunion of that congress was held in Washington in 1893, under the presidency of the late lamented Dr. William Pepper. The second was held in the city of Mexico in 1896 under the presidency of Dr. Carmona y Valle, while the third has been held during the last few months in the city of Havana under the distinguished presidency of Dr. Juan Santos Fernandez. This movement has for its object the establishment of closer relations between the medical profession of the different countries of the western hemisphere. It has already borne excellent fruit in the increased patronage of our medical schools from the far south, in the improved status of American medical practitioners in Latin America, in a better understanding of quarantine questions in the different countries, and in the development of a concert in the investigation of the medicinal flora of the western hemisphere. Our relations with the medical profession of Canada must be of increasing intimacy, and I indulge the hope that while maintaining the national limitations of our association for delegate and legislative purposes, its membership, with the privilege of participating in all scientific matters, may be freely opened to our brethren who live beyond our immediate borders.

Fiscal Affairs and the Journal.—It has passed into unwritten law, born of the gradually developing features of our organization, that your president shall restrict his annual address to a discussion of affairs of the association and to the great object to which, by the terms of its constitution, it stands consecrated—"the common interests of the medical profession in every part of the United States." In compliance with this rule, and realizing that I am leaving scientific questions to be presented by orators appointed for the purpose, I have pleasure in calling your attention to the satisfactory condition of the affairs of the association, as indicated by the consolidated report of the treasurer and of the board of trustees. From it you will observe that under the judicious management of your board of trustees you have a cash balance at the end of the last fiscal year of $31,004.67, being an excess of $3,696.66 over the preceding year. Your plant has been increased in value to the amount of nearly $10,000, and the net profits of *The Journal* amounted to nearly $14,000. You will be gratified to realize that, in addition, you have safely invested, as part of a fund with which to buy a home for *The Journal* and for the association, the respectable sum of $25,000. If, however, you have occasion to feel satisfied with the normal condition of your finances, you must contemplate with pride the rapid increase of your journal, in quality, size, circulation, and influence. The average weekly circulation grew, during the last fiscal year, from 13,672 to 17,446, and I have added pleasure in informing you that, since the period covered by the report, the weekly circulation has grown to 22,000 copies. For the accomplishment of these splendid results, I feel that you will join me in hearty acknowledgment, not only of the sagacious management by the board of trustees, but the tireless industry and the discreet direction of our accomplished editor, Dr. George H. Simmons.

I feel that it is important, however, to call your attention to the fact that it would have been impossible for your board of trustees to accomplish these results if, through its action, the association had not become incorporated. Leases were to be executed, purchases were to be made, contracts were to be entered into, money was to be loaned, and bonds were to be exacted, to do all of which it was necessary that the association

should become a legally organized corporation. This was effected, *ad interim*, by the action of your board of trustees, which procured articles of incorporation under the laws of Illinois, bearing date of April 14, 1897. I am not aware that this fact, attested by the document which I have laid before the executive committee, has ever been confirmed by the vote of the association. I recommend, therefore, that such action be taken at the present session.

If, however, the condition of the association, and particularly of *The Journal*, is, on the whole, occasion for much satisfaction, certain facts revealed by the report are food for thought. Thus, *The Journal* has an aggregate circulation two and one-half times greater than the aggregate membership of the association. It would seem, therefore, that while the profession at large prizes *The Journal*, it places relatively less than half as much value upon membership in the association. This fact becomes strikingly significant when it is remembered that membership can be acquired by those who are eligible at no additional expense and with but trifling inconvenience. Does *The Journal* fulfil all the wants of the profession arising in connection with the association? Are there no additional advantages to be derived from membership? Is there a lack of *esprit de corps*—a lack of the sense of unity in the profession? Is the existing basis of our national organization distasteful to the majority of the practitioners? Do our subscribers embrace a considerable number of practitioners who, under existing rules, cannot become members, and whose influence, therefore, cannot be secured in behalf of the association? These are questions that I am at liberty to ask, and that you are at liberty to answer.

Another thought suggested by the report relates to the disposition of the accumulating surplus. Shall the present policy for creating a fund for the purchase of property be carried out? Shall a larger proportion of the money be expended in still further exploiting *The Journal*? Shall the members receive a direct advantage from the earnings of the property which they have created, by reducing the annual dues, or shall a certain proportion of our surplus be expended in conducting original scientific investigations on subjects of universal interest to the profession? I cannot resist the temptation in this connection to venture replies to these questions far enough to say that, in my opinion, a reserve should be held in hand large enough to meet any possible contingencies that might occur by fire or other disaster in connection with *The Journal;* that the present generous policy in promoting the welfare of *The Journal* should be continued; that the dues of the association should not be decreased; and that the question of establishing and defraying the expenses of certain commissions for special scientific investigators should be taken under serious consideration. The question of tuberculosis is not yet a closed chapter. The causation of cancer is yet a sealed mystery. The problems of tenement-house reform are not yet solved. The prevention of various endemic diseases has not yet been made practicable. The systematic investigation of the American medicinal flora, begun under the auspices of this association more than forty years ago, remains an uncompleted task. These are a few among the many objects of a specific character which demand and should receive the fostering care of the association.

I feel, however, that at the present moment, and under the existing features of our organization, it would be almost impossible to determine judiciously either of these very important questions, and I now bring them before the association only for the purpose of directing attention to them, with the hope that they may be taken up subsequently and under more auspicious circumstances.

Scientific Work.—The association began its career with general meetings devoted chiefly to questions of medical education and professional conduct, and to lengthy reports from various standing committees. In 1860 it divided itself into a few sections, each with a certain autonomy, and each devoted to a particular part of our great scientific work. This change was followed by the establishment of the judicial council, by which means controversial questions, many of them of a personal character, were eliminated from the general meetings. The subsequent creation of the executive committee still further relieved the general meetings of annoying details. Thus relieved, both the general meetings and the sections have grown in scientific importance, emphasizing the persistence of our devotion to what must ever be recognized as the essential, fundamental object of our organization—the cultivation of the medical sciences. It must be acknowledged, however, that great as has been the progress in this particular, too much of the time of our general sessions is yet devoted to the consideration of matters which might, with propriety, be relegated for final action to a smaller body. It would redound largely to the interest of our annual session if the general membership could be entertained and instructed at our general meetings by exercises of a more purely scientific character, of such broad nature that they should not be restricted to any of the sections. A reform in this particular will be a long step in the direction of progress. The sections, in consequence of the faithful labors of their officers, offer strikingly attractive programmes for the present session. In several of the lists will be found the names of invited guests who, through fortuitous circumstances, are not members of the association, but who are, nevertheless, active workers in the scientific field, and whose participation in our labors will enrich the value of our proceedings and enhance the felicities of the occasion. I bespeak for them your cordial welcome. While the officers of sections and your president have exercised the prerogative of inviting guests, who come as guests, and not as members of any class as specified by the constitution, such invitations have been extended solely with the object of advancing the interests of the association. I look upon this privilege, which has been exercised by all of my predecessors and by previous officers of sections, as one of extreme importance, and one which should be continued under any plan of reorganization which may be adopted. It is my conviction, however, that the privilege should be hedged about by certain limitations, one of the most important of which should be that an invitation should not be extended a second time to any person residing within the United States, whose professional qualifications may entitle him to membership. With reference to the invitation of persons identified with the allied sciences, the matter should be left absolutely to the discretion of the president of the association and with the officers of sections.

Legislative Affairs.—The American Medical Association, during the first fifty years of its existence, exerted relatively little influence upon legislation, either State or national. Since the standing committee on national legislation and the national legislative council of delegates from the State societies have been established, and have become co-operative, there is some evidence that the voice of the profession is heeded at Washington. The experience of the splendid committee of the association, acting in concert with the national legislative council during the last year, has, however, shown the serious necessity for more thorough organization in protecting the interests of the profession, and the interests of society as represented through the profession. The inefficiency of our present organization for influence upon Congress was

shown in the inability of your committee, notwithstanding its strong *personnel* and the influences at its command, to prevent the degradation of the army medical service. This was accomplished by the passage of a bill under the championship of Senator Hawley, by the terms of which the medical corps of the army is subjected to unfair and humiliating discrimination. This law grades the medical department for rank, promotion, and, in consequence, for pay, below every other department and special corps of the army, and, with the exception of second lieutenants, it is graded below the line. In accordance with its provisions, a medical officer, to obtain a colonelcy, must pass through three times as many files as an officer of either the quartermaster's, the subsistence, or the pay departments; more than twice as many as an officer of engineers or of ordnance, and nearly twice as many as an officer of the signal corps. The effect of this discrimination is not only to lower the rank and pay of medical officers, but must result in lessening the efficiency of the corps by repelling men of spirit and worth.

In every war known to history the deaths from preventable diseases have exceeded those due to battle. At no time has hygienic science been so resourceful as at present in preventing disease. A law which fails to give to armies, either in peace or in war, the fullest protection by the application of the latest scientific developments at the hands of specially trained medical men is unjust to the soldier, to society, and to the medical profession. In view of these facts, the army reorganization law of the last Congress was inexplicable and inexcusable. It, however, forces itself upon your consideration from another standpoint. Physicians are citizens of the republic. As such they are intellectually, socially, politically, and officially the equals of any other element of the body politic. There is no station to which they may not attain; there is no distinction of which they may not be the recipients. Their rights are of manhood origin, and their prerogatives are inherent. They are, in very fact, peers of the realm, and the peers of any peers of any realm. When the status of any number of physicians in their representative relationship to society is lowered, the status of the medical profession in general is menaced in corresponding degree. When the Congress, by the enactment of a law, degrades, relatively, the status of an important body of medical men, engaged in the public service, it strikes at the status of every physician in the country. It becomes, therefore, the duty of every member of the medical profession, jealous of his rights, his prerogatives, and the fair name he may leave his children, to resent as personal between himself and every member of the Congress who voted for this law, the action which cast a stigma upon our profession.

It has been the conviction of many enlightened members of the medical profession that the means employed by the general government for the protection and promotion of the public health are capable of improvement. These duties have devolved upon the Marine-Hospital service, which was originally designed to give succor to unfortunate people, without other domicile, who were employed upon our rivers, lakes, and the high seas. With the growth of sanitary science this service, being the only established agency available by the government for this purpose, has been largely diverted from its original object. As a result, under the present wise administration of its surgeon-general, its representatives are abroad investigating the sanitary condition of foreign cities, its agents are at our ports beating back threatened epidemics, while valuable investigations are being conducted in its laboratories. In the exercise of its quarantine functions, however, it comes in conflict with the police power that is guaranteed by the Constitution to the different States. The friction thus engendered has been especially marked in the seaboard States While this is true, the Marine-Hospital service, in scope and design, does not fulfil in highest degree the objects of a central co-ordinating agency for the protection of the public health. It was thought to create a department of public health, with its executive officer in the cabinet, but this idea yielded to that of a bureau in charge of a large advisory council, composed of representatives from the various States. Resolutions have been adopted and memorials have been sent to the Congress, committees have been appointed, money has been appropriated by this association; bills have been introduced, and hearings have been had in committee, with the result that the conditions to-day are precisely the same that they were ten years ago, when the agitation was inaugurated in the session of this association held at Washington.

Secretary Wilson, of the Department of Agriculture, in his report for 1899, recommended that the Congress appropriate money to defray the expense of a systematic investigation of the medicinal flora of the United States, and of experiments upon the naturalization of medicinal plants indigenous to other countries. This recommendation was based upon the fact that the United States is the only great country which either has not conducted or is not conducting such experiments, and upon the fact that the proposed measure, touching the avenues of industry, manufacture, commerce, and the public health, was one of national concern. This measure, however, with its manifest importance, was denied even courteous consideration, while its friends were denied a hearing by the committees of the Congress.

The cause of failure on the part of this association to procure legislation by the Congress—and with the exception of preventing the passage of the antivivisection bill last year and securing the enactment of the quarantine bill this year, our recent efforts must be recognized as failures—I say the causes of our failure are properly subjects for careful consideration. I have examined the records of the association from the date of its organization, and have been profoundly impressed with the fact that memorials, resolutions, or even more definite propositions addressed to the Congress have, for the most part, represented the views, or rather the impressions, of the individual members proposing them. They have generally been presented in the general meeting, and have been indorsed without the deliberation essential for wise action; but a deliberation which is simply impossible in the limited time available in our general meetings. In certain instances memorials to the Congress have been presented at one session of the association, have been reported to committees and reported back for action, either at a later meeting of the same session or at the succeeding annual session of the association. But it becomes evident that this course lessens the evil but a trifle, for the reason that the committees to which such matters were referred have been constituted either under the leadership of the member proposing the measure or of members of a standing committee who had no interest in or understanding of the proposed measure. Such memorials, resolutions, or propositions, when acted upon affirmatively by the general meeting of the association, have, possibly, been mailed to some member of Congress or of a legislature, but were not followed by effective work in the rank and file of the profession or among their patrons. When such bills have been presented to the Congress, and have received a certain amount of support from representatives of this association, they have, as a rule, attained only that degree of importance that have made them valuable to their ostensible champions, as some-

thing to trade in the game and barter of legislation for something which would please a larger number of constituents and command a larger number of votes. In view of the fact that, after all, the argument of votes is the only one which appeals effectively to the average congressman, it behooves this association, in its efforts to conserve the interests of the profession and of society, to put itself in position to influence the largest number of votes. Every physician, therefore, should, in a perfectly respectable sense, become an active working politician. This subject, however, is of such breadth and of such depth that it may be well for us to pause at this juncture long enough to consider, from the standpoint of fundamental facts, the relationship of physicians to each other, and of the medical profession in the aggregate as an integral factor in society.

The Profession, the Association, and the Commonwealth.—In approaching a study, however brief, of the relation of the medical profession to the state, or, as I prefer to call it, the commonwealth, I feel that I am inviting your attention to an eminently practical theme; one which may enable us to understand the influences by which we have arrived at our present estate, and the means by which we may advance to even greater achievements. As we approach this theme —this eminently practical theme—we discover that the status of the medical profession, like that of every other element of that complex whole which we call society, is a perfectly natural one. Whatever it may be, it has been attained in the process of evolution, and has been, and is, determined by laws as immutable as those which govern the commingling of atoms or the sidereal strides of the planets. It is not the result of conventions or of resolutions or of statutory enactments; but these are to be interpreted rather as *indiciæ*, for the time being, of the position of the profession in the body politic. They are, indeed, consequences rather than causes, and as such they are subjects for careful inquiry. It is by a study of them that we are enabled in part to determine those laws, those natural laws, our harmony with which is essential, not alone for the present usefulness and continued progress of the profession, but for the ability of the medical profession to conserve the welfare and promote the happiness of society at large.

But I have said that the position of the medical profession is a natural one. The truth of this declaration is apparent when we go back to the beginnings of society—when we examine the evidences presented by primitive peoples. We are familiar with the classic example so frequently utilized as a starting-point in the discussion of sociologic phenomena—the example of the two aborigines, one of whom makes better arrows and the other better mats than his companion, when, presently, one confines himself to arrows, the other to mats, each trading his own for the other's product. Here is an example of the beginning of what the scientists call "specialization of function in the social organism." It is an interesting process, which, based upon varying necessities and diverse aptitudes, results in multiplication of handicraft until somebody is hurt. This is a new necessity, and it is met by a new aptitude, and the possessor of that aptitude—the medicine man, our honored progenitor—steps upon the scene. His companions, appreciating his services, reward him with their arrows and mats; and he, finding the life to his liking, restricts himself to his new-found vocation—and the medical profession is established! As the necessity for his services, whether of charm or incantation, becomes more apparent, the esteem of his fellows becomes more pronounced. As events progress he is accorded certain rights, given certain prerogatives, and hedged about by certain limitations, all calculated to increase his efficiency in promoting the common welfare—and thus is the practice of medicine regulated. He is spared from the battle that he may serve his companions, and he stays away from the chase that he may delve into the great mysteries—and thus is medical education inaugurated. He is the exponent, not only of his professional knowledge, but of at least the average intelligence of his people. He is, in short, an integral part of the primitive social fabric. As such, he shares the manners, the customs, the aims, the ambitions of his companions; and he, with them, is controlled by the forces which determine the common state and the common destiny. His status is, therefore, determined by the very laws which control the growth and development of society itself. So true is this that, from the dawn of history until the present day, and in every stage of sociologic development, the civilization of a people may be infallibly determined by the intelligence, the efficiency, and the influence of its medical profession.

The Medical Profession and Society Fifty Years Ago.—It would not be to our present purpose to follow the evolution of society as exemplified in any of the civilized people, or, as the scientists say, "distinct ethnic entities of the world," in which the present complexity has been attained by an orderly succession of events. And it would be equally unnecessary to show, what everybody knows, that the medical profession, the heritor, in common with others, of antecedent influences, has been propelled by the same forces and by equally orderly events to precisely the same standard of civilization. The lesson before us is that of the relation of the medical profession to a society, which, but a few decades ago, was the most diverse in origin and the most heterogeneous in constitution known to modern history; but a society which at the dawn of the twentieth century is one of the largest, richest, and most intelligent of the world, a society well amalgamated, and which by common consent of even adverse critics is moving in harmony with the most advanced influences of civilization. I fancy I should suddenly find myself unpopular with the audience if I were to intimate that you, who comprise it—that you, the representatives of the medical profession —have failed to contribute your full quota to the great progress which that society in general has achieved, or that you do not reflect in intelligence and morality the highest type of civilized man. I hasten to allay your apprehension, for I have no such intention. On the contrary, I ask you to indulge with me in a retrospect of American society during the last half-dozen decades, that we may the better understand the important part that you, and the profession that you represent, have played in the attainment of present results.

As I have already stated, the middle of the nineteenth century found diverse conditions of society in the United States. The older cities of the seaboard were the centres of an advanced civilization. The remoter counties of the same State, however, were then, in the absence of railroads, the telegraph and modern mail facilities, more remote from the centres of American influence than is St. Paul to-day from St. Petersburg. The great tide of emigration that had already poured and was yet pouring over the mountains and spreading in lonely habitations or widely separated communities over the vast valley of the Mississippi from the lakes to the Gulf was busily engaged with the serious problem of existence. The forest was to be felled and the prairie was to be subjugated, habitations were to be built and crops were to be raised. In the midst of these exactions, institutions of higher learning were established, and to an extent patronized, and some strong men were produced. But it must be recognized as true that society in general had but little time and less money to devote either to schooling

or to the amenities of life. The medical profession, under these circumstances, was precisely like the community of which it was a part. There were but few medical colleges, and they, for the most part, were but meagrely equipped. Many doctors became such while going from one town to another. Ignorant inventors of alleged systems of cure hawked their wares in the highways and the by-ways. Dogmatism that was destructive to intelligence was rampant, while schism was fostered by the baneful commercialism that too generally pervaded the heterogeneous mass of forty thousand people that comprised the medical profession. In eight of the twenty-six then existing States no laws affecting medical practice had ever been enacted; in eleven, laws previously enacted had been repealed; in three only were there any restrictive laws, and these proved inefficient; while the facts could not be ascertained relative to the remaining four States.

The Era of Attempted Voluntary Regulation of Medical Practice.—To remedy these evils, and actuated by the love of science, the promptings of self-interest, and by devotion to the interests of humanity, representatives of the various State medical societies met in convention over half a century ago and organized the American Medical Association, with the avowed object of having its members represent and take cognizance of "the common interest of the medical profession in every part of the United States." It sought to cultivate medical knowledge among its members, to elevate the standard of medical education, to promote the honor and influence and interests of the medical profession, and to enlighten the public concerning the relation between the medical profession and society. Emulation and concert of action in the profession and friendly intercourse among those engaged in it were additional aims of the founders of this great body of representative American medical practitioners. A constitution, by-laws, and certain rules of conduct were adopted. The constitution provided for a delegate body, delegates being accredited from recognized medical societies, medical schools, and eleemosynary institutions. The rules of conduct prescribed in detail the deportment of a physician, the deportment of the patient, interdicted the licensure of sectarian physicians, and proscribed from consultation those whose practice was based upon an exclusive dogma. The influence of the new association was extended chiefly through the avenues of the various State societies, many of which adopted the rules of conduct that had been prescribed by the newly formed national body as the basis of affiliation. Several of the State societies, notably those of Massachusetts, Rhode Island, and Mississippi, finding either that the prescribed rules of conduct were not suitable to their respective local conditions, or feeling that they were sufficiently in touch with the ordinary forces of civilization to require no such formulæ, never adopted the rules of conduct prescribed by the national body. The medical association of Alabama adopted the rules with rather a *naive* proviso that somebody be appointed to call attention to such of the special teachings of these rules "as may seem to require elucidation in view of special circumstances and conditions." Other State societies adopted more or less modifying resolutions, but the general spirit of ostracism and aloofness was maintained during the succeeding three decades. The result of this movement was immediately salutary; it developed an *esprit de corps* in the great body of the profession; it gave an authoritative definition to medical education, and it created a strong and influential national body within the profession. At the same time, however, it became apparent that the organization did not possess the necessary inherent strength to accomplish its avowed object to regulate the practice of medicine. As time passed schismatic medicine grew apace, its colleges multiplied, its practitioners appeared all over the country, exemplifying that law that always makes the blood of the martyrs the seed of the church. Quackery of the most flagrant character was found everywhere, and society was unprotected from its ravages, while the inability of a voluntary unchartered organization to enact and to execute plenary laws was reduced to a demonstration. The medical profession, as an organized body, discovered that its relation to the common wealth was, as the result of its own proscriptive policy, scarcely more intimate or more influential than at the beginning of the thirty years' hopeless experiment.

The Era of Effective Legislative Control of Medical Practice.—The era of effective legislative control of medical practice came as the natural reaction from the demonstrated failure to accomplish the same result through voluntary organization; but it came as the result of the sentiment which had been propagated largely through the influence of this association. The representatives of progressive medicine, turning from the national association, invoked the aid of their respective State societies in taking up the question with their respective legislatures. The profession in each State, however, recognizing its own local conditions, proceeded in its own way to attend to its own business. The very earliest attempts to secure State legislation revealed the fact that the so-called irregular practitioners, under the stimulus of ostracism and the fostering care of public sympathy thereby induced, had become so numerous and so influential that in the majority of States nothing could be done without their co-operation. It was no longer a theory but a condition with which the real reformers were confronted—and they met it. California, in 1876, through its regular medical society, took the initiative. After conferences with the representatives of the sectarian societies, and after securing their co-operation, a law was procured creating a licensing board composed of representatives of both the regular and sectarian schools of practice. Illinois, confronted by precisely the same condition, took precisely the same course. Alabama, always progressive, but the happy possessor of other conditions, was able to place the regulation of medical practice for the time being under the control of its incomparable State medical association. Colorado created a mixed board. New York, confronted by conditions even more complicated than those in other States, took up the same task. The profession of that State, acting through its organized body, containing among its members many of the most honored and illustrious names in American medicine, found it doubly necessary to enter into treaty with the denominational physicians. It realized, however, that the rules of conduct to which it had always conformed contained, among other provisions, one which made it unlawful to "examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with, the graduation of, persons whom they had good reason to believe intend to support and practise an exclusive and irregular system of medicine."

As the thing expressly interdicted by this rule was the very thing which it was proposed to do, and which had been done in other States, and which it was very necessary to do in New York, the medical society of that State amended the rules of conduct so that it or its members might, at discretion, enter into professional relations with any or all persons whom the law of the State at that time recognized to be practitioners of medicine. When this action was brought to the attention of this national body it resulted, not as might have been expected, in the amendment or the abrogation of the rule which had grown obsolete in the march

of events, but in its tacit reaffirmation and in the opprobrious excommunication, for the time being, of the entire profession of the great Empire State. This action, viewed impartially after the lapse of nearly twenty years, becomes the more extraordinary when it is observed that similar action was never taken with regard to Massachusetts or Rhode Island or Mississippi, the societies of neither of which had ever adopted the prescribed rules of conduct; nor with regard to California or Illinois or Colorado, each of which had, by overt act, if not by open declaration, so far as this rule is concerned, taken an equally non-conformist position. It is not surprising that, with such an example before the State societies, the experiment in consistency has not been repeated. But the movement of effective regulative legislation, once inaugurated, happily spread with great rapidity. Mixed boards of licensure are now to be found in the majority of the States of the Union, and in the majority of such boards are to be found members of the American Medical Association engaged in issuing licenses to practitioners of exclusive dogmas, and sitting in consultation with sectarian physicians, not over a dose of medicine, but over the vastly more vital question of the qualifications of those who are to care for the sick of our republic.

The Medical Profession and Society at the Beginning of the Twentieth Century.—The results of the twenty-five years of statutory regulation of medical practice are in striking contrast with the results of the quarter of a century of attempted regulations by methods of proscription. At the conclusion of that humiliating experiment, as at the beginning of it, there was not a single effective medical practice law on the statute books of a single State of the Union. To-day there are forty-eight State or Territorial licensing boards, the most of them being composed of representatives of both the regular and the sectarian schools of practice. The laws of the different States are of varying efficiency, the one procured by the Medical Society of the State of New York, at the price of yet-maintained excommunication from this body, standing to-day as the model of excellence for the entire country. Under the influence of these laws, instigated by members of the American Medical Association, and which, after all, are but expressions of the sentiments of the medical profession confirmed by society at large, many substantial reforms have been accomplished. The medical schools, which, in this country, have labored bravely and efficiently under adverse conditions, have been stimulated to increased efficiency. One of the first changes accomplished was the practical standardization of requirements to enter practice; and one of the first features of this standardization was to secure for the student "the aids actually furnished by anatomy, physiology, pathology, and organic chemistry"—the four cardinal studies which, strange-sounding as it seems, it was necessary solemnly and specifically to insist upon a half-century ago. It follows, therefore, that with broadened and increasingly uniform curricula, it cannot be said that schools even of sectarian antecedents entirely "reject the accumulated experience of the profession," nor can it be said that, in a sectarian sense, they any longer possess an excuse for existence. Their graduates, or such of them as do not base practice on an exclusive dogma, are, in many instances, met in formal consultation by even conservative regular physicians, and, in more than one instance, are made members of medical societies that are in affiliation with the American Medical Association.

The Illinois State Medical Society, which has always been among the foremost in reform movements within the profession, at its recent annual session unanimously—

"*Resolved*, That the school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local societies as qualified and not claiming to practise any exclusive system of medicine."

The Ohio State Medical Society, by precedent, if not by formal action, established the same rule.

We thus see that the proscriptive rule which, during the more than twenty-five years of its dominance, propagated the very evils it was intended to correct, is rapidly expiring by limitation in the face of new conditions that have been induced, in spite of it, by beneficent and catholic legislation. In the State of New York alone the annual registration of sectarian physicians has diminished nearly ninety per cent. under the operation of its present laws. In the State of Ohio many physicians who are graduates of sectarian schools are making application to have their classification on the register changed to "regular," while equal reactionary movements are observable in other States. Thus we observe the passing of Homœopathy and Eclecticism just as did the calm scientists of Rome witness the passing of the "Humoralism," the "Methodism," the "Eclecticism," and the "Pneumatic School" of that period; and just as passed the "Chemicalism," the "Iatro-Physical School," the Iatro-Chemical School," and the "Brunonianism" and the dozen other "isms" of later epochs, each leaving its little modicum of truth as the memento of its existence. And let us felicitate ourselves that, with the passing of the particular sectarianism of the last century, there is also the passing of its concomitant evils, such as existed in even greater degree in the time of Galen, who "found the medical profession of his time split up into a number of sects, medical science confounded under a multitude of dogmatic systems," and, as if relating the effect of the cause, the historian continues, "the social status and the moral integrity of the physician degraded." The further results of this new order of things however, are observable, not alone in the modified curricula of the medical schools, but in the changed organic relations of the institutions themselves. Under the pressure of legal requirements the weight falls with almost fatal force upon the small, private, and poorly equipped institutions. These institutions, in the interest of self-preservation, and to protect the respectable alumni, are forced either to expand their enterprises or to seek relations with universities which are deeply founded in the community; or else actually to go out of existence. The majority of the schools seek connection with the universities, by which step alone they become logical objects for endowment, and it is to be hoped that this movement will continue until in this great country medical education shall be as firmly established as it is to-day in any of the transatlantic nations.

Another of the new conditions which have developed within the last quarter of a century, as the result of an increasing professional unity, is the efficient sanitary regulations, national, State, and municipal, that now afford protection to the people from diseases that were formerly devastating in their effects. It is not necessary in this audience to mention smallpox, cholera, typhoid fever, diphtheria, anthrax, leprosy, and the bubonic plague, each of which has been brought under relatively effective control, but I do feel that it is necessary to emphasize the fact that there are many unsolved problems relating to the prevention of disease that stand as a challenge to the industry, the ingenuity, and the courage of the profession. While these various changes have taken place, others of almost equal importance are observable in the relations of physicians to society. While the community, instigated by the medical profession, has given to that profession a legal status, definite and increasingly influential, and has given it certain prerogatives and certain exemptions,

it has, likewise, hedged it about with certain limitations and imposed upon it certain liabilities. There are numerous laws, both common and statutory—*lex non scripta* and *lex scripta*—that admonish the physician that his conduct carries with it a liability not defined by self-imposed rules, and the numerous courts of our land proclaim that there are tribunals "other than his own conscience to adjudge penalties for carelessness or neglect" on the part of the physician. So numerous, so unjust, and so disastrous are actions before such tribunals that they have caused the development of a new, legitimate, and beneficent enterprise, in the development of a company to insure physicians against malpractice. It may be true that in certain States and localities these laws are unjust, and that there is a grave error in their administration by judges created under our wretched elective system; but if so, the facts only emphasize anew the necessity for more complete organization of the profession and for the more active exertion of its influence upon elections.

The Reorganization of the Association.—This brings us again to a realization of the fact that the results that can be achieved only by the unification of our national profession cannot be attained under the present organization of our association. The disproportionately rapid growth of *The Journal* as compared with that of the association can have no other significance. The weakness of the committee on legislation at Washington was a question neither of personnel nor of industry, but arose purely from the fact that there was no efficient organization in the rank and file of the profession by which speedy and effective influence could be brought to bear upon members and senators. Equal difficulty has been encountered in several States where organization has been similarly defective. The demand for more effective organization of the association has come from all over the country and resulted in the adoption of a motion at Atlantic City authorizing the appointment of a committee of three to report a plan of reorganization at this session. Another motion was adopted authorizing the creation of a supplementary committee of one from each State and Territory, entitled a committee on organization, which has been filled by appointing for the most part the retiring presidents of State societies for the current year. The committee on reorganization, consising of Dr. J. N. McCormack, of Kentucky; Dr. George H. Simmons, of Illinois, and Dr. P. Maxwell Foshay, of Ohio, has given to the important question entrusted to it a most careful and painstaking consideration. It has laid before you the results of its deliberation. In doing so it has emphasized the principle that this association has its origin in the organized profession of the respective States. It emphasizes the fact that the delegate body should be so small that it can remain in prolonged session and give to various subjects under consideration that deliberate attention which has not been possible under the existing scheme of organization during the last forty years. It recognizes the paramount importance of the scientific feature of our work by relieving the general meetings and the sections alike of the troublesome details that now consume the limited and valuable time of the sessions. It remedies the glaring and serious defects in the present constitution. It prepares the association, by perfecting the organization, to meet important and pressing questions. These considerations, together with the fact that the existing constitutional provision relative to delay of action on pending amendments has been met by the appointment, a year ago, of a committee for the avowed and published purpose of reorganization, and by the action of the committee in laying the results of its work before every member of the association—I say these considerations, and these facts, prompt me to advise the adoption of the proposed constitution and by-laws in their entirety at the present annual session of the association.

The committee on reorganization, under the restrictions of the resolution creating it, has, very properly, left undisturbed the existing rules of conduct. These if construed to have a fundamental importance, and if vigorously enforced as they now stand, would disintegrate the association in a single day. This reason, and others already given, confirm me in the conviction that such rules should be either amended or abrogated, or, if reaffirmed, it should be by general resolution endorsing their underlying principles but disclaiming the present applicability of their details. There are, however, various views entertained upon this subject; and that the matter may be approached in a spirit of tolerance, may be discussed coolly and impartially, that a consensus may be reached, and that harmony may be attained, I recommend that the general questions of the revision of the rules of conduct be referred to a special committee on ethics, consising of three members, with instructions to report to the legislative body at the next annual session of the association.

The New School of Medicine.—The changes which I have advocated are essential for the attainment of the purposes of the association and for the fulfilment of the high destiny of our national profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it be only the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretension to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending today, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the democracy of science; to you, citizens of the republic of letters, I extend greetings; and here in our parliament assembled, here where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth.

INTERNAL MEDICINE IN THE NINETEENTH CENTURY.[1]

By N. S. DAVIS, Jr., M.D.,

CHICAGO.

It is one of the duties of those who address you, as I do to-day, to review what has been newly discovered in the field of medicine or in some limited department of it. At this first meeting of the American Medical Association in the twentieth century, it seems most natural to review what has been accomplished in the last one hundred years. The time at my disposal is too brief to read to you a complete history of the achievements of this wonderful epoch, for more of genuine advancement has been made in medicine during it than during all the preceding centuries together. It is possible for me to point out only some of the reasons for the rapid development of medicine, to recall to your minds some of the most important discoveries and applications of them.

A century is not so long a time as we are apt to think. Our grandfathers were vigorous men, in the prime of life, when the nineteenth century was born. Yet changes so great that they seem miraculous have occurred since then. In 1800 this great country was a wilderness, unknown even to the inhabitants of the few straggling settlements upon the Atlantic coast. Our land contained no great cities. There was little travel from place to place. There were no steamboats nor railways; no telegraphs nor telephones. Information travelled slowly by packet ship, canal boat, and stage coach. The discovery of the wonderful properties of the x-ray could not then have been flashed over the world in a day and its genuineness and utility confirmed within a few weeks by experiments made simultaneously in all parts of the world, as did happen at the close of the century. To-day all civilized peoples are so united that knowledge has become the common property of them all. In former epochs geniuses delved alone, inspired only by their own enthusiasm. Often it was many years before their discoveries became widely known or appreciated; and many more before another genius standing upon land already found ventured upon its exploration.

All this has been changed. Learning is not possessed by a few but by many. In earlier epochs men of genius towered above their contemporaries in learning. To-day thousands crowd about their shoulders, so much higher is the average of learning. All scientific workers are now linked together by the rapid dissemination of news, so that, no matter in what part of the world they may be, they are kept conversant with what is being thought and done in every other part, and they are thereby inspired to greater mental efforts.

Knowledge is no longer isolated. It is cultivated in centres too numerous to count. Even in this new land universities with great libraries, finely equipped laboratories, and corps of brilliant teachers and seekers after new knowledge, are found in every part of it. Medical societies have been organized in every State and city, and in many counties and towns. But at the beginning of the century there were only four medical schools in this country, and four State societies, organized for the advancement of medical knowledge.[2]

These changes have been effected chiefly by the rapidity of communication which has been established in all civilized lands, and by the greater concentration of the people in large cities.

But it is not in the United States only that the population has increased and concentrated. In 1801 the total population of England and Wales was less than nine millions. Of this number more than half lived in the country. At the end of the nineteenth century the population of the same countries was more than twenty-nine millions, and only one-fifth of this number lived in rural districts. These figures attract our attention to the social changes which have occurred in all civilized lands—changes which have effected not only a greater diffusion of knowledge, but have also modified the conditions which produce and limit disease.

At the opening of the nineteenth century, Cullen's "Practice of Physic," written late in the preceding century, was the standard text-book. A glance at its contents will give us the clearest conception of the state of medical knowledge at that time. In an edition of this work printed in New York City in 1806 I find no description of structural diseases of the heart; even as a complication of rheumatism heart disease is not mentioned. A single page is devoted to nephritis, but in its description there is no mention of the chemical and microscopical changes in the urine upon which we depend to recognize it and to distinguish its forms. The affections of the respiratory organs were described with similar crudeness, under such chapter headings as "Of Catarrh," "Asthma," "Pneumonic Inflammation," "Peripneumonia Notha," and "Phthisis Pulmonalis," but the catarrhal inflammations of the nose, pharynx, trachea, and bronchi were not differentiated from one another, nor were catarrhal and croupous pneumonia, brown induration, hypostatic congestion, and œdema of the lungs described.

The hypothetical explanation of diseases and their causes which prevailed at that time is well illustrated by the conclusion reached by Noah Webster, who, in his "History of Epidemics and Pestilential Diseases," writes that typhus and nervous fever are due to "conversion of the perspirable fluids of the body into septic matter."

Nothing will help so much to make clear the progress made in medicine in the last century as to compare the resources at the disposal of physicians of our day with those commanded by our grandparents. At the opening of the nineteenth century medical men knew nothing of the clinical thermometer, of percussion, auscultation, uranalysis, clinical microscopy, laryngoscopy, ophthalmoscopy, of the sphygmograph, or Roentgen rays.

It was not until the year 1808 that Corvisart spread widely a knowledge of percussion as a means of discovering the physical status of the viscera, although the work of Avenbrugger which he translated, and which was the original description of percussion, had been published nearly fifty years before. The work of Avenbrugger and Corvisart was supplemented in 1819, when Laennec published the result of his labor with the stethoscope which he invented four years earlier. From this time dates our clinical knowledge of diseases of the lungs and heart.

In 1827 Bright pointed out the relationship of albuminuria, dropsy, and diseases of the kidneys. At this point clinical chemistry may be said to begin.

At the beginning of the nineteenth century compound microscopes were almost useless, for the images which their lenses made were so distorted and colored that they could not be properly interpreted. In 1812 Dr. William Hyde Wolleston combined two plano-convex lenses so as to correct the spherical aberration which a single double-convex lens produces; and nearly twenty years later Joseph Jackson Lister discovered the utility of combining lenses of crown and flint glass in order to produce an image in the microscope relatively free from distortions and fringes of

[1] Annual oration in medicine, delivered at the fifty-second annual meeting of the American Medical Association, held at St. Paul, Minn., June 4–7, 1901.

[2] The colleges were medical departments of Pennsylvania, Columbia, Harvard, and Dartmouth (founded 1797). The societies were New Jersey (1766), Massachusetts (1781), Connecticut, and New Hampshire (1791).

color. The more recent invention of the oil immersion lens has made bacteriology possible, and has solved many of the problems of infectious diseases which puzzled even our fathers in the fifties and sixties.

The dependence of medicine upon ancillary sciences is well illustrated by the sudden birth and rapid development of new branches of medical knowledge which are dependent on the perfection of the microscope.

This instrument has made histology, embryology, modern pathology, and bacteriology a possibility. These departments of science are altogether products of the last century.

It was at the beginning of the century that Bichot divided the structures of the body into what he called "tissues," and showed that there were only a few of them. It is surprising that the great anatomists before him did not make the same discovery.

As modern anatomy has been dependent upon the microscope in order to explain structures, so physiology has been dependent upon experiments on living animals to explain function. It is true that in earlier epochs at considerable intervals of time experiments upon living animals were made, notably by Harvey, when he studied the circulation of the blood, but they were never made systematically until the discovery of anæsthesia in the nineteenth century made them painless. No wonder, therefore, that the explanations made by physiologists in 1800 seem to us extremely crude. Haller, for instance, whose printed lectures formed the text-book of most students at that time, thus describes the nature of blood: "Hydrostatical experiments demonstrate in the blood first a kind of volatile vapor or exhalation which immediately and continually flies off from the warm juice with a sort of fetid odor coming betwixt that of sweat and urine. This vapor, being catched and condensed in proper vessels, appears of a watery nature joined with a small tincture of an alcaline disposition."

A few pages further on what he says of the blood gives us an idea both of the state of physiological and pathological knowledge at that time: "For the blood in a sound healthy state, not injured by putrefaction or too violent a degree of heat, is neither alcaline nor acid, but mild and gelatinous and a little saltish to the taste; yet in some diseases it is sharp enough and comes near to a state of putrefaction, as, for instance, in the scurvy, when it corrodes through its containing vessels, and in those who have ascites or dropsy whose waters are often much of an alcaline and corroding nature."

At the close of the eighteenth century the part which gland cells play in forming secretions was not comprehended. It was believed that "the albuminous or hardening juices are separated almost anywhere from the arteries themselves, into continuous excretory canals, with any intermediate organ or machine betwixt them." It was believed that all excretions existed primarily in the blood.

The physiologists of this period appreciated the importance of the lungs and the act of respiration, but their exact use they did not comprehend. Haller enumerates several possible functions which they might perform, yet he did not feel sure that any one of them were the real ones. For instance, he says: "Our blood acquires its heat principally in the lungs, for that all animals which have lungs and two ventricles in the heart have the heat of their blood commonly twice that of the atmosphere. But does not this arise from the alternate extension and contraction, relaxation and compression of the pulmonary vessels by which the solid parts of the blood are perpetually rubbed together and closely compressed in the attrition that is made during expiration, as it is more rapidly moved and ground together during inspiration?"

Our forefathers one hundred years ago often endeavored to hide their ignorance in long names and resounding phrases, a common practice, indeed, in all times, and not wanting to-day, for how much ignorance will our successors find hidden in words now so commonly used as are metabolism and auto-intoxication?

Pathology as a distinct department of scientific medicine originated in the nineteenth century. It was not until 1860 that Rudolf Virchow demonstrated conclusively his famous dictum: "*Omnis cellula e cellula.*" His studies of cells in disease laid the foundation and did much to rear the superstructure of cellular pathology. So rapidly has a knowledge of this subject grown that we can unhesitatingly say that we now possess very accurate and detailed information as to the anatomical changes which disease effects. The insight of physicians was so greatly extended into the nature of morbid processes by these pathological studies that enthusiastic devotees of them felt that the application of the microscope to the study of disease would dispel its mysteries. Increasing information, however, soon demonstrated the limitations which exist as to knowledge derivable from a study of morbid anatomy. Most of us remember how, soon after the birth of bacteriology, it was also hoped that from it at least we would learn the true essence of disease. But we know now that in most ailments after the bacteriologist has discovered the offending micro-organism the chemist must help us, for it is usually a product of its growth, not its physical presence in the tissues, that causes disease.

The production of disease by parasites embedded in the tissues of the human body was suspected from early times, but was not demonstrated until the end of the first third of the nineteenth century, when James Paget, then a medical student, found unusual nodules in the muscles of a man whom he was dissecting. These Richard Owen demonstrated to be the cocoon of a minute animal which he called trichina spiralis. In 1847 Dr. Joseph Leidy, of Philadelphia, found them also in pork, and soon thereafter it was shown in Germany that men could become infected by eating pork containing trichina, and that in consequence there developed in them a definite train of symptoms.

In 1837 Latour in France and Schwann in Germany almost simultaneously propounded the view that fermentation and putrefaction are due to the growth of micro-organisms. Liebig, with all the weight of his authority, antagonized this belief in a "vitalistic" explanation of these phenomena. Pasteur undertook to settle the dispute by methods of research, which proved to be the foundation of a new department of science—bacteriology. The results of his experiments were published between 1857 and 1869. He proved that without micro-organisms there could be no fermentation, no putrefaction or decay. These studies prompted many investigators to attempt to demonstrate the suspected relationship of micro-organisms to disease. In 1863 Devaine succeeded in showing that the organisms, seen by him in 1850 in the blood of animals which had died of anthrax, were its cause. This, as some of those before me will remember, aroused a storm of controversy which was not settled finally until after my own student days.

Formerly, such vague terms as "miasm," "humor," and "virus" were used to explain the communicability of contagious diseases, but they have had to be discarded or to be newly defined by the bacteriologist. It was in the sixties that Lister made his studies upon the relationship of micro-organisms to wound infection. The brilliant, revolutionary results of those studies are too well known to you to require elaboration; besides they belong to the history of the nineteenth-century surgery rather than to the history of internal medicine. They were, however, so important

in settling the relationship of invisible parasites and diseases that they must be mentioned.

It was at this time, too, that Pasteur and Tyndall finally settled the controversy over spontaneous generation which had raged from time immemorial. The world at last felt convinced that even micro-organisms could not exist where an antecedent organism had not been.

It is needless to recapitulate the long list of discoveries rapidly made from this time onward of the causes of infectious diseases, by such men as Koch, Klebs, Loeffler, Fraenkel, Laveran, and many others.

Although medical men have been incited to search for the causes of disease in order that they might understand their nature better and therefore be able to treat them better, such studies naturally led more directly to the prevention than to the cure of disease. That is why the recent epoch-making bacteriological discoveries have greatly stimulated the study of preventive medicine. It is true that the prevention of disease has engaged the attention of medical men and statesmen since the earliest times, but the subject was not studied systematically before the last century.

Hygiene as a separate department of medicine, with a literature of its own, was created only in the nineteenth century.

While, in the eighteenth century, much was done to improve the hygienic state of individuals, and as a result there began before its close to be a reduction in the mortality rate, which has continued up to the present time, public hygiene or attempts to prevent the spread of disease by state and civic interference was not fairly established until very recently. Even to-day small communities have no health officers or sanitary inspectors, and few regulations which are intended either to inform the people as to the relative healthfulness of towns and hamlets or by which the spread of disease is to be lessened. These facts show how new and undeveloped as yet the field of public hygiene is. The mortality statistics which have been gathered in cities since the middle of the last century make it possible to point out which among them are the healthiest, and which diseases are the most destructive. It is to be hoped that these statistics in the future will be supplemented by reports of the kinds and amount of illness, whether fatal or not, that may exist in a given place.

The knowledge recently acquired of infections and their spread has already been applied to their prevention. Such diseases as erysipelas, septicæmia, and tetanus no longer torment surgeons when they can make clean wounds. But as late as 1870 the first of these ailments was common in the hospitals of France. Puerperal fever is to-day as rare as it was common formerly. Typhus fever no longer exists in America, although not uncommon at the beginning of the last century.[1] Indeed, it is rarely seen in any civilized country to-day. At the beginning of the nineteenth century smallpox was so common that few persons reached adult life without having had the disease, and the mortality from it in childhood was great. What is the status of this disease to-day? I venture to say there are many physicians in this audience who have never seen a case, and that a majority of them have not treated more than four or five cases during their whole professional experience. In the early days of this nation's history yellow fever spread to Philadelphia and New York, and provoked much discussion, for it was feared that it would prove as great a pest as cholera. A careful study of the disease and a consideration of the possibility of preventing it was referred to a committee of the New York Medical Society, which reported that yellow fever may be produced in any country by pestilential effluvia. How different is this conclusion from that of recent students of the subject, who assign to it a specific cause, which is transmitted from man to man by mosquitos, which are its host.

Cholera has been brought to our shores several times in the last few years, but its spread has been prevented in each case. In Europe it has also been limited to comparatively small areas. Within a year the plague has been found in this country, in Great Britain, and France, but has caused little alarm, so great is the confidence that it will be successfully suppressed. (Let us hope that this confidence is not misplaced.)

What has been accomplished during the last one hundred years by internal medicine the following statistics will show in part, although it must be remembered that mortality statistics gathered before the middle of the century are not reliable. It is estimated that in 1805 in New York City from 35 to 40 deaths occurred in every 1,000 inhabitants. During the last decade it has averaged 20 in 1,000, and has been as low as 19 in 1,000. In 1847 the mortality in London from zymotic diseases was 23.26 per cent.; during the last two decades 19 to 20 per cent. In 1846 the deaths from consumption were 12.67 per cent.; now approximately 9 per cent. The mortality from diseases of the respiratory organs has been reduced in the same time from more than 12 per cent. to about 7, and the mortality from diseases of the digestive organs has diminished from about 6 per cent. to less than 5. In Chicago the mortality rate has fallen, with small fluctuations, from 46 and 64 deaths per 1,000 inhabitants in the cholera years of 1852 and 1854 to 14 in 1898. The following diseases are among those in which the death rate has fallen progressively: Cholera infantum, croup, diarrhœa, diphtheria, dysentery, malaria, measles, scarlet fever, and whooping-cough. These are ailments the spread of which has been controlled either by isolation or by insuring the people purer food and water. Although the general mortality of Chicago, which is typical of the great cities of civilized countries, has improved, there are some diseases which are increasing in prevalence, notably nervous diseases, heart diseases, cancer, Bright's disease, bronchitis, and pneumonia. To the discredit of my native city must it be said that the mortality from typhoid fever reached its highest point at the close of the century, during 1890, '91, and '92, although its cause and its mode of dissemination, as well as its prevention, were well known.

The general lowering of the death rate is due to the improved hygiene of communities. In what the improvement has consisted is best shown by recalling some of the conditions under which people lived in 1800. At that time few cities had an adequate public water supply. In London water could be delivered at any house three times a week by one of the water companies; but most households depended upon wells. The sewerage system was quite as imperfect. Outhouses and cesspools were attached to each dwelling. The conveyance of sewage from houses by water did not become general until well into the last century. Ventilation of buildings, and especially of public halls, had attracted attention before the nineteenth century; but the real causes of danger from bad ventilation were not appreciated until bacteriology disclosed them.

In 1800 streets were not paved, and rarely cleaned. The habits of the people as regards eating and drinking were bestial. Excessively large quantities of food were consumed by all who could provide it. Alcoholic beverages were universally drunk, and generally in

[1] Typhus forms an item in the mortality reports of Chicago (and other American cities) as late as 1886. This is probably because it was confused with typhoid. Not during the first quarter and rarely afterward genuine typhus occurred in this country.

immoderate quantities. No disgrace attached to drunkenness; and it was customary for a man to drink several bottles of wine at a sitting.

Those who compose this audience appreciate how much illness must have been caused by these habits, and how much the relative abstemiousness or temperance of to-day has lessened the percentage of disease.

Prevention of diseases is possible only when a knowledge of their causes, their mode of dissemination, and methods for their suppression is possessed by all the people. Medical men alone cannot stop their spread, nor will the making of laws do it. Only the intelligent co-operation of those who are ill and those who are well can accomplish it. It must not be expected, therefore, that as soon as the cause of a disease is discovered, that ailment can be suppressed. Time is required in which to educate all classes of people on that particular subject. Unfortunately, many persons are so obtuse that they will not believe in methods of prevention even when the fullest demonstration of their success has been made. A notable instance of this is seen in the recent repeal of laws in England which made vaccination compulsory. The ease with which drinking-water may be become contaminated and the danger to health from contamination is not even now appreciated by the public. It is partly because such thorough knowledge is needed by the laymen that tuberculosis, diphtheria, pneumonia, typhoid fever, and similar troubles have not been better controlled in the past. In order that in the twentieth century the fruits of the great discoveries of the last may be gathered, all members of the medical profession must fit themselves to teach their patients what is known of disease and its prevention. Those who are especially adapted to do so must disseminate their knowledge by popular discourses and essays. When hygiene shall be regarded by all classes as necessary and as much a matter of course as the use of the railroad, steamboat, the telegraph, telephone, and labor-saving machines, then, but not until then, striking results may be expected.

The wonderful, the revolutionary discoveries made by students of internal medicine during the nineteenth century are not always appreciated as they should be, for their results are often demonstrable only by statistics; and the dramatic rescue of individuals from certain death which the surgeon at times accomplishes, unfortunately cannot be effected by the therapeutist. It is not in the nature of his art. Great progress, however, has been made in the use of medicines and remedial procedures. Good reasons can be given for their employment, and their mode of action can be explained. Empiricism no longer governs their use as it formerly did. The placing of therapeutics upon a scientific basis began in the last century when the physiological effect of drugs was first demonstrated by experiments upon animals.

No field of medical research needs cultivation so much or is more certain to yield a rich harvest than therapeutics. It is surprising that we have not a larger volume of accurate knowledge of the effect of drugs than we do possess. Of late pharmacology has been neglected for studies which have temporarily been more enticing to experimenters, such as bacteriology and experimental pathology. Moreover, a knowledge of these subjects is essential to enable a clinician to apply his therapeutic resources to the mitigation of suffering, the support of strength, and the elimination or destruction of noxious substances. One can safely prophesy that the exact utility and the limitations of drugs and medical procedures will be defined in the present century.

To accomplish this, not only is more knowledge required of the physiological action of drugs, but also better means of accurately measuring their effects when they are given to patients. We know when pain is relieved, we can sometimes measure effects produced upon the heart and blood-vessels and temperature. Beyond this we depend for knowledge upon the impressions of physicians, impressions which must be corrected and often reversed by a wide experience. Clinicians possess only a few appliances or methods for the exact study of the sick. It is to be hoped that more will be discovered, and that they will also make it possible to register with accuracy the effect of drugs. When this is accomplished, undoubtedly a smaller number of useful drugs will be employed, but these with greater exactness.

It is true that more drugs are used to-day than need be, because patients demand them as a fetish; but this will be changed when laymen learn that it is the function of the physician to teach them what to do to give nature the best chance to effect repair, what to do to make themselves comfortable and to preserve life; when they learn that it is a physician's function to teach them how to protect others from the same ailment, to foretell the possibility of recovery or death, and to avert or forestall complications. Medical men should include time and faith in their materia medica as important means of effecting a restoration of health. I do not mean faith in a fetish procured in an apothecary's shop, but faith in the wisdom, honesty, and disinterested devotion of physicians which will enable them to accomplish all that can be done for the suffering.

Although the greatest discoveries in the field of internal medicine have been applicable to the prevention of illness in the masses, much has also been done to increase the chances of recovery of individuals who are sick. I need call attention only to a few of the improvements in treatment which have been effected to remind you of more. Typhoid fever, which has been a scourge in all civilized countries, and constantly present in all large centres of population, has not only been greatly lessened, sometimes even suppressed by improved hygiene, but the chances of recovery of the one who is sick with it have been increased several fold by improved methods of treatment. Twenty-five years ago the mortality from typhoid fever in the hospitals of the world was from twenty to thirty-five per cent.; to-day it is from five to fifteen. The better results are due to the cold baths which are used, to a more generous supply of fresh air, to proper feeding, and to protection against or the prompt treatment of complications.

One great therapeutic discovery has been made at the end of the nineteenth century—the discovery of antitoxins, the natural antidotes to the poisons of infectious agents. For a very long time it had been known that something developed in the human system during the course of many ailments which gave to the sufferer from them for a variable time immunity from a recurrence of the same disease. Until the existence of parasites and of poisons generated by them was proven, an antitoxin was of course unrecognizable. Moreover, the possibility of such a thing in diseases, one attack of which did not cause immunity to others, was not even suspected. But the diphtheria antitoxin, the most efficient of those of which we know anything, is one belonging to this last group of ailments. The chemical composition of antitoxins is yet to be discovered. Since antitoxin has been used the mortality from diphtheria has been reduced about one-half. The most extensive collection[1] of statistics gathered from all civilized countries shows that when antitoxin is used on the first day of the disease, the mortality is five per cent., increasing rapidly to thirty per cent. when used on the fourth day or later. Before its employment, the average mortality of the disease was

[1] Das Oesterreichische Sanitätswesen, No. 52, 1900.

from twenty-five to thirty-five per cent. To effect a still greater reduction in the death rate from this ailment, it is necessary that it be recognized early, and that antitoxin be employed more generally as a preventive for those who have been exposed.

That tetanus antitoxin and plague antitoxin are valuable is admitted. Many others, such as pneumonia, typhoid, tubercle, scarlet fever, erysipelas, and streptococcus antitoxins are still in the experimental stage. But even though it should be found that few natural antitoxins can be isolated for use as remedies, those already discovered confirm physicians in the hope that specifics will be found some day.

Another therapeutic discovery made at the close of the century which has thrown a flood of light upon some obscure points in physiology and pathology, and has restored to usefulness many who were formerly incapacitated and incurable, is that of internal secretions, and especially the rôle of the secretion of the thyroid gland. Ingredients in the thyroid, suprarenal bodies, and ovaries produce as definite effects upon the living body as many extracts from plants or synthetic chemicals. The pituitary body, the thymus, and bone marrow may also have a value as yet undetermined. The rescue of those suffering from myxœdema and cretinism by the administration of thyroid is one of the few happy dramatic incidents which fall to the lot of the practitioner of medicine.

That a much larger proportion of recoveries from tuberculosis occur to-day than formerly is evident from the statistics of this disease, but this lessened mortality is not due to prevention only. Trudeau has estimated that eighteen per cent. of all persons have tuberculous lesions, because a reaction to tuberculin can be demonstrated in that proportion. This statement is confirmed by Councilman, who states that his autopsy statistics show that at least seventeen per cent. of all who die have had this disease. But in spite of this prevalence the mortality from the ailment is lessening.

Rabies and tetanus are two diseases which until recently were thought to be incurable. Rabies can be suppressed by killing unowned dogs and by muzzling the rest. Upon this point the following statistics from England are very instructive: In 1887, 217 deaths occurred in Great Britain from rabies; in 1888, 160; in 1889, 312. A muzzling law was then enforced. In 1891 the death rate from the disease fell to 129; in 1892, to 38. The muzzling ordinance was repealed, with the result that in 1894 248 deaths occurred from mad-dog bites, and 672 in 1895. Again muzzling was made compulsory. The death rate once more diminished; in 1897 it was 151; in 1898, 17; in 1899, 9, and in 1900, none.

Pasteur's great discovery of a method of attenuating the virus of rabies and rendering those who have been bitten by mad dogs immune by rapidly accustoming them to stronger and stronger viruses, has markedly reduced the mortality.

Tetanus, quite common in hospitals formerly, is now prevented by proper cleansing and protection of wounds. It has become so rare a disease that to-day most students do not see a case of it during their college course.

The nineteenth century will be known in the history of medicine as the century of experimental medicine, for it is in that field that the greatest discoveries of the age have been made. The names of Pasteur, Koch, and Lister will forever be linked with it as representing its greatest achievements. But these achievements would not have been possible had not the physicist perfected the microscope, and had not Virchow and his pupils explored the field of cellular pathology to its farthest limits. Around Virchow's name as a banner will historians gather the achievements in medicine during the early and middle portions of the century, and around Pasteur's those of its close.

If our greatest needs conditioned the growth of knowledge, we could prophesy what will be the great field of research of the twentieth century, but history teaches us that our needs can often not be met until some sister science has grown, or new methods of experimenting have been devised. Therefore, the future must remain a blank to us. However, we are more apt to accomplish what is needed if the problems are kept clearly in mind. We greatly need more exact methods of clinical study, more accurate knowledge of the effect of remedial agents and procedures, but more than all else we need a knowledge of the changes which take place in the living tissue in health as well as in disease.

The anatomist has resolved the cellular structure of the body; the physiologist, the laws which govern the action of its organs and the chemical changes which are wrought upon its surfaces; the bacteriologist has discovered the parasites that infest, and often destroy it; the pathologist has described the anatomical changes which disease produces; the clinician has linked all these facts together and has discovered ways of seeing with the intellectual eye disturbances of physiological function, of determining their cause, and of anticipating the anatomical changes which they will produce. But this does not satisfy us; we want a knowledge of the atomic and molecular structure of cells, of the changes which take place in the atoms and molecules in health and in disease, and of the effect of medicines and remedial procedures upon them. This knowledge chemistry must give us. I feel sure that, standing as we do at the beginning of a new century, expecting greater developments in it than in the last one, we are halting before new discoveries in chemistry, waiting for new methods of studying metabolism in microscopic portions of tissue. When this knowledge is vouchsafed, medicine will make another stride as great as was made when, by the perfected microscope, cellular pathology and bacteriology became possible.

Let us look forward with confidence to the Virchow and the Pasteur of the future.

THE VALUE OF CLINICAL MICROSCOPY, BACTERIOLOGY, AND CHEMISTRY IN SURGICAL PRACTICE.[1]

By JOHN A. WYETH, M.D.,

NEW YORK.

For many years, almost without exception, my predecessors in the address on surgery have devoted their labors to the exposition of some general or special subject in the domain of operative surgery, and while I would in no measure detract from the value of a thorough technical knowledge, we should not, in our attention to the art, fall short of a proper appreciation of the science of surgery.

The experienced surgeon soon learns that it requires more than asepsis and the rapid and skilful performance of an operation to achieve the fullest measure of success; that although a thorough practical knowledge of regional anatomy is essential in the highest degree to the conscientious fulfilment of the professional obligation, it is equally important that there be called into requisition the invaluable aid which laboratory research alone can give in determining an accurate diagnosis; in indicating the most rational measures

[1] Oration on surgery before the fifty-second annual meeting of the American Medical Association at St. Paul, Minn., June 4-7, 1901.

of treatment not only in the preparation of a patient for an operation, and in the selection of the safest anæsthetic, but for the post-operative management of the case, and in removing as far as possible all doubts as to the prognosis.

Chemical analysis of the normal and abnormal secretions and excretions of the body, clinical microscopy and bacteriology should form a part of the educational requirement of every surgeon. I do not insist that the busy practitioner should attempt to master all the intricate processes of the laboratory, for this is possible only to one who devotes years of patient labor in the fascinating department of science, but he should possess that practical knowledge of the chemistry of the body in health and disease, and of clinical microscopy and bacteriology which any diligent student, under a competent teacher and in a properly equipped laboratory, should be able to acquire in a three months' course of study.

The instances are exceptional in practice in which this knowledge cannot be applied with great benefit to the patient and with satisfaction to the surgeon. It is naturally of greatest value in the cases in which no emergency for immediate operation exists, but its advantages are not wanting in these rarer cases, since it comes to his aid in the post-operative period.

Laboratory research, especially in the department of bacteriology, has placed not only the medical profession but the entire human family under lasting obligations for the great benefits which have already been derived from its discoveries, and it may be safely said that it has done more than all else in accomplishing the revolution in surgical thought and practice which has taken place within the last two decades. One of the most notable illustrations of this great advance is the triumph which has been achieved over that once fatal disease, diphtheria.

The discovery by Klebs in 1883, and the isolation and cultivation in 1884 by Loeffler of the bacillus of diphtheria had its logical sequence in Behring's invaluable discovery (subsequently elaborated by Roux) that the blood of animals, especially that of the horse, rendered immune to diphtheria by inoculation, first with attenuated, and then with more virulent organisms, contained a substance capable of neutralizing the effects of the bacilli or their toxin when simultaneously or subsequently inoculated in non-protected animals.

This antitoxin serum in its dose of 10 c.c. of either the 600, 1,000, or 1,500 immunizing units is potent not only to arrest the destructive processes which formerly characterized this disease, but to prevent the infection of those who have been exposed to the contagion. How great is the importance of the knowledge that these bacilli are not only always present in the throat of a patient suffering from diphtheria, but that they are frequently found on the nasopharyngeal surfaces and tonsils of persons free from systemic infection, and as shown by Biggs, Parke, and Beebe, of New York, they may remain as long as five weeks after the membrane has been discharged from infected subjects, all of which points to the necessity for the isolation of the infected individual, and the careful disinfection of the throats of those who have been about diphtheria cases (McFarland).

The statistics of Professor Welch, of Johns Hopkins University, show that the ratio of mortality as a result of these discoveries has been reduced more than fifty-five per cent., and that in one hundred and fifteen cases, in which by reason of an early diagnosis, the treatment of serum antitoxin was begun within the first three days of the disease, the mortality was only 8.5 per cent. In five hundred and forty-six cases in which the remedy was begun after the third day of the disease, the mortality was 27.8 per cent., the ratio of mortality increasing with fatal precision as treatment was delayed.

To the surgeon, one of the most gratifying results of this great triumph of the laboratory is the fact that he is now rarely called upon to perform the operation of tracheotomy, which was formerly distressingly frequent; nor to witness the sufferings associated with intubation of the larynx. A professional friend in the department of diseases of children informed me recently that whereas a few years ago he had from ten to twenty intubations of the larynx on account of diphtheria in every month, he now, since the serum therapy was practised, averaged only one or two.

I believe that what is true of this disease is true of all infectious processes, and that, as our knowledge expands, a safe immunizing serum will be discovered for each special toxæmia. Even now it would seem that this proposition is proved in other infections in which like diphtheria the pathogenic organisms are localized at the seat of infection, their toxic products alone entering the tissues through the circulation.

Of this type is the spirillum or "comma" bacillus discovered by Koch in 1884 in the intestinal contents of patients suffering from Asiatic cholera. These germs are not found in the deeper organs, the morbid changes in the tissues being due to their toxin. Immunizing injections of cholera cultures have already been experimentally and successfully employed, and promise rich results.

In this same group, bacteriologists claim a place for the diplococcus lanceolatus of Fraenkel, the pneumococcus. Sternberg and Pasteur isolated this germ in 1880, and in 1884 Fraenkel demonstrated it as the prevailing organism found in the sputum of croupous pneumonia. Very late investigations give encouragement to the hope that serum therapy will soon be applied in the early arrest of the invasion of this most painful and fatal malady. Though pneumonia is strictly a medical disease, its early recognition as a surgical complication, or in view of an anticipated operation, is of very great importance. In a recent case which came under my observation at our laboratory, a specimen of sputum was sent in for bacteriological study. It was not blood-stained or "brick-dust," but yellowish-white in color like the ordinary sputum of bronchitis, and was supposed to be "grippe," or tuberculosis. The bacillus of tuberculosis was not present, but numerous micrococci lanceolati were discovered, and the laboratory diagnosis was made and confirmed within twenty-four hours by the well-recognized symptoms of consolidation with the "brick-dust" expectoration of this disease which supervened.

Tetanus toxæmia, or "lockjaw," the organism producing which was discovered by Nicolaier in 1894, and which for years has baffled the most strenuous efforts of the bacteriologist and clinician, seems at last to be classified with the controllable infections. Professor Osler, in the last edition of his "Practice of Medicine," says the immunizing serum of Tizzoni has been successfully and encouragingly employed in doses of 2.25 gm. for the first dose, and 0.6 gm. for subsequent doses. Of one hundred and thirteen cases treated by this method sixty-three per cent. resulted in recovery.

It was not until the discovery of the bacillus of typhoid by Eberth in 1880 and the pure cultures of this germ secured by Gaffky in 1884, that there was made possible in the vast majority of cases of typhoid fever a positive diagnosis.

The demonstration of Widal that when ten drops of a twenty-four-hour bouillon culture of the bacilli typhi were added and thoroughly mixed with one or two drops of serum from the blood of a typhoid patient, the bacilli lose their motility and become agglutinated in masses, was one of the most brilliant advances in

clinical bacteriology, and of great value in surgical diagnosis.

In many of the lesions of the abdominal viscera, and especially in those located in that battle-ground of surgery, the right iliac fossa, where the physical signs and the febrile movement may suggest either beginning typhoid, intestinal toxæmia, or a pyogenic sepsis, an early diagnosis may be determined in no other way than by the aid of the laboratory.

The practitioner who has not called into requisition the invaluable aid which bacteriology affords in the differentiation of those too often obscure intraperitoneal lesions, cannot appreciate the satisfaction which this practical application affords. How often the safety of a patient hangs upon even a few hours' time, and alas, how often this precious time is wasted in the uncertainties of diagnosis, when a resort to the demonstration of science, available to all, would have plainly indicated the proper method of procedure. We know too well the fallacy of relying upon the ordinary subjective symptoms, and even some of the objective symptoms afford us no accurate clew to the pathological process which may exist. The pulse and the temperature of commencing typhoid may well be mistaken for the pulse and temperature of an appendicitis. The pain and muscular resistance over the right iliac and the right abdominal region are in many instances practically alike. The nausea, the vomiting, and the general sense of uneasiness point neither directly to the one nor to the other disease, but in a crucial test by Widal's reaction, with the blood count pointing to the presence or absence of a leucocytosis, the question is quickly settled. I have seen all the symptoms of appendicitis present in cases in which the blood count contradicted a pyogenic sepsis, and in which Widal's reaction told the story of typhoid. On the contrary, I have dealt with cases which ordinarily would have been most perplexing, in which all the symptoms of typhoid prevailed at a period when it was too early to recognize this disease by Widal's test, and a leucocytosis of from 15,000 to 21,000 proved at the earliest possible moment that the case was one for immediate operation.[1]

The discovery by Bollinger in 1877 made the diagnosis of that comparatively rare affection, actinomycosis, clear. In examining the yellow granules and accompanying pus discharged from an infected area he recognized the ray fungus or actinomyces. More recent researches have shown this fungus to be composed of bacilli in various stages of development, some being spores and some more perfectly developed organisms.

In another fortunately rare disease, malignant pustule, caused by the lodgment in an abrasion of the bacillus anthracis, we are indebted to the laboratory for our knowledge of its etiology. The anthrax bacillus discovered by Devaine in 1863 is not usually found in the blood except in the most malignant cases and in the last stages of fatal infection, but it can be demonstrated in the pustule of inoculation with the microscope or by cultures.

Roux and Chamberland, according to McFarland, have found that filtered cultures will produce immunity when properly introduced into animals, and we reasonably hope from these experiments that the serum treatment will before long be made applicable to infected human beings.

Another rare organism is the bacillus of malignant œdema, which was discovered by Pasteur in 1875 and called by him vibrion septique. There are only two cases of this disease so far reported in man, and they were subjects of abnormally low resistance infected by the hypodermatic administration of a product of musk.

The bacillus pestis or bubonic plague organism was discovered in 1894 simultaneously by Yersin and Kitasato, in blood drawn from the finger-tips of infected individuals, and in the broken-down lymph glands, and is described by Kitasato as greatly resembling the micro-organism of chicken cholera.

Bacteriological research has robbed the puerperal state of much of the anxiety and dread which formerly attended this ordeal, not only in preventing sepsis, but in recognizing the infections already established in time to prevent a general peritonitis or septicæmia. The puerperal uterus, or this organ when the seat of non-puerperal endometritis, offers an ideal field for bacterial proliferation and invasion, since septic organisms entering the cavity may rapidly penetrate the endometrium and enter the lymph channels whence they pass into the venous sinuses and lymphatics of the pelvis.

Prof. W. R. Pryor, in a paper read before the New York State Medical Association in 1900, says, "Puerperal sepsis if not rapidly fatal almost always produces lesions which seriously damage the pelvic organs or the viscera," and that "time is in this serious condition an important element." He recommends the early employment of the Döderlein tube, which, after sterilization, is passed into the uterus, being protected from contact until the fundus is reached. From the serum and débris thus obtained cultures are made, and the character of the operation—either curettage or hysterectomy—determined by the result of bacteriological investigation.

Not only does the laboratory come to our assistance in the diagnosis of certain obscure surgical lesions of the stomach, but it is still more valuable as an aid in arriving at the exact condition of the digestive functions of this organ, any derangement of which it is at times exceedingly important to correct in order to bring a patient into suitable condition to stand an operation. Thus it is important to determine in certain instances whether or not free hydrochloric acid exists in this organ, and while the total quantity poured into the stomach in the digestive process cannot be accurately measured, clinical chemistry can closely estimate the total quantity found at a given moment during digestion. The acid-combining power of the proteids is known, and by certain tests it is feasible to estimate, sufficiently close for a satisfactory diagnosis, the quantity of hydrochloric acid secreted.

[1] Two of the cases occurring in my own work within the last few months may emphasize the great value of this technique.

A man of thirty was seized with quite severe pains which were confined to the region of the cæcum and appendix. Upon palpation there was well-marked resistance in the muscles immediately over these organs which was not observed in any other part of the abdominal wall. He had vomited on one or two occasions, and the temperature ranged from 101° to 103° F. on the second day of this attack. The questions which were presented to the consultants were whether this temperature could be accounted for by intestinal toxæmia, by appendicitis, or incipient typhoid. Although it was too early in the history of a typhoid case to encourage the belief that Widal's reaction would be present, this was made, and with negative results. On the following day, the symptoms still pointing toward typhoid fever, a careful blood count was made and the leucocytes did not count over 7,000. Assured from this that no dangerous pyogenic process was present, the idea of operation, even exploratory, was abandoned until the examination might be repeated on the succeeding day. A second careful blood count showed no leucocytosis, and on the fourth day, although Widal's reaction was still absent, the case was declared to be typhoid, and the subsequent history proved the diagnosis to be correct, since a few days later the reaction of typhoid was present, and the patient went through the regular stages of this fever.

In a second case, a male patient, forty-five years of age, there was a typical typhoid tongue, temperature ranging from 100° to 103.5° F., tenderness and muscular resistance were present in the right iliac fossa, and loose discharges from the bowels not unlike those frequently met with in typhoid. Widal's reaction was tried with negative results on three successive days. The blood count on tha fifth day showed the leucocytes numbering 21,000, justifying e diagnosis which excluded typhoid and confirmed the suspicion of pyogenic sepsis.

The small quantity of hydrochloric acid which combines with ingested inorganic elements is lost to gastric digestion, serving as it does its function in this process in the intestines.

It is clear, as stated by Van Valzah and Nisbit, that the hydrochloric acid which combines with the proteids, and that which remains free, together roughly represent the activity of acid secretion. It is logical, then, to conclude that the quantity of hydrochloric acid loosely combined with albumin, together with the quantity remaining free in the contents withdrawn at the end of a particular time after the eating of a particular meal is a practical and clinical measure of the secretory activity of the peptic glands, and of the digestive work of the stomach. All of this is made sufficiently exact for practical purpose by the laboratory method of analysis after the simple test-breakfast of Ewald and Boas, or the more elaborate test-meal as recommended by Germain-Sée.[1]

The presence of lactic acid in the stomach contents as shown by Kelling's test[2] has a distinct diagnostic value, since it takes place in comparatively rare conditions, and since these conditions are seldom fulfilled except when carcinoma is present.

Lactic acid is dependent upon the presence of a special bacillus which thrives in the stomach under abnormal conditions, and is capable of converting glucose and lactose into lactic and carbonic acid. Boas goes so far as to insist that the persistent presence of lactic acid in noteworthy quantity during the digestion of a saucer of oatmeal, chemically free from lactic acid, is a specific sign of carcinoma of the stomach.

While the stomach may under varying conditions contain hosts of various bacteria in addition to the one just considered, there are only three others that are of importance as pathogenic organisms. First, the sarcinæ ventriculi (in their usual cube arrangement), which when found indicate insufficiency of the stomach muscle due to non-malignant obstruction. They are not found in carcinoma, since they perish in the presence of lactic acid, which, as we have just shown, is so common in malignant diseases of this organ.

[1] The simplest method is that known as the test breakfast of Ewald and Boas, in which on an empty stomach, usually in the early morning, a breakfast roll which contains about 5 gm. of proteids, 39 gm. of carbohydrates, ½ gm. of fat, ¾ gm. of ash, and weighs 70 gm., and 350 c.c. of water (about a glass and a half) are taken. The bread should be thoroughly chewed and insalivated before being swallowed with the water. Usually in one hour's time a tube is introduced and the contents of the stomach are withdrawn, usually by expression, or by siphonage, and then filtered. An estimate of the acidity of the filtered contents is made by the use of a decinormal solution of potash or soda. The number of cubic centimetres of this solution which will neutralize 100 c.c. of the filtered contents of the stomach expresses in figures the acidity of the fluid withdrawn. At the end of an hour, under approximately normal conditions of digestion, the total acidity should be 50 to 60, the hydrochloric-acid albumin 30 to 40, the free hydrochloric acid 10 to 20. Any departure from this rule shows the abnormal absence or excess of this important agent.

The test meal of Germain-Sée is at times preferable, since it contains a larger quantity of proteids than the test breakfast of Ewald and Boas just given, but the method of procedure is practically the same. The presence of hydrochloric acid can be recognized by Günzburg's reagent, which is composed of :

Phloroglucin	2 gm.
Vanillin	1 gm.
Alcohol (absolute)	30 gm.

By spreading three or four drops of this reagent in a porcelain crucible, adding upon this the same quantity of the filtered contents, and slowly warming the crucible, after several seconds a red color appears, and at times the red crystals of free hydrochloric acid are seen. Or the simpler method may be used of employing a filter paper which has been soaked in a 0.5-per-cent. alcoholic solution of diamethylamidoazo-benzol and dried. This in the presence of a trace of free hydrochloric acid turns distinctly red.

[2] Kelling's test consists of 5 c.c. of the filtrate diluted to 50 c.c. with distilled water, to which one or two drops of official five-per-cent. solution of the perchloride of iron are added. The yellowish-green tinge indicates the presence of lactic acid.

Another micro-organism is the yeast plant, also found when motor insufficiency exists. It may be present when the stomach contents are alkaline, neutral, or acid.

The bacillus geniculatus is present under the same conditions which produce the lactic-acid organism, and is considered also to be suggestive of carcinoma.

When the presence of blood is suspected in the stomach and is not clearly defined by the microscope, chemistry comes to our aid in its recognition by the glacial acetic acid and ether test.[1]

A study of the discharges from the rectum is as yet of little value to the surgeon. Beyond the recognition of blood or pus, or cast-off cell elements in certain malignant neoplasms, there is but a single organism which is of real diagnostic value, namely, the amœba of dysentery, described by Lamb in 1859, which is a motile mass of protoplasm about 20 μ in diameter, containing a single nucleus and one or several vacuoles.

In the differentiation between the pathogenic organisms of specific and non-specific urethritis, microscopy and bacteriology are our only infallible guides. They teach us to eliminate the various bacteria found in the external genital and urinary passages, not bearing directly upon the etiology of urethritis, and to recognize distinctly the two forms of diplococcus, the gonococcus of Neisser and the pseudo-diplococcus, which, while not morphologically different from the specific disease-producing organism, can be readily distinguished by special modes of staining as well as by cultures. In the daily routine of practice the exact nature of every suspicious urethral discharge should be subjected to careful scrutiny. The patient is entitled to the satisfaction of a negative result, which is easily demonstrated by staining the smear with methylene blue, which clearly defines both organisms. If no cocci are revealed, all anxiety is put at rest; but if there are present both varieties of these organisms, occupying, as they do the protoplasm of the pus corpuscles, a further research and the differentiation of the true form from the false diplococcus are imperative. The pseudo-coccus retains the violet color of the aniline-gentian water violet stain, while with careful laboratory technique the addition of the Bismarck brown brings out the gonococcus, the protoplasm of a single pus corpuscle showing at times both the blue stain of the pseudo-coccus and the diplococcus of Neisser which retains the brown color.[2]

Bearing in mind the fact that the gonococcus of Neisser may remain dormant in these passages for

[1] To 10 c.c. of the filtered contents add 3 c.c. of glacial acetic acid, and extract the coloring matter of the blood by shaking with 5 c.c. of ether. This turns the ether extract brown. When this discoloration does not take place there is no blood. To carry the demonstration further, to the brownish decanted ether extract 10 drops of fresh tincture of guiac with a few drops of peroxide of hydrogen are added. After vigorous shaking, the mixture becomes clear blue if blood is present.

[2] Dr. Jeffreys, the director of the laboratory in the New York Polyclinic, employs the following differential stain :

Use Gram's stain followed by a contrast stain, such as Bismarck brown. To prepare this stain proceed as follows :

Prepare aniline water by emulsifying 8 drops of aniline oil in about 10 c.c. of water. Filter through a wet filter. To this aniline water add about one-tenth its bulk of a saturated alcoholic solution of gentian violet. Stain smear with this "aniline-water gentian violet" one or two minutes. Wash in warm water and then immerse in Gram's solution for one minute. The formula for this solution is as follows :

Iodine	1 gm.
Iodide of potassium	2 gm.
Water	300 c.c.

Thoroughly wash in ninety-five-per-cent. alcohol until no more blue appears to wash out; then wash in water. Counterstain for one minute with a saturated solution of Bismarck brown in three-per-cent. aqueous solution of carbolic acid. Wash, dry, and mount in balsam. After this treatment pseudo-gonococci should be stained violet, and gonococci should be brown.

months, and, as maintained by some observers, for years, incapable of a further inoculation of the seemingly immunized patient, but capable of exciting the most acute and injurious inflammation in an innocent victim, it becomes a matter of the greatest importance to subject to most careful study the external genito-urinary passages when an infection has once existed. It has been demonstrated that an artificial urethritis as that which nitrate of silver produces will develop the dormant gonococci and cause their presence in the discharge.

Keyes and Chetwood, in their excellent volume on venereal diseases, place well-deserved emphasis upon the value of the Gram test for recognizing these organisms. They properly insist that the diplococci should be of the recognized size and have within the protoplasm of the pus corpuscle their proper shape and arrangement and remain negative to Gram's staining. Even when cultures are made to demonstrate the specific organisms beyond all doubt, resort should still be had to the Gram staining as a final means of identification.

In cases of pyelitis, many of the difficulties which formerly stood in the way of differential diagnosis between renal calculi, simple pyogenic pyelitis, or the presence of tuberculous disease in this organ, are now overcome by the careful methods of the laboratory.

The presence of the bacilli of tuberculosis in one or both kidneys, even when they are exceedingly infrequent in the discharge, can be demonstrated in urine drawn by urethral catheterization, or by the more simple process of bladder segregation, when the suspected organisms are with other detritus thrown down by the centrifuge. The carbol-fuchsin stain decolorized with five-per-cent. sulphuric acid brings out in brilliant red the outlines of the bacilli of tuberculosis, while the addition of ninety-five-per-cent. alcohol decolorizes the smegma bacillus, and thus eliminates this possible source of error to any but the more expert laboratory workers.[1]

In the effort to arrive at the general condition of a patient, the chemical, microscopical, and bacteriological study of the urine is only second in importance to that of the blood, and when we consider the additional and exact information which can thus be obtained concerning any pathological process at any point in the urinary tract, the value of this analysis is very materially increased. A careful study of the urine is always indicated before we determine what anæsthetic it is safest to employ in the operation to be undertaken. When there is no important lesion of the heart, either in its valvular mechanism or in the blood supply and nutrition of its muscular walls, few surgeons, I hold, would employ ether in a protracted operation in which there was any suggestion of an acute nephritis, or in certain chronic forms of Bright's disease.

It is commendable practice to study through several days the quantity of urine passed, keeping accurate measurement, as well as making a qualitative analysis of that which is passed under conditions as near as possible similar to those to which the patient had been subjected before coming under observation, and then under conditions of rest, with proper alimentation and the free opening of the alimentary canal with calomel and Carlsbad salts (which agents in my experience most readily do away with fermentation and the production of gases in the bowels), to note the changes which occur in excretion.

The presence of oxaluria is in my opinion a contra-indication to a serious surgical operation, for the reason that it is pathognomonic of a disturbed nutrition due to insufficiency of the digestive fluids, and to fermentative processes in the intestinal tract.

An excess of uric acid, evident in the rosettes or rhombic or quadrate crystals (one-sixth objective) found in the urine which has not been passed more than three or four hours, has also a pathological significance scarcely less than that of oxaluria. It indicates a condition of defective nutrition which is part of the gouty or rheumatic diathesis, predisposes to chronic nephritis, and is one of the symptoms of various acute inflammatory processes, of leukæmia, cirrhosis of the liver, gastro-intestinal catarrh, and is often present in diabetes mellitus.

The chemistry and microscopy of the urine further inform us when ammoniacal decomposition of the urine is taking place within the bladder, suggesting insufficiency of this organ due to obstruction of the urethra or to atony of the bladder muscle. The large rhombic masses or stellate and cross-shaped rosettes of the triple phosphates exist only in these abnormal conditions of the bladder, and with the brownish colored, thorn-like crystals of urate of ammonia are important aids to diagnosis.

The presence of epithelia from the various portions of the urinary or genito-urinary tract, of spermatozoa and various bacteria chiefly pyogenic in character, are further and well-recognized evidence of the value of the microscope in surgical diagnosis. In rarer instances, the hooklets of echinococcus, the embryos of filaria, and the ova of hæmotobium Bilharzii are thus discovered in the urine. The writer has been able once to demonstrate the presence of the eggs of the last-named parasite in the bloody urine of a missionary in Africa, where he had by long residence acquired the disease.

From the laboratory we are taught the well-known tests for albumin and sugar by which all sources of error may be eliminated in determining not only their presence but the quantitative analyses as well. The pathological conditions in which these substances are excreted are at times exceedingly grave, and it is of vital importance that their presence be discovered so that timely and judicious treatment may be instituted, or operation avoided which under such unfortunate conditions would be invariably fatal.[1]

In glycosuria the surgeon must know whether he is dealing with what Pavey designates as alimentary diabetes, in which the sugar eliminated by the urine is derived solely from the food as result of defective carbohydrate assimilation; or whether that almost hopeless condition of composite diabetes in which abnormal disintegration is taking place, is present.

No less important is the estimate of the amount of urea which is being eliminated in a given quantity of urine. Employing the simple apparatus of Doremus with the sodium hypobromite solution[2] within a few

[1] The following process is used at the Polyclinic laboratory in determining the presence of the tubercle bacillus in the urine and fæces: The sediment is thrown down in the centrifuge, the smear dried slowly over the Bunsen burner and stained with carbol-fuchsin, which is then warmed over the Bunsen burner for three or four minutes without being dried. Then it is washed with water and decolorized with five-per-cent. sulphuric acid, and again washed with water. After this ninety-five-per-cent. alcohol is added, which decolorizes the smegma bacillus, and again washed in water, counter-stained with methylene blue, and dried. With the one-twelfth oil immersion, the clusters of tubercle bacilli are readily seen.

[1] To determine the presence of albumin, the nitric acid and heat test is classical and reliable. The simplest quantitative analysis as recommended by Hare is to fill the tube for the centrifuge to the 10 c.c. mark with urine, to which is added 2½ c.c. of potassium ferrocyanide solution (one part to ten); 1½ c.c. of acetic acid is also added. After mixing the fluids well the centrifuge is rotated until the albumin is precipitated. Every $\frac{1}{10}$ c.c. mark on the tube represents one per cent. by bulk of albumin; that is, if the albumin extends up to the 3½ c.c. mark, the albumin amounts to thirty-five per cent.

Fehling's test in the demonstration of sugar and the quantitative analysis by means of yeast fermentation is another important laboratory process, without recourse to which the surgeon in a certain group of cases cannot satisfactorily work.

[2] Solution A—bromine and sodium bromite, each 125 gm.;

minutes' time, by the evolution of nitrogen gas in the presence of this, the amount of urea which is being carried off by the kidneys is readily demonstrable.

Non-parasitic chyluria (that form not due to the presence of filaria) is a rare affection, but it does exist, the fluid coagulating almost like jelly. In these conditions the microscope shows little that is pathological excepting some minute granules and oil droplets similar to those in milk (Osler).

The presence of blood in the urine, even in the most minute quantities, can in almost all cases be recognized by the microscope, and in those exceptional instances of hæmoglobinuria in which the corpuscles have disappeared, the blood crystals of Teischmann may be recognized by the addition of a drop of strong acetic acid to a few drops of urine placed upon a watch glass. For this condition of blood pigment in the urine in which the blood-cells are absent, Osler suggests the name methæmoglobinuria. He further states that when granular pigment or darkly pigmented urates or fragments of blood-discs do not point clearly to the presence of blood, the two absorption bands of oxyhæmoglobin, and more commonly the three absorption bands of methæmoglobin, of which the one in the red near G is characteristic, may be determined by the spectroscope. In general, however, the red and white blood corpuscles and filaments of clot are clearly recognizable with the one-sixth objective. Even without the microscope the presence of a very minute quantity of blood distributed through the urine can be recognized by Heller's test of adding a few cubic centimetres of urine to a drop or two of strong solution of caustic soda, and boiling the mixture. If blood is present, a bottle-green color is produced and the phosphates fall to the bottom of the test-tube in fine flakes, tinged brownish-red by the coloring matter of the blood (Hare).

When blood is found in the urine as a complication of papilloma of the bladder, particles of the broken-down tumor are very frequently found in the urine, and under the microscope the epithelial elements of this neoplasm are easily recognized and point clearly to the source of the hemorrhage. In hemorrhage from the kidney substance blood casts tell unmistakably of its source.

Chemistry demonstrates in the urine the presence of indican or indoxyl sulphate of potassium, a product resulting from the decomposition of albuminous products in the intestinal tract under the influence of bacteria. It is always suggestive of persistent constipation, is found in obstruction of the intestinal canal, carcinoma of the liver or stomach, in peritonitis, and is one of the symptoms of pernicious anæmia. Urine containing this substance if treated with two or three times its volume of hydrochloric acid turns a violet color.

A careful analysis of the various casts found in the urine under different conditions is of inestimable value. Blood casts indicating not only hemorrhage from the kidney, but acute inflammatory conditions, and casts composed of pus corpuscles and studded with micrococci suggesting pyelonephritis, are most valuable results in laboratory research. It also tells us of the existence of granular casts which indicate a chronic or subacute inflammatory process in the substance of the kidney, which is accentuated when fatty casts are found, and that hyaline casts have a grave significance, as they are most frequently associated with chronic interstitial nephritis, and that the waxy variety is very common in chronic suppurative processes, usually in the bones and joints.

To-day, one of the most attractive subjects of laboratory research is the blood, and although hæmatology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a patient a knowledge of the blood is as essential as that of the urine. It may throw no light upon many cases, but the reward will be tenfold in that particular instance in which the diagnosis is made definite and clear. It is necessary to know the normal blood thoroughly by constant practice in order to recognize the abnormal changes which may be present in a given case, and I can think of no more useful way of spending the time not taken up by practice than by going over these important features of laboratory technique.

A knowledge of hæmatology enables the surgeon to detect any form of anæmia and to determine whether it is a type of blood impoverishment which can be corrected, or whether it is of the graver or more pernicious forms which would either preclude an operation, or, if this were absolutely necessary, would enable him to announce to those entitled to information the gravity of the outlook. In ordinary practice it is not always essential to differentiate between a pernicious anæmia or a leukæmia, or whether this latter condition is present in the lymphatic or splenic-myelogenous form, for the reason that all of these graver varieties call a halt to operative measures when these can be avoided. But the anæmia which comes from malnutrition or malaria or chlorosis can be positively diagnosticated by a study of the blood.

The richness of the hæmoglobin may in a fair measure be determined by the comparative color test of the blood in proper solution, as observed through von Fleischl's hæmometer. When a low percentage of hæmoglobin is present, it is an indication to avoid any operative shock until the impoverished condition of the blood can be corrected by proper nourishment, by rest, or by medication, when this is positively indicated. This also suggests the aid of the microscope in a further investigation as to the condition of the corpuscular elements of the blood. It is advised by Mikulicz never to operate when the register of the hæmometer shows less than 35, and it would probably be safer to place the standard ten or fifteen points higher. Even in the simple forms of anæmia, the degenerative changes in the blood elements, especially in the red cells, are easily recognized, and are full of valuable suggestions.

When the red cells are near the normal count (about 6,000,000 to the cubic millimetre), they may still show certain characteristic deformities of individual cells (poikilocytosis) as well as variations in size, in the presence of microcytes and macrocytes which appear in the field, and which are not seen in the normal blood. If the red cells are paler in color than normal, if they undergo crenation or breaking at the edges, and do not form rouleaux, it is evident that anæmia is present.[1] The danger signals are still further in evidence when nucleated red cells (normoblasts) appear, and when there is added to these either the giant red cells (megaloblasts) or abnormally small microblasts the condition is still more serious, since these corpuscles never exist in the normal blood.[2]

Hæmatology further enables us to differentiate with reasonable precision between chlorosis and pernicious anæmia. In the former, though pale in color, the blood coagulates rapidly, while in the latter coagulation takes place slowly and the red corpuscles do not tend to the formation of rouleaux. The red cells in

water, 1,000 c.c. Solution B—sodium hydrate, 400 gm.; water, 1,000 c.c. Take of A and B each one part, water three parts. They are to be mixed only when needed for use. After the tube has been filled with the solution the pipette is filled with urine to the 1 c.c. and the point carefully introduced beyond the bend. The urine in the pipette is then expelled by compression of the bulb, care being taken not to force any air into the tube.

[1] The average red corpuscle (normal) is 7 μ in diameter.

[2] A normoblast is a nucleated red cell not over 10 μ in diameter, with a nucleus not more than one-half the diameter of the same.

chlorosis (which are small and paler than normal and are frequently deformed) vary from 4,000,000 to 2,000,000, rarely falling as low as 1,000,000, while in pernicious anæmia, in which the average diameter of the red cells is increased, the count rarely rises above 1,000,000, and often below this. Cabot gives 1,000,000 as the average number per cubic millimetre. The white cells are also diminished, varying from 4,200 to as low as 500 with lymphocytosis as a prominent feature. Megaloblasts are found in both conditions, but while plentiful in pernicious anæmia are rarely noticed in the milder disease chlorosis. The more megaloblasts in pernicious anæmia, the more hopeless the case.

The surgeon would be extremely unfortunate to fail in the recognition of these often obscure lesions, and, if possible, to correct them before subjecting his patient to the severe ordeal of an operation. In the early recognition of septic processes—chiefly pyogenic—surgery can no longer disregard the value of the blood count, especially the estimation of the leucocytes.

The relative number of leucocytes in a given quantity of blood, or their proportion to the red corpuscles, can be readily determined by the use of the Thoma-Zeiss apparatus, which, as is well known, consists of two pipettes, one for the red and one for the white, with a well-outlined and peculiarly constructed slide or counting apparatus, and employed with the ordinary one-sixth laboratory objective. The differentiation by the use of the Daland hæmatocrit is not considered sufficiently exact to be satisfactory in the hands of the majority of hæmatologists. It is essential in making these differentiations to bear in mind the normal conditions that at the sea level the average number of red cells per cubic millimetre is 5,000,000 in men, and 4,500,000 in women, and 6,000,000 in the young and more vigorous adults, while the white cells average about 7,500 per cubic millimetre for each sex.

Certain conditions not considered normal influence the number of leucocytes, since in the later months of pregnancy they are moderately increased, and after parturition and during the early weeks of lactation a leucocytosis may be present without pathological significance. After hemorrhage the leucocyte count is increased, and in diphtheria, erysipelas, trichiniasis, all extensive forms of endometritis, and all acute pyogenic processes, leucocytosis exists except in those cases in which the vitality of the individual has been overwhelmed by the severity of the septic process, in which condition the leucocytes no longer respond to the demand for the protection of the tissues, and are not present in the superficial blood in even normal proportions. It is probable that the application of this knowledge is more profitable at present in a study of the various lesions of the abdominal and thoracic organs. We know that in a certain proportion of cases of infection temperature does not always indicate the increasing gravity of the lesion, while the degree of sepsis can be in great measure determined by the leucocyte count. In impaction of fæces, extra-uterine pregnancy, floating kidney, gall-stone colic, renal colic, ovarian neuralgia, intussusception, volvulus, internal hernia, twisted pedicle, etc., there is no leucocytosis unless the condition be complicated with an acute septic process. In abscess of the liver the leucocyte count ranges from 12,000 to 48,000, while there is a well-marked increase in all the septic pyogenic processes of the lungs and the pleura.

In osteomyelitis the leucocyte count ranges as a rule from 15,000 to 25,000, and at times higher. Since in the early stages of this disease it is at times difficult by subjective symptoms to differentiate between rheumatism or gout, the leucocyte count is invaluable in demonstrating at once the pyogenic process.

In that very rare disease, trichiniasis, the leucocytes register sometimes as high as 30,000, but the special feature is the presence of a large number of eosinophile cells, sometimes as high as fifty per cent., and in rare cases sixty-seven per cent. of the total number of leucocytes being this form of corpuscle. A very considerable number of cases have been reported within the last year in which the diagnosis had been determined by the presence of eosinophiles.

Not only can the presence of the plasmodium malariæ be recognized in the red blood cells, but hæmatology is already able to distinguish the different varieties of the malarial parasite. It has been shown that the tertian organism takes forty-eight hours to develop and undergo sporulation; the quartan seventy-two, while the æstivo-autumnal passes through irregular phases, varying from forty-eight hours to several days.

We are enabled to demonstrate also the presence of the spirochæte of relapsing fever discovered by Obermeier in 1873. Although the corkscrew or spiral threads are rarely seen unless the blood is examined in the height of the fever paroxysm, diplococcus-shaped bodies believed to be the spores of this organism are found in the periods of remission.

The time allotted has permitted hardly more than a suggestion of the methods of laboratory research, applicable in the daily routine of surgical practice. To me the moral of the lesson is that the science and art of surgery are inseparable.

THE PROGRESS AND TENDENCY OF HYGIENE AND SANITARY SCIENCE IN THE NINETEENTH CENTURY.[1]

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HYGIENE is a department of medicine whose object is the preservation and promotion of health, and deals, therefore, with all the factors likely to influence our physical welfare. It is not an independent science, but rather the application of the teachings of physiology, chemistry, physics, meteorology, pathology, sociology, epidemiology, and bacteriology to the maintenance of the health and life of individuals and communities. The subject is very properly divided into personal and public hygiene. In the former the doctrines are applied to individuals, in the latter to communities and States.

This branch of medicine has received such an impetus within the last few decades that many persons regard it of modern origin; such, however, is not the case, for on turning to early history we almost invariably find that the health of the population has been made a subject of legislation. Hygiene was practised by the Egyptians, the old Indians and Hebrews, and a study of the habits of the primitive peoples shows that a desire to prevent disease is innate to all men.

The Greeks and Romans paid special attention to the physical culture of their youth; they also paid much attention to the water-supply, and Athens was provided with sewers at an early period of her history.

The teachings of Hippocrates, 400 B.C., doubtless bore many fruits, and whether it is true or not, as stated by Galen, that he ordered, during a pestilence at Athens, aromatic fumigation and large fires in the streets, we have at least his writings on air, water, soil, habitations, and occupations, and his views of local and seasonal influences on sporadic and epidemic diseases. In Homer's "Odyssey" reference is made to Ulysses purifying his house with burning sulphur,

[1] Oration on state medicine before the fifty-second annual meeting of the American Medical Association, at St. Paul, Minn., June 4–7, 1901.

and Aristotle, in his "Politica," shows his sanitary acumen when he says: "The greatest influence upon health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The Romans, amidst their military operations, found time to construct the "cloaca maxima" about 2,400 years ago, which not only served for the removal of refuse, but also helped to drain many of the marshes, and constitutes the principal sewer of modern Rome. Aqueducts were made to cover miles upon miles of the surrounding plains, and their splendid ruins, many of which have been restored and are now used for their original purpose, attest the munificence and abundance with which the first of sanitary requisites was supplied to the Eternal City. It is stated that between 400 B.C. and 180 A.D. about eight hundred public baths were established, among them the "Thermæ Caracallæ," which alone would accommodate three thousand bathers at one time.

During the reign of the Cæsars attempts were made to drain the Pontine Marshes; sanitary officials and physicians to the poor were appointed and homes for poor girls and orphans were established. In the mean time the true spirit of Christianity asserted itself, and we read of the establishment of hospitals as early as the fourth century; these were speedily followed by infant and orphan asylums and homes for the poor and incurable. During the Middle Ages sanitation received a decided check; ignorant and brutal prejudices appear to have been the ruling spirits, and for many reasons it was the most insanitary era in history.

Pests and Insanitary Conditions of the Middle Ages.—About this time most of the towns in Europe were built in a compact form, surrounded with walls; the streets were narrow and often winding for defensive purposes, shutting out light and air from the houses. The accumulation of filth was simply frightful. Stables and houses were close neighbors, human filth was thrown on the streets or manure heap. The dead were buried within the churchyards. Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water. All the conditions were favorable for the spread of infectious diseases, and in the fourteenth century alone the Oriental or bubonic plague, according to Hecker, carried off one-quarter of the population of Europe, or over twenty-five million victims.

Although this disease had been described as early as the third century B.C., a lamentable state of ignorance is shown, when we remember that the majority of people regarded the plague as the dispensation of God's providence, an evidence of divine wrath, which they hoped to allay by all sorts of self-inflicted punishments, and the passion plays of Oberammergau and elsewhere originated about this time. Others accused the Jews of being the cause, and hundreds were burned at the stake until Pope Urban IV. placed them under his special protection. The Faculty of Paris attribute the epidemic to the conjunction of planets on a certain day in 1345, and the Faculty of Leipzig, with equal gravity, asserted that it was connected with earthquakes, unseen waves of air, inundations, etc. Venice, alone of all Europe, took a sensible view of the matter, and for the first time in history, in 1348, appointed three guardians of public health, and the rules adopted later to isolate infected houses and districts for forty days has given rise to the term quarantine from *quaranta giorni*.

The repeated invasion of the Oriental pest appears to have everywhere compelled some sanitary efforts, and an imperial decree in 1426 required the appointment of city physicians throughout Germany, whose duty it was to adopt preventive measures. A city ordinance of Nürnberg in 1562 gives detailed directions as to the quality of bread, beer, and wine offered for sale, the cleaning of streets and houses, the disposition of infected clothing and bedding, the fumigation with sulphur and straw of pest-houses, etc.

In 1685 Prussia established a central medical bureau, and appointments of health officers and privy medical counsellors were made, whose duties consisted in advising the men entrusted with the care of the government on matters relating to public health, and some of these titles are still in vogue in Europe. At the beginning of the eighteenth century, Prussia, upon being threatened with an invasion of the bubonic plague from Austria, created the "Collegium Sanitatis," popularly called the "Pest College," which was really the beginning of the present State board of health. In 1762 a sanitary council was established in every Prussian province, for the prevention of disease among man and animals. About the same time sanitary improvements in the way of widening streets for the purpose of supplying more air and light to the habitations, and better methods for the collection and removal of the wastes of human life was introduced, but, broadly speaking, at the close of the seventeenth century the habits of the people in Europe were generally filthy and in striking contrast to those observed among the most untutored savages of the present day.

In Madrid, we are told by Barcome, in his history of epidemics, "that not even a privy existed in 1760. It was customary to throw the ordure out of the windows at night, and it was removed by scavengers the next day. An ordinance having been issued by the king that every householder should build a privy, the people violently opposed it as an arbitrary proceeding, and the physicians remonstrated against it, alleging that the filth absorbed the unwholesome particles of the air which otherwise would be taken into the human body. His majesty, however, with commendable zeal, persisted, but many of his citizens, in order to keep their food wholesome, erected privies close to their kitchen fireplaces."

With such unsanitary conditions we need scarcely be surprised that the mortality in towns was greater than their birth-rate, and that the city population had to be recruited continually from the country. Toward the close of the eighteenth century many sanitary reforms were effected, however, especially in connection with infant and orphan asylums, and the management of schools and prisons. Of special importance is the brilliant discovery, or re-discovery, of vaccination by Jenner in 1796.

Progress of Sanitation in the Nineteenth Century.—The nineteenth century can boast of many advances in hygiene, particularly since the European invasion of cholera in 1830. The English towns which had been visited by this disease and those fearing similar scourges were willing to profit by their sad experience, and freely instituted sanitary reforms in the establishment of sewers, public water supplies, sanitary homes, etc.

The example of England was followed by all civilized nations, with similar results. The effects of sanitation, as taught by Dr. Parkes, were demonstrated during the Crimean War, and, as beautifully expressed by Virchow, during our Civil War reached "the highest point in human efforts ever attained in a great war," and we may proudly add have even been excelled during our late Spanish-American War.

Progress of Sanitation in the United States.—While the people of the United States were not slow in adopting and originating sanitary measures of great value, our ideas of personal liberty, guaranteed to us by the Constitution, evidently prevented early legislation in matters of public health, for fear that such legislation might affect the personal habits of the citizen

and lessen his freedom of action. Dr. Samuel W. Abbott, in his masterly exposition of "The Past and Present Condition of Public Hygiene and State Medicine in the United States," records, however, the gratifying fact that the early colonists recognized the need of preserving their records, which constitute the foundation stone of public hygiene, by enacting a law in 1639 "that there be records kept of the days of every marriage, birth and death of every person in this jurisdiction."

The importance of vital statistics is not fully appreciated at the present day, and yet, as remarked by Dr. Billings, "when we wish to study the healthfulness of a city, whether it is getting better or worse, or judge correctly the effect of certain sanitary laws, we should not only know the number of deaths, but also the amount and character of the prevalent disease, together with accurate information as to the number of population at different ages." It is a matter for regret, therefore, that even now only ten States—Connecticut, Delaware, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, and Vermont—have anything like a satisfactory system of vital statistics.

According to Abbott: "Up to the close of the eighteenth century and for several decades of the nineteenth, almost the only health legislation which was enacted in the different States in the Union consisted in a few laws relating to smallpox, since this pestilence was scarcely ever absent for many years at a time from any city or village, till after the general introduction of vaccination."

Dr. Waterhouse, of Cambridge, having secured a supply of vaccine lymph from Dr. Jenner, introduced vaccination in Boston in 1800, and Dr. Seaman in New York in 1801. In the same year President Jefferson received some virus from Dr. Waterhouse and was vaccinated by Dr. Grant, of Georgetown.

The invasion of cholera from Canada in 1832 and the epidemic of 1848–49 here, as in Europe, aroused public interest in sanitary reforms, and the legislature of Massachusetts in 1849 appointed a commission to make a sanitary survey of the State, and we are told by Dr. Abbott "that this was done none too soon, for in that year the general sanitary condition of the State, as shown by the report of the commission, was deplorable and the death rate unusually high. Only a few towns had then introduced public water supplies. Cholera was beginning to appear again, and dysentery and other infectious diseases were more destructive than they had been for many years."

Health Boards.—New Orleans having lost eight thousand victims by cholera in 1832, out of a population of about fifty-five thousand, and anxious to maintain a quarantine, secured the enactment of a law in 1855 for the establishment of a State board of health; in 1869 a more comprehensive board was established in Massachusetts, followed in 1870 by California, since which time nearly all of the States and Territories—forty-two in number—have followed the example. *Pari passu* and in many instances preceding the establishment of State boards of health, sprung into existence our local boards of health, who adopted measures for the control and restriction of infectious diseases, for the abatement of local nuisances, for the sanitary inspection of the food supply, schools, public buildings and institutions, and tenements; street cleaning and removal of refuse, registration of vital statistics, supervision of burials and of municipal water supply, sewerage and sewage disposal, care of bathing establishments, regulation of offensive trades, etc.

Effects of Voluntary Organization upon Sanitation.—In September, 1872, the American Public Health Association was organized; in 1873, the Section on State Medicine of the American Medical Association was created; since then the American Climatological Association, the Sanitary Council of the Mississippi Valley, the American Sanitary Association, and the American Health Resort Association have been organized, and numbering, as they do, among their members some of the best minds in the profession, much good has been accomplished by these bodies, and the so-called "sanitary conventions" in moulding public opinion and in framing and recommending health laws. There is no doubt, however, that all these organizations were stimulated into existence by the lofty tenets of our code of ethics,[1] in which the duties of the profession to the public were prescribed as early as 1847.

Indeed, the American Medical Association, according to Dr. N. S. Davis, Sr., gave prominent attention to State medicine and sanitation from its first meetings. At the second annual meeting, in 1849, standing committees were appointed on forensic medicine and on hygiene, and reported annually on these topics and on meteorology, medical topography, and epidemic diseases until 1860, when work in sections was commenced. Dr. A. N. Bell, of New York, delivered the first address on State medicine in general session of the association in 1874, followed in 1875 by Dr. N. I. Bowditch, of Boston.[2] In this connection, I may say that there is need of reliable information on the geographical distribution of diseases like goitre, cretinism, etc., and county medical societies would contribute much to the common fund of knowledge by placing on record information of this character.

National Board of Health.—The cholera epidemic of 1872 and 1873 resulted in the appointment of a commission by Congress. This, together with the yellow-fever epidemic of 1878 in the Southern States, affecting, according to Sternberg, over seventy-four thousand persons, with sixteen thousand deaths, called attention to the necessity of some central sanitary organization. In March, 1878, Congress created a national board of health, whose duty it was to make investigations into the causes and means of prevention of contagious and infectious diseases, to indicate measures of national importance, and to be a centre of information for all matters relating to public health. For want of appropriation this important body has ceased to exist, and since 1883 the duties relating to international and interstate quarantine have been discharged by the surgeon-general of the United States Marine-Hospital service; this bureau, apart from the management of hospitals and stations for the care of sick and disabled seamen of the merchant marine, has also undertaken the collection and dissemination of mortality statistics and sanitary information, scientific investigation into the causes of disease, the physical examination of immigrants under the law, excluding those affected with contagious disease; service in the office of consuls at foreign ports to assure the accuracy of bills of health—and other miscellaneous duties. Since Congress has failed to act upon the President's repeated recommendation and the petition of numerous medical societies for the creation of a national health

[1] Article 1, paragraph 1, reads: "As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangement, and dietaries of hospitals, asylums, schools, prisons, and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases, and when pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives."

[2] Information kindly furnished by Drs N. S. Davis, Sr., and George H. Simmons, letter of April 18, 1901.

establishment, there is no good reason why the scope of duties and powers exercised by the Marine-Hospital service should not be enlarged. Indeed, the last Congress appropriated sufficient money for the erection of a laboratory "for the investigation of infectious and contagious diseases and matters pertaining to the public health," which marks the beginning of a new era in national sanitary legislation.

National and International Quarantine.—The question of an efficient system of national and international quarantine against Asiatic cholera, yellow fever, smallpox, typhoid fever, bubonic plague, and leprosy has engaged the attention of sanitarians for years, especially since it become known that these diseases, particularly cholera, are generally carried along the highways of travel and commerce. Special efforts were made after the completion of the Suez canal and other rapid-transit facilities, to guard Europe from the invasion of cholera from India, and since 1892 these efforts have been quite fruitful. At all events, with efficient quarantine regulations involving inspection of vessels, passengers, and crew, the detention of the sick and disinfection of all others, including personal effects, cargo, and vessels, and proper notification, we have been enabled to keep these diseases from our shores, and if other nations do the same, they should be restricted to their original home. General Wyman's plan, as outlined in his address before the Pan-American Medical Congress, contemplates an international system of sanitation; while his proposition refers especially to yellow fever in the western hemisphere, it is equally applicable to the home of cholera and the Oriental plague.

In the light of the recent researches by Reed and Carroll as to the transmission of yellow fever by means of mosquitos, our views concerning quarantine and disinfection in this disease may have to be modified, but in the mean time the fight against the mosquitos will go on; whether this will be effectually accomplished by insecticides and screens, or the more rational method of drainage of the soil, remains to be seen; in either event malarial countries will likewise be benefited.

Has Human Suffering been Mitigated and Human Life Greatly Prolonged by Efforts in Sanitation?—Our answer is an emphatic "Yes." Professor Finkelnburg, of Bonn, estimates that the average length of human life in the sixteenth century was only between eighteen and twenty years; at the close of the eighteenth it was a little over thirty years, while today it is over forty years; indeed, the span of life since 1880 has been lengthened about six years, as shown by statistics in Mulhall's "Dictionary of Statistics" (fourth edition, London, 1899).

The mortality of London between 1660 and 1678 was 80 per 1,000 of inhabitants; from 1728 to 1780, 51 per 1,000; from 1801 to 1835 it was still 29, while at the present time it averages between 17 and 19 per 1,000.

Influence of Sewers and Public Water Supplies.—Without underestimating the brilliant achievements of Jenner's discovery of vaccination in 1796, which as a preventive measure has saved millions of lives, no two factors have contributed so much to the general result as the improvement of the air we breathe and the water we drink. Indeed, we have ample evidence that, with the introduction of sewers and public water supplies, the general mortality in numerous cities, during the past forty years, has been reduced fully one-half, the good effects being especially shown by a marked decrease in the number of cases of typhoid fever, diarrhœal diseases, and consumption. The vital statistics of Great Britain furnish the proof. The mortality of Salisbury within the last thirty years has been reduced from 40 to 16 per 1,000; at Dover, from 28 to 14 per 1,000; at Rugby, from 24 to 10 per 1,000; at Croydon, from 28 to 15 per 1,000, and at Matlock, from 18 to 9 per 1,000.

The history of every sewered city shows a lessening of the typhoid death rate subsequent to the construction of the sewers, and that the typhoid rate is always higher in sections supplied with privy pits and box privies, than in the houses connected with sewers. In 1895 the speaker pointed out that typhoid prevailed in the city of Washington and suburbs in 1 of 81 houses with privies, and in only 1 in 149 of those connected with sewers, and the health officer of Nottingham has since then presented similar evidence. The only reasonable explanation for this is that sewers carry away the filth that otherwise would contaminate the soil and ground water, but even if there were no wells, these makeshifts are still a source of danger in so far as they favor the transmission of the infection by means of flies, nor can the possibility be ignored that the germs in leaky or overflowing boxes may reach the upper layer of the soil, and, with pulverized dust, gain access to the system. This conclusion, and the agency of flies in carrying the germs from box privies and other receptacles from typhoid stools to the food supply, was enunciated in my report in 1895 and appears to have found ample support in the experience of the late Spanish-American war.

Influence of Improved Water Supplies.—According to Dr. Abbott, the number of towns in the United States before 1800 having a public water supply was only 16, supplying about 2.8 per cent. of the existing population; in 1850 there were only 83 public water works, supplying about 10.6 per cent. of the census population; in 1897 the total number was 3,196, supplying about 41.6 per cent. of the population.

A summary of the evidence on this subject reveals the significant fact that cities, both at home and abroad, in which there has been the most marked decrease in typhoid-fever death rate, are those in which a pure supply has been substituted for a pre-existing contaminated one. Thus, for example, the typhoid-fever death rate in Boston in 1846–49 was still 17.4 per 10,000; in 1890–92 it had fallen to 3.2 per 10,000, the city having in the mean time expended $25,000,000 on its water supply. The typhoid-fever death rate in Chicago from 1890 to 1892 averaged 12.5 per 10,000. After improving the water supply it fell with every step in improvement until last year it was only 1.9 per 10,000, a total reduction of 84.8 during the decade. The rate from this disease in Lawrence, Mass., for five years prior to 1893, was 12.7 per 10,000. After the establishment of sand filters, in September, 1893, the rate fell during the first twelve months to 5.2 per 10,000.

Munich was notorious for its excessive typhoid-fever death rate, it being 29 per 10,000 in 1856. With the introduction of a pure water supply and improved sewer system it has fallen to less than 2 per 10,000.

The experience of London, Berlin, Vienna, Albany, and a host of other cities has been precisely the same.[1]

Sewage Disposal and River Pollution.—When we remember that in 1896, 41 per cent. of our population lived in towns having public water supplies, and only 28.7 per cent. in sewered towns, we fear that the municipal authorities have failed to recognize the necessity that a system of public sewerage must go hand-in-hand with the public water supply, the neglect of which simply compels recourse to the various makeshifts for the

[1] In 25 cities using unfiltered water the average typhoid death rate is still 7.7 per 10,000; in 5 American cities supplied with water filtered by the American process, the rate is 5.5, against a rate of 1.1 per 10,000 in cities supplied with water filtered by the natural or English method. The average rate of 5 cities in Europe supplied with mountain springs or deep wells from unpolluted sources is only 0.7 per 10,000.

collection and removal of excreta, and leads to soil pollution and all the other evils already referred to.

In view of the fact that self-purification of rivers is a slow and uncertain process, and that streams once polluted with excrementitious matter cannot be considered a safe water supply, it is high time for civilized communities to take steps toward removing the danger to be found in rivers, which are the sewers and at the same time the sources of public water supplies.

We know, from statistics collected by the Marine-Hospital service, that the towns and cities located on the banks of the Ohio, Potomac, Mississippi, Merrimac, Connecticut, Missouri, the Red, the Columbia, and Wabash rivers show a marked prevalence of typhoid fever, confirming what has elsewhere been proved, that this disease, as also cholera, dysentery, and diarrhœal diseases, can be carried from one town or city to another by means of water courses. There were probably no fewer than thirty-five thousand deaths caused by typhoid fever alone throughout the United States last year, and, based upon an estimated mortality of ten per cent., it is within reason to assume a yearly prevalence of three hundred and fifty thousand cases of this disease. The average duration of a case of typhoid fever is not less than thirty days. If we calculate that an average of $1 a day is expended for care, treatment, and loss of work, and that the value of a human life is $5,000, we have a total loss in the United States of $185,500,000 per annum, from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in England, and the oft-recurring question, "How is it our fathers got along without these so-called modern improvements?" will be satisfactorily answered from an economic point of view.

One of the most pressing needs is an investigation into the pollution of water supplies when such pollution affects or threatens to affect the sanitary condition of the people of more than one State, because the individual States are powerless to protect themselves against the misdeeds of their neighbors. Mr. Barthold's bill for the appointment of a river-pollution commission was defeated; yet that same Congress appropriated $40,000 for the extermination of the gypsy moth. England enjoyed the benefit of such a commission as early as 1855, and, in order to prevent, remedy, and remove the danger of polluted water supplies, adopted a comprehensive system for the disposal of sewage and water filtration, the fruits of which have already been referred to.

No community or individual has a right to pollute streams used for public water supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French, and the French government not only compelled the offending town to dispose of its sewage by irrigation, but also granted a subsidy for this purpose.

In the interest of public health it is to be hoped that every State in the Union will take steps toward the prevention of river pollution, except when towns are located close to the sea, and no lower towns are obliged to use the water for drinking-purposes.

In 1878 the British government appointed a committee to inquire into the several methods of sewage disposal, and concluded that it can be best and most cheaply disposed of by the process of land irrigation for agricultural purposes; but as this is not always practicable other modes of dealing with sewage have been proposed.

It is a gratifying fact that within the past ten or twelve years over one hundred communities in the United States have established plants for the disposal of sewage. The first attempt was made in 1872 at the State insane asylum, Augusta, Me., since which time seventy-eight plants for the disposal by irrigation, and fifteen by chemical treatment, have been established and over forty more projected.

Pure Food and Drug Legislation.—The first movement toward securing comprehensive legislation against the adulteration of foods and drugs in this country was made in 1879. This is all the more surprising because Dr. Mann, in his "Medical Sketches of 1812," remarks that "the bread on the Niagara was made of damaged flour, such as was either not nutritious or absolutely deleterious." It was believed also that the flour contained in some instances an earthy substance, and that its adulterating substance was plaster of Paris. Again, during the Civil War, as early as the winter of 1861–62, an extract of coffee furnished the troops in the vicinity of Alexandria produced nausea and vomiting, and subsequently a government contractor, for having practised food adulteration, was sentenced to a protracted imprisonment.

Instances, therefore, were not wanting pointing to the necessity of such laws; nevertheless, it was not until 1881 that three States, New Jersey, New York, and Michigan, passed laws to prevent the adulteration of food and drugs. The law in New York commenced in the summer of 1882. At the close of the year 286 samples of food and drugs had been submitted to the public analyst for examination, of which 194 had been reported on. Of 119 samples of food, 50 were found adulterated; while of 75 samples of drugs, 32 were adulterated.

Since 1883 quite a number of States have enacted similar laws, but I regret to say that in spite of the absolute necessity for national legislation, which has been agitated ever since 1892, so far every bill presented to Congress has failed to become a law, and food adulterated in one State can be taken to another and sold. It would lead me entirely too far even to touch upon all the frauds which are daily perpetrated. Some adulterations are harmful, others are not. I will simply refer to a very universal article of food, viz., milk. New York City obtains its milk supply from five States, and it amounted in 1896 to nearly seven hundred and twenty-nine thousand quarts a day. Analysis of the milk sold some years ago showed an average dilution with thirty-three per cent. of water. The State inspector found twelve per cent. water added and twenty per cent. of cream removed, the fraud amounting to over $10,000 a day. The results in St. Louis, Chicago, and elsewhere were similar, and indicated the desirability of stringent laws to protect the pocket of the consumer, but when we remember the frightful infantile mortality, and the fact that the speaker has recently presented his conclusions, based upon one hundred and ninety-five epidemics of typhoid fever, ninety-nine of scarlet fever, and thirty-six of diphtheria, and that fifty-two of these outbreaks occurred in this country since 1882, we see at once that the milk traffic should be under strict sanitary control.[1]

Laws Regulating the Sale of Drugs and Poisons.—Forty-two States and Territories have enacted laws to regulate the sale of poisons, but a careful study shows that they should be amended, and greater restriction placed on the sale of poisons generally. A recent investigation by a committee of the Medical and Surgical Society into the extent of the opium and drug habit in the District of Columbia developed some interesting facts, and led to the conclusion that one class of subjects have developed the opium habit by

[1] The results achieved by the health officers of every large city, notably by Reynolds, of Chicago, Wende, of Buffalo, and Woodward, of Washington, in the reduction of infantile mortality, amounting in some instances to over fifty per cent., show the advantage of pure-food legislation.

the use of the milder preparations of opium and some of the various proprietary or secret remedies commonly employed as domestic remedies, such as paregoric, McMunn's elixir, chlorodyne, black drop, soothing syrup, diarrhœa mixtures, pain-killers, etc. Those of another class have evidently acquired the habit by the constant use of prescriptions containing opium, or its preparations, for the relief of pain, the individuals being at first quite unconscious of the enslaving nature of the drug. Still another class of persons belong to the moral degenerates of fast men and women who have acquired the habit by contact with opium habitués, including opium smokers, and through solicitation, invitation, and persuasion have fallen victims to the vice. Since the opium habit is often established by the unauthorized and indiscriminate renewal of prescriptions containing opiates, the New York legislature very wisely enacted, in 1886, a law that no pharmacist shall refill more than once prescriptions containing opium or morphine, or preparations of either, in which the dose of opium shall exceed gr. ¼, or morphine gr. $\frac{1}{20}$, except with the verbal or written order of a physician.

It is clearly the duty of the State to close opium dens and restrict the sale of poisons, and in regard to the sale of patent and proprietary medicines containing poisonous drugs, the contents should be expressed on the label and the word poison added.

Patent and Proprietary Medicines.—By the term patent medicine, as properly employed in this country, England, and Europe generally, it must be understood that the composition is known and can be seen at the patent office. The proprietary medicine is a secret preparation protected by a trade-mark in this country, and hence preferred by the owner, but both are vaguely termed by the public patent medicines. Up to December 10, 1900, the United States Patent Office had issued patents on the following:[1] disinfectants, 321; extracts, 250; hair dyes and tonics, 48; insecticides, 180; internal remedies, 376; plasters, 56; topical remedies, 371; veterinary, 78. Trade marks:[2] drugs and chemicals, 319; medical compounds, 5,974, and increasing at the rate of about two hundred and fifty a year.

The proprietary medicines are subject to the control of the State authorities, and if containing alcohol in sufficient quantity to be intoxicants are subject to internal revenue laws; but so far as my knowledge extends, little or nothing has been done in this country and in England to control the sale of secret remedies. Dr. G. Danford Thomas, coroner of London and Middlesex, before the International Congress of Hygiene, in 1891, very justly urged that all proprietary medicines should be under the patent laws, because the composition is at least disclosed; he would abolish licenses to sell them and confine the sale to chemists and druggists only. In these matters we could certainly profit by the example of the Japanese, Italian, French, and German laws. In the interest of public health the profession should demand adequate legislation; as it is now, hundreds of these proprietary preparations, the composition of which need not even be disclosed to the Patent Office, are advertised in medical journals.

Industrial Hygiene.—The relations of occupation to health and life were studied as early as 1700 by Ramazzini, an Italian physician, and since then numerous monographs have appeared. We know today that persons habitually engaged in hard work, especially in factories and indoors, present a higher mortality than persons more favorably situated, and that the character of occupations influences, to a great extent, not only the average expectation of life, but also the prevalence of certain diseases. We know, for example, that tuberculosis is much more frequent among persons engaged in dust-inhaling occupations, and that the sharp, angular particles of iron and stone dust are more liable to produce lesions of the respiratory mucosa than coal, flour, grain, and tobacco dust. We know, too, that certain establishments, like slaughter houses, glue, soap, and candle factories, chemical factories, etc., are more or less productive of noxious and offensive gases, and that workers in lead, mercury, arsenic, phosphorus, poisonous dyes, etc., suffer especially from the injurious effects, and that other occupations, such as mining, railroading, and contact with moving machinery, involve special danger to life and limb.

For all these reasons the laboring classes need special protection, and in order to render this efficient it must be provided for by the enactment and enforcement of suitable laws. In 1864, 1867, and 1870 England enacted the so-called factory laws. According to Miss S. S. Whittlesey's "Essay on Massachusetts Labor Legislation," child labor, here as in England, was the first aspect to receive attention in legislation as early as 1836. The first law as regards safety and sanitation was enacted in that State in 1877, since which time, from information kindly furnished by the Hon. Carroll D. Wright, of the United States Department of Labor, thirty-two States have enacted similar laws, including legislation requiring seats to be furnished saleswomen in stores and shops. Indeed, in some of the States the latter requirement is the only sanitary regulation. As a result of these laws, the majority of which were enacted during the last decade, commendable progress has been made in the way of ventilation, heating, lighting, removal of dust and injurious gases, means of escape in case of fire, and prevention of injuries by moving machinery.

It is quite true there are other factors which affect the health and longevity of wage earners adversely. So, for instance, unsanitary dwellings, faulty nutrition —the results of badly prepared food and cold lunches —cannot fail to lower the power of resistance to disease, especially when the individual, in consequence of these very causes, has also become a victim of the alcohol habit.

Sanitary Dwellings for Wage Earners.—No field affords better opportunity for philanthropic work than the erection of sanitary homes for wage earners at reasonable rentals, the encouragement of cookery schools, the establishment of sanitary lodgings, model eating-houses, and other betterments of industrial conditions.

The vital statistics of London show that the mortality in the improved dwellings for wage earners is far below the general mortality of the city, the difference being specially marked in the infantile mortality; the general average during the five years ending December, 1890, was 153 per 1,000, while in the "George Peabody" and the "Metropolitan dwellings" it was only 136 and 121 respectively.[1]

[1] Information kindly furnished by Dr. J. B. Littlewood, of the Patent Office.

[2] Information collected from files of the United States Patent Office, by the author.

[1] At a recent meeting of the American Social Science Association, held in Washington, April 18, 1901, Mr. J. H. Patterson, Dayton, Ohio, read a paper on factory sanitation and described a large manufacturing plant of which he is the head, and their close adherence to the principles of hygiene and the uplifting of mankind. The interior of the factory is painted in cheerful colors, extra windows were made to give light, forced ventilation to afford plenty of fresh air, and all dust and acid fumes are carried away by exhaust fans. Bathrooms and well-furnished toilet-rooms are on all the floors. All seats have backs. Clean aprons are furnished by the company, and a dining-room where hot meals are served and a course in domestic economy is conducted. The grounds around the factory, and the houses of the employees, are healthful and attractive. "We have demonstrated," said Mr. Patterson, "that this system pays the employee, the manufacturer, and the buyer: in the health of one, profit of the second, and the improved quality of the product purchased by the third." Bulletin No. 31, Department of Labor, November, 1900, contains an

Rural Hygiene.—When we consider the fact that over seventy per cent. of our population reside in rural districts, that the "bone and sinew" of these are engaged in agricultural pursuits, and that they do not enjoy the benefits of enforced sanitation by local health boards, we see at once the desirability of the family physician extending useful suggestions on healthful building-sites and homes, disposal of house wastes, the importance of a pure water supply, wholesome and properly cooked food, etc. As it is now, the diet is faulty, especially the hot biscuits, greasy fried dishes, while wells and privies are often dangerous neighbors. The undue prevalence of typhoid fever in rural districts could be materially checked by disinfecting the stools with three times the volume of boiling water and the adoption of the earth-closet system. This is all the more important since infection is often spread through the milk supply, and many of our urban population contract disease in the country during the summer months. While prompt disinfection of the excreta is the only rational method, we should also make an effort to get rid of the flies by prompt disposal of the horse manure in which they breed, the abandonment of open privies and surface pollution, removal of garbage and other fly-breeding matter.

Sanitation of Prisons.—Most commendable progress has been made in the construction and management of modern prisons. The mortality at the close of the last century, among prisoners in some of the French prisons, was 250 per 1,000; between 1840 and 1849 it was still 80.2 per 1,000 at St. Gallen, while to-day it is less than 30 per 1,000. Tuberculosis, typhoid fever, diarrhœa, croupous pneumonia, and mental disorders are the most prevalent diseases, but much will be done in future to reduce the excessive mortality by improved lighting, heating, ventilation, good food, bathing facilities, etc.

In some of the damp, dark, and gloomy prisons of Germany over fifty per cent. of all the deaths are from consumption. In the Millbank prison of London, from 1825 to 1842, there were 175 deaths, of which no less than 75 were due to tuberculosis. Besides, 90 prisoners were set free on account of being hopelessly afflicted with pulmonary tuberculosis. In the Illinois State prison at Joliet, during the year 1895, 39 deaths were reported from consumption; in 1900 only 8 occurred. This decrease appears to be due directly to segregation of tuberculous subjects.

Hospitals, Sanatoria, and Dispensaries.—Perhaps no country in the world can boast of better hospital facilities than our own. Indeed, many of our institutions are perfect in sanitary architecture and equipment. There are in the United States no less than 1,776 hospitals, including 35 special hospitals for consumptives; 308 sanatoria, 213 dispensaries, and over 8,000 mineral springs, of which 727 are health resorts. Unfortunately the liberality with which medical charities have been supplied has given rise to shameful abuses, and persons who would shrink from seeking charity in any other form have abused the privileges offered by hospitals and dispensaries.

Correction of Abuses: In 1896, speaking of the city of Washington, no fewer than twenty-one per cent. of the population received free medical treatment; the medical association in 1897 adopted certain rules compelling the attending staff of hospitals and dispensaries to require evidence of dependency; as a result of this system there has been a gradual but positive decrease in the number of charity patients, amounting to over nine thousand last year. It is the simplest, most just, and effective remedy for the correction of this evil.

School Hygiene.—During the year ending June 30, 1900, there were 15,341,220 children enrolled in the common schools of our country. When we consider that the mental and physical vigor of a nation depends largely on the environments of childhood and youth, it seems strange that up to within forty years little or no attention should have been paid to the hygiene of schools. The occurrence of so-called school diseases is not surprising when we reflect that children, on beginning school, enter upon a new life and environment. Up to this time they have been allowed to run and play in the open air, exercise the body and senses, without restraint, but now without a period of transition they are obliged to remain for several hours a day in close and sometimes unsanitary schoolrooms, taxing their minds and straining their eyes for near objects. Experience teaches and statistics confirm the conclusion, that quite a number of children suffer from certain physical defects and diseases, which, because rarely observed before the school period, may be justly attributed to school environments. Among the most common of these affections are myopia, lateral curvature of the spine, dyspepsia, anæmia, muscular debility, headache and nose-bleed, nervous affections, and tuberculosis. Ware, of our own country, as early as 1812 called attention to the fact that myopia was most frequently developed in the schoolroom, and during the past forty years we have been enlightened as to the cause of this and other defects, and many excellent monographs have been written on the construction of school buildings, arrangement of recitation-rooms as regards light, ventilation, adjustable seats and desks, proper type for text-books, and more rational methods of mental and physical training. This, together with a commendable zeal on the part of the authorities to correct existing evils, has resulted in many reforms, the fruits of which are already apparent in a decrease of the diseases referred to.

Medical Inspection: I cannot enter into details concerning the prevention of the spread of infectious diseases among school children, but desire to emphasize the necessity for medical inspectors, whose duty it should be to visit the schools, examine pupils, and give such directions as will reduce the dangers of spreading contagious diseases to a minimum; they should also make sanitary inspection of the buildings and present such recommendations as are necessary in the interest of the health of both and pupils and teachers, and as the physicians were perhaps the first to recognize the fact that "the system of education should be made to fit the child, not the child the system," the teachers may derive much aid from such consultations. Among the cities that have inaugurated such inspections since 1894 are Boston, New York, Brooklyn, Chicago, Milwaukee, Louisville, St. Louis, Philadelphia, Jersey City, Brookline, Mass., Buffalo, Minneapolis, and Salt Lake City, and they have proved of inestimable value.

Smallpox and Compulsory Vaccination.—In this connection, attention is invited to the undue prevalence of smallpox in the United States; the total number of cases reported to the United States Marine-Hospital service during the past fall and winter, up to March 29th, was 11,964, as compared with 7,279 cases for the corresponding period of the preceding year, and it is doubtless due to neglect in vaccination. Dr. Abbott estimates the vaccinated portion of the inhabitants of the United States at not far from ninety per cent., and the revaccinated portion at probably fifty per cent. With the introduction of glycerinated animal lymph every vestige of prejudice against vaccination should cease, and compulsory laws should be enacted in every State, so that smallpox here, as in the German army, may become practically unknown. While quite a

article on betterment of industrial conditions, showing what has elsewhere been accomplished, every effort being in the right direction, except that free medical attendance is being furnished by certain companies, involving a contract system with physicians, which ought never to gain a foothold on American soil, because it has proved a bane to the profession elsewhere.

number of States have enacted laws requiring that unvaccinated children shall not be admitted to the public schools, it is believed that these laws are not rigidly enforced.

Venereal Diseases.—A careful perusal of Dr. Prince A. Morrow's article on the "Prophylaxis of Venereal Diseases" (*Phila. Med. Jour.*, April 6, 1901) should stimulate our efforts in the prevention of diseases which affect not only the offender, but innocent wives, the offspring, and not infrequently even the medical attendant. According to Fournier, one-seventh of the population of Paris is syphilitic, and Morrow, from statistics gathered in New York, believes it is quite possible that Fournier's figures, with some modification, may apply to New York. Neisser holds that gonorrhœa is, with the exception of perhaps measles, the most widespread of all diseases. Other German authorities have computed that fully three-fourths of the adult male population and one-sixth or more of the adult females have contracted gonorrhœa; that eighty per cent. of all deaths from disease of the uterus and its adnexa are of gonorrhœal origin, while blennorrhœa neonatorum contributes a contingent to our asylums for the blind estimated at from ten to twenty per cent.—from forty to sixty per cent. before the Credé method was instituted, not to mention the destructive effects on the procreative functions. Dr. S. M. Burnett, of Georgetown University, believes that fifteen thousand of the fifty thousand blind persons in the United States lost their sight from this cause, which according to his calculation involves a financial loss to the commonwealth of seven and one-half millions annually.

The measures which have been proposed for the control of the social evil and the prevention of its consequences are numerous enough, but not so easy of practical application. On the whole I believe the remedy lies in public education, and the task as usual falls on the medical profession, especially the trusted family physician. Public lecturers on the purity of man commit a serious mistake, however, when they picture the consequences of the social evil, without offering a suitable remedy. We should make a strong plea in favor of continence, and tell our young men that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. We should assure them that by the cultivation of pure thought, removal of temptation, normal mental and vigorous physical exercise, continence may become not only possible but easy. And we can hardly go astray if we follow Dr. Parkes in advising a pure young man to make his home after the age of twenty-one, and thus secure himself both from the temptations and expenses of bachelorhood.

The Management and Control of Infectious Diseases.—It is the field of infectious diseases where preventive medicine has achieved and doubtless will continue to achieve its greatest triumphs, and there is ample room, when we consider that during the census year of 1890 there were not less than 102,199 deaths from consumption, 74,496 from pneumonia, 74,711 from diarrhœal diseases, 41,677 from diphtheria, and 25,058 from typhoid fever. In spite of centuries of groping after facts, we knew nothing of the real nature of infectious diseases until the middle of the present century, and even twenty-five years ago the text-books still discussed the subject of miasma and contagia, whose nature had never been demonstrated to our senses. With improved microscopic lenses and the development of bacteriology, more especially the discovery of the anthrax bacillus by Davaine, Pollender, and Brauell (1849–1855), scientific medicine had its birth, and to-day we know that such diseases as tuberculosis, glanders, leprosy, cholera, erysipelas, wound and puerperal infections, gonorrhœa, pneumonia, cerebrospinal meningitis, typhoid fever, diphtheria, malaria, influenza, dysentery, bubonic plague, and possibly carcinoma are caused by living organisms, capable of reproduction within and without the body, and this is a strong argument in favor of the microbic nature of other infectious diseases, in which the specific organism has not yet been isolated.

The eradication of preventable diseases is the highest aim of scientific medicine to-day. The public should be made familiar with the nature and causes of infectious diseases, and be taught that many are a source of danger, against which it is entitled to be warned by proper notification through the health officer. This notification should be made compulsory in cholera, yellow fever, smallpox, chickenpox, typhus and typhoid fever, diphtheria and membranous croup, scarlet fever, tuberculosis, cerebrospinal meningitis, leprosy, glanders, bubonic plague, whooping-cough, and measles. And let me say that a prompt and correct diagnosis is the first and most important step in preventive measures. The health department should have competent medical inspectors and a clinical laboratory for the verification of the diagnosis, and have the power in certain of these diseases to display warning signs, enforce isolation and disinfection, and to take such other steps in the way of immunizing agents as may be deemed necessary to limit their spread.

Isolation, to be effective, should extend to all persons who have come in intimate contact with the patient, but this is rarely enforced except in smallpox, in the case of the attending physician, and the wage earners of the family, but it is clearly their duty to take special precautions in the way of clothing and personal disinfection. Matters of this kind ought never to be left to the discretion of the family nor the attending physicians, for even members of the profession often entertain widely opposing opinions on the subject of quarantine and disinfection, but the principles which ought to be carried out, apart from being a matter of conscience, should be accepted in a practical sense and embodied in effective laws.

Disinfection: Scientific disinfection had its inception with the labors of Koch and Sternberg some twenty years ago. Although, as we have seen, certain physical and chemical agents were used empirically for ages, now we know from laboratory experiments that they are effective because they destroy the vitality of the germs. We also know that, in most of the contagious diseases, the infective matter is given off by the patient chiefly through the secretions and excretions, and it is evident that disinfection to be of value must be directed to these and all the media with which the patient has come in contact.

"If Certain Diseases Are Preventable, why Are They not Prevented?"—My answer is, that while every scientific physician familiar with biological research knows full well that if the methods of prevention recommended by sanitarians, including the prompt disinfection of the dejecta of every typhoid-fever patient, the expectoration and excretions of diphtheria and tuberculosis patients, for example, were adopted, these diseases would be reduced to a minimum and probably eradicated in the course of a few years. The facts are, these recommendations have not been generally adopted, because the knowledge gained by experimental medicine is not sufficiently diffused. Nor are we responsible for the fact that so many of our States still permit every charlatan to practise one of the most difficult and responsible of all professions without a uniform and rigid system of examination. However, we owe it to ourselves and to humanity to take positive steps in behalf of higher medical education and laws regulating the practice of medicine. So long as we permit the existence of irregular and incompetent practitioners, so long will

the public be deceived and will we be obliged to compete with incompetent men, and so long as we tolerate the exponents of so-called "Christian Science," osteopathy, and other quacks, infectious diseases will be spread as the result of ignorance and neglect. A strong organization, such as is proposed for the American Medical Association and the various State medical societies, will speedily accomplish this and other reforms.

During the year 1900 there were 119 regular medical schools in this country, with 1,079 female and 21,673 male students; of these 22,752 students, 2,327, or about ten per cent., had degrees of A.B. or B.L. The number of graduates last year was 4,720. The homœopathic schools had 1,584 male and 325 female students, and the eclectics 500 male and 52 female students. The number of registered physicians in the United States in 1900 shows an average for the whole of about 1 to 636 inhabitants. In 31 States and Territories, according to D. McIntyre, an examination is required, in 9 certain diplomas are accepted, all others must be examined; in 5 only a diploma is required, and in 5 the laws practically impose no restriction. In 1900 there were 150 national and State medical societies, 1,097 county and local medical societies, and 282 medical journals, of which 28 were exclusively devoted to hygiene and public health.

Forecast of the Result of the Census Work upon the Mortality Statistics.—Notwithstanding these and other disadvantages in the way of defective sanitary legislation, the American medical profession has reason to be proud of its work in the century's progress of hygiene and preventive medicine. It may be truly said that every hospital or other medical charity owes its foundation and success to the activities of the medical profession. Nay, every law inscribed on the statute books, in the interest of public health in this and other countries, is the work of our noble profession. Acting upon the lofty principle that the education and betterment of the people in sanitation are not less humane than the healing of the sick, the American medical profession has filled the measures of its philanthropy by advocating laws to "regulate the health and physical well-being of communities," and thereby lessen its own income, but the results obtained during the last ten years are sufficient recompense. By the courtesy of Mr. William A. King, chief statistician of the United States census bureau, I am enabled to give you a forecast of the result of the work upon the mortality statistics at the close of the century:

The mortality returns for the twelfth census, which relate to the year beginning June 1, 1899, and ending May 31, 1900, have not yet been tabulated in full, but sufficient progress has been made to permit a comparison of the preliminary results with the figures for 1890 for a portion of the country.

Considering these results for these States in which the returns were secured from registration records in both 1890 and 1900, there appears to have been an absolute decrease in the general death rate of about 1.5 per 1,000 of population. This decrease seems to be most marked in the rates due to scarlet fever, whooping-cough, diphtheria and croup (combined), typhoid fever, malarial fever, consumption, diarrhœal diseases, and diseases of the nervous system, the decrease in the mortality from diphtheria and croup amounting to more than fifty per cent. On the other hand, the rates due to carcinoma and tumor (combined), Bright's disease, heart disease and dropsy (combined), and pneumonia are apparently greater than in 1890, the increase being most marked in case of Bright's disease, carcinoma and tumor, and pneumonia.

The death rate by age periods in the registration States has not yet been computed, as the population figures are not yet available, but the effect of the decrease in the rates due to the causes specified is shown by a decrease in the proportion of deaths occurring at each period up to thirty years.

The results in the decreased rate of diphtheria, croup, scarlet fever, typhoid fever, whooping-cough, consumption, malarial fever, and diarrhœal diseases are the direct outcome of preventive medicine, and are as gratifying as they are striking. We note with regret the increased rate in Bright's disease, heart disease, dropsy, and pneumonia, and may well pause to inquire whether our ever-increasing "National Drink Bill," averaging 17.68 gallons per capita, may not be a factor in the development of these diseases, especially since there is reason to believe that the habitual and immoderate use of alcohol, apart from increasing the connective tissue and causing cirrhosis, also produces fatty degeneration, especially of the heart, liver, and arterial coats, probably because it promotes the conversion of albuminoids into fats.

Without wishing to underrate the brilliant achievements in surgery of the brain, stomach, intestines, liver, gall bladder, and other abdominal organs, and even wounds of the human heart which have been successfully sutured in four of the nine cases reported, what after all are the ultimate benefits compared with the results obtained by improved methods in sanitation?

Since our knowledge of the nature of infectious diseases has been more and more defined, scientific methods for their prevention have been applied. We have learned, too, that in addition to the germ there must be a suitable soil for its proliferation, and that sanitation will not only destroy the environments for its development without the body, but also place the system in the best possible condition to resist its toxic action. The application of this knowledge has saved millions of lives besides an incalculable amount of human suffering and distress, not to mention the economic aspect of the question. When we remember all this and the fact that Jenner's discovery, at the close of the last century, of a fundamental and practical method of producing artificial immunity, has been far eclipsed in the last twenty years, and that we possess to-day not only curative but also protective sera for diphtheria, erysipelas, tetanus, plague, and possibly cholera, tuberculosis, typhoid fever, pneumonia, and a number of other immunizing agents for diseases of man and lower animals, we have reason to believe that the solution of the problem of immunity is only a question of time, and we may indeed expect great possibilities in our battle against infectious diseases.

To the solution of this problem, the labors of Salmon and Smith, Sternberg, Welch, Osler, Councilman, Reed, and other Americans engaged in experimental medicine have contributed their full share. Progress has crowned our past, we will not retrograde. Let our conduct raise no blush on the cheek of posterity. Let us hand-in-hand with heart and mind join in promoting the welfare of American medicine, until she has reached the proudest pinnacle in the world of science, until she has become the fountain-head of knowledge for the benefit of mankind. Then when at last we are called upon to pass through the portals beyond, Minerva Medica, in her sweeping robes of state, will proudly but reverently present us to the Supreme Healer of the Universe as types of the true physician.[1]

[1] In the preparation of this address I have been greatly aided by the library of the surgeon-general's office, the historical monographs on hygiene by Professor Kinkelnburg, of Bonn, now deceased, and Dr. S. W. Abbott, of our own country. I am also greatly indebted to Dr. W. T. Harris, the commissioner of education, and Dr. A. E. Miller, of his bureau. Other acknowledgments have been made in the text and are gratefully renewed.

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ROCKEFELLER'S INSTITUTION FOR MEDICAL RESEARCH.

IT is announced that John D. Rockefeller has declared his intention of establishing an institution for medical research in New York City, and it is further stated that Mr. Rockefeller has placed at the disposal of the foundation, which is to be called "The Rockefeller Institute for Medical Research," the sum of $200,000. This amount is not intended as an endowment, but is to be spent as needed.

Such an institution as the one proposed has long been a necessity in this country. The MEDICAL RECORD has repeatedly advocated the advisability of its establishment, notably in the direction of State endowment. Medical societies in the different States have also added their endorsement, and Dr. Roosa, of this city, in an interesting and forcible article recently contributed to these columns, voiced the general professional sentiment on the subject. Up to the present time, however, no practical turn was given to these suggestions, save in the direction of establishing a State laboratory at Buffalo, which, as our readers know, has been doing such excellent work in connection with experimental studies of cancerous growths. It now remains for a wealthy private citizen to give a proper practical turn to a long-cherished scheme, and place bacteriological study in this country on a proper basis of assumed progress.

The board of directors, which is comprised of such well-known men as Dr. William H. Welch, Dr. T. Mitchell Prudden, Dr. Emmett Holt, Dr. C. A. Herter, Dr. Theobald Smith, Dr. Simon Flexner, and Dr. H. M. Biggs, is in itself a guarantee that the work of organizing and bringing to successful issue the purpose of the founder will be thoroughly performed. The directors have decided not to erect a laboratory at once, but to make use of the materials now at hand in the various medical schools of the city, and, when they deem the time is ripe, to launch out in a more ambitious manner.

The scientific men of the United States, up to the present time, have been severely handicapped in the contest for the laurels of original research, in that the money has been lacking to render them independent of the importunate calls which medical practice or teaching has imposed upon them, for it must be borne in mind that science is a hard mother and often does not give her children bread.

The founding of an endowed institution for the investigation of the unsolved problems of medical science will set free the men of the American medical profession educated in scientific lore, and will permit them to follow the bent of their minds, to the honor of their country and to the good of mankind, untrammelled by sordid considerations.

There is a feature in connection with the organization of the Rockefeller Medical Institute which strikingly illustrates the spirit animating those into whose hands the direction of the enterprise has been placed, and which should inspire confidence in their ability to carry through the project to the fullest advancement of science. This is their expressed determination to commence in a modest way; not to cater to sensationalism, but to proceed slowly and cautiously, and to build a reputation upon a sound basis by careful investigations, the results of which will speak for themselves. The example set by Mr. Rockefeller will be followed, doubtless, by rich men in other American cities, and a new era, it is hoped, will dawn for medical research on this side of the Atlantic.

INFLUENZA IN CHICAGO.

DISASTROUS to life and health as influenza has shown itself to be in all parts of the United States, in no one place probably has its effects been more deadly than in Chicago. There would appear to be a something in the climate of the great lake city, or perhaps an idiosyncrasy of its people, which renders them in a high degree susceptible to influenza. The disease has been the most prominent factor in the increase of the average mortality rate of Chicago for the past twelve years.

In 1889, when influenza made its appearance in epidemic form, the death rate of Chicago stood at 18.11 per 1,000, and rose to 23.92 per 1,000 in 1891, the total deaths from all causes in the latter year being the highest in number ever recorded in the history of the city. From that time till now the mortality rate has risen and fallen in sympathy with the rise and fall of influenza, although it is satisfactory to note that the annual death rate for the year ended March 31, 1901, was only 14.07 per 1,000.

A significant fact mentioned in the *Monthly Bulletin* of the Chicago department of health, pointing to the baleful influence of influenza, is that pneumonia has displaced tuberculosis as the principal cause of death in Chicago during the last ten years. In the previous half-century consumption had levied the heaviest toll on human life in that city, but in the decade 1891–1900 there were nine per cent. more deaths from pneumonia than from consumption.

The *Bulletin* concludes that apparently influenza has become domesticated in Chicago, and after remarking that its early recognition is the necessary first step to any restriction of its spread, deplores the fact that laboratory facilities for such recognition are not adequately appreciated.

The health department laboratory of Chicago has already done such excellent work in the line of bacteriological research that it is somewhat a matter for surprise that the profession fails to appreciate its efforts and continues to manifest indifference to the opportunities offered. "Prevention" should be the motto in the fight against disease, and precautionary measures best adapted to check its spread should be put into force at the first note of danger. The *Monthly Bulletin* asserts, with much reason for its assertion, that the way to fight influenza is through the culture tube and the microscope. This much at any rate is certain, that the more quickly the presence of the disease is detected, the better will be the chance of preventing its dissemination; and if bacteriological examination provides the most effective means of detection, then the medical men of Chicago will be acting in the best interest of the community by availing themselves of the laboratory facilities freely offered by the health department.

THE ABOLITION OF THE ARMY CANTEEN.

At the time when, through the well-meaning but mistaken efforts of members of the Woman's Christian Temperance Union, the soldiers' canteen was abolished, the Medical Record entered a protest against the action of Congress and predicted that so radical an innovation would not have the salutary effects anticipated by the women enthusiasts. The fact was pointed out that a large number of men would have alcoholic stimulants, and the only result of closing the canteens would be that they would satisfy elsewhere their appetites for strong drink. The liquors sold at the canteen were at any rate wholesome, while the stimulants retailed at the outside saloons, although doubtless sufficiently potent, possess few other redeeming properties, and certainly are calculated to do anything but good to the health of our fighting-men.

This forecast already has been verified, and, indeed, has recently received striking confirmation. Major Louis Seaman, late surgeon First United States Volunteer Engineers, read before the session of the Association of Military Surgeons a paper, the greater part of which consisted of a sweeping denunciation of the shortsighted policy of the authorities in doing away with the canteen, and which showed that the soldiers had suffered very considerably in consequence.

Major Seaman commenced his indictment of the course pursued by Congress by averring that its procedure had not been dictated by zeal for the soldiers' welfare, but had been undertaken rather against its better judgment in a servile catering for votes, and in direct opposition to the overwhelming testimony of line and staff officers in favor of the retention of the canteen.

As Major Seaman sagely indicates, when the soldier cannot obtain a glass of beer or light wine at the canteen, he generally makes for the nearest saloon, where, in Porto Rico, he is served with rum loaded with fusel oil; at home, with vile doctored whiskey; in the Philippines with vino, a sort of wood alcohol distilled from the nepa leaf, or in China with samshu, a product of rice—all rank poisons, one or two drinks of which "steal away his brains."

"At Paniqui in the Philippines during February and March, 1900, there were between seventy and ninety trials by court-martial each month; four-fifths of the offences were 'intoxication from native vino.' A canteen was established in the latter part of March. Since then and until February, 1901, there were never more than twenty trials in any month." Major Seaman sums up his arguments in favor of re-establishing the canteen thus: "When the canteen was maintained, the soldiers drank less, were under better influences, and returned sober and contented to their library and reading-room or their quarters. When the misguided enthusiasts of the Woman's Christian Temperance Union stop to reflect that the result of their influence in inducing Congress to abolish the canteen has produced an enormous increase of wretchedness in the army hospitals, and made many a husband, father, and lover the victim of a degrading disease, they may indulge in less self-congratulation and conclude to cease interfering with institutions about which they are hopelessly ignorant. The canteen was the most rational compromise that the ripe experience of the ablest officers of the army could devise."

An animated discussion followed the reading of Major Seaman's paper, and so greatly impressed were the majority of those present with the force of his philippics, that a resolution was carried to the effect that it was a mistake to abolish the canteen, and an earnest recommendation was made to re-establish it at the earliest possible date.

What is really needed in questions of this nature is the infusion of a little more rational common sense and a little less irrational, emotional sentiment.

A NATIONAL PSYCHO-PHYSICAL LABORATORY.

A movement is on foot to establish a psycho-physical laboratory in the Department of the Interior. This question has been mooted for some time, and it would appear that the project, if carried out on the lines drawn by its promoters, should be of great value as a means of precise psycho-physical and anthropological study. The aim of this suggested institution will be to collect sociological, pathological, or abnormal data, especially as found in children, and in criminal, pauper, and defective classes, and in hospitals. The scope of the work will not be limited to this field alone, but will extend to experiments peculiarly within the province of physiological and pathological experts. So much is heard of degeneracy in these days that it would be well if, in a country which, like America, contains people gathered from almost every race upon the earth, and recruited largely from the pauper, and to a lesser extent from the criminal and defective, classes, a laboratory, supported by the State, for the study of all forms of abnormality, should be founded.

Nowhere in the world can be found more varied and plentiful opportunities for this form of investigation.

The fact should be also borne in mind that the United States is behind many of the European nations in this particular and important branch of scientific research. It is therefore fitting and right that the Government should take upon its shoulders the burden of providing the means for prosecuting such investigations upon a sufficiently broad and comprehensive scale.

SURGICAL TREATMENT FOR PENDULOUS ABDOMEN.

WHILE excessive deposition of fat may be directly due to the character of the diet and a particular mode of life, it is probable that hereditary tendencies, though an indirect, constitute yet a most important etiological factor. Such a condition may assume the form either of a generalized obesity, or adiposis, or of a localized accumulation of fatty tissue, lipomatosis, and this may be single or multiple. Both of these morbid states, though inherently benign, may, by reason of their intensity or their extent, become sources of great annoyance, if not actual menaces to life.

Fatty tumors are amenable only to surgical treatment, while the state of obesity or adiposis may at times be greatly ameliorated by appropriate dietetic treatment, rational denutrition cures, systematic physical exercise, and intelligent employment of preparations of thyroid gland, although here also surgical treatment may occasionally be required. Such an indication will sometimes be found in cases of excessively pendulous abdomen, complicated by marked intramural deposition of fat. An interesting instance of this has recently been reported by Dr. Lindsay Peters (*Annals of Surgery*, March, 1901, p. 299). The patient was an extremely obese woman, thirty-two years old, with transient glycosuria apparently of lipogenic or dietetic origin. She had not been unduly stout until the age of twenty-two or twenty-three, when her breasts suddenly became large, flabby, and pendulous. These were removed several years later on account of the annoyance they caused, and were found to weigh nearly twenty-five pounds. Subsequently fat began to accumulate in the abdominal walls, which soon hung down in large folds, these folds in the erect posture covering the upper portion of the thighs and in the sitting posture reaching almost to the knees. The greatest circumference of the abdomen was 200 cm. at a level of 12 cm. above the umbilicus. The patient had not been a hearty eater, but thirst had been marked from the time the breasts began to grow excessively in size, and she drank large quantities of water. She weighed two hundred and eighty-five pounds.

The excision of an enormous crescent of abdominal skin and subcutaneous fat was proposed and assented to. Accordingly, with the patient anæsthetized and in the dorsal posture, a transverse incision, 85 cm. long, was made 13 cm. above the umbilicus, through a layer of fat 5 or 6 cm. thick, extending across the abdomen from the line of contact with the table on one side to a corresponding point on the opposite side. The fat was separated from the underlying muscle in a downward direction, and a lower transverse incision was made about 5 cm. above the line of reflection of the pendulous fold, meeting the first incision at its extremities. A great crescentic mass of skin and fat was thus freed and removed. The wound was closed by means of silkworm-gut and catgut sutures. The subsequent course of the case was uncomplicated and the sugar disappeared from the urine. The removed mass of fat and skin weighed 7,450 gm. The patient was not permitted to sit up for a month, and was discharged in good condition thirty-seven days after the operation, her weight having been reduced from two hundred and eighty-five to two hundred and twenty-six pounds. The improvement was still maintained after the lapse of two years.

News of the Week.

Our Report of the American Medical Association, which has been telegraphed in full up to the time of going to press, will, we believe, be especially valued by such of our numerous readers as are interested in the doings at St. Paul. The distance from New York was too great to trust to the mail service, and hence the entire proceedings as they now appear were duly wired up to the last available moment of publication. Appreciating the fact that this is the kind of service demanded by modern journalism, we take the greatest pleasure in giving our host of subscribers all the benefits which accrue from it.

The Improved Sanitary Conditions at Havana.—The report of Major Gorgas for the month of April shows that the death rate was 26.64 per thousand. This is the smallest death rate for April, with the exception of 1900, that has occurred since 1889. The increase is due to deaths among children under five years of age, and this is caused principally by diarrhœal diseases. In point of health Havana now compares favorably with many of the larger cities of civilized countries. Havre, France, with a population of 119,470, had for the week ending March 16, 1901, 67 deaths, which would give a death rate of 29.02; Munich, with a population of 508,445, had for the week ending March 16, 1901, 266 deaths—death rate, 27.20; Dublin, with a population of 346,128, for the week ending March 23, 1901, had 243 deaths—death rate, 36.51; Kingston, Jamaica, with a population of 46,542, for the month ending March 31, 1901, had 186 deaths—death rate, 47.95. The condition of the city with regard to yellow fever is most encouraging, there having been but two cases of yellow fever and no deaths. This is the smallest April report of which there is any record. From March 8th to April 20th, a period of forty-three days, there were no cases. In 1900 the longest period was from March 26th to April 1st, both inclusive, seven days. As the population subject to yellow fever is considerably larger now than at that time, this indication is very favorable. Dr. Gorgas thinks it also shows that the measures recently inaugurated, with regard to killing mosquitos in and about the infected area, are having good results. The report

for contagious diseases shows no smallpox in the city, the last case having occurred in July, 1900. The amount of sanitary work continues large. The department is not now doing as much cleaning of houses with its own force as formerly, about two-thirds of the men having been transferred to the mosquito brigades. They are employed in cleaning out the various ditches and streams where stagnant water is found, and putting kerosene oil in all of these places. During April about twenty thousand houses were gone over in this manner. A little oil is placed in every receptacle containing standing water, and about an ounce into every closet and sink in the houses having water connections. Nearly every house in Havana has a cess-pool, and these cess-pools are ideal breeding-places for mosquitos. The oil in this way runs into the cess-pool and kills the larvæ. Dr. Gorgas says he has recently examined several of the main sewers that empty into the bay, and has seen a large number of larvæ floating out, showing that a considerable number are being killed by this method. If any argument were needed to show the folly of the Cuban Constitutional Convention in seeking to annul the sanitary clause of the Platt resolutions, the wonderful regeneration of Havana under Major Gorgas' masterly administration furnishes an all-sufficient one.

Association of Military Surgeons of the United States.—The annual meeting of this association was held in St. Paul on May 30th and 31st, and June 1st, under the presidency of Dr. A. J. Stone. The convention was called to order by Brig.-Gen. John F. Fulton, and after prayer by Archbishop Ireland addresses of welcome were delivered by Governor Van Sant and Judge E. A. Jaggard. On recommendation of the special committee appointed for its consideration, the resolution presented at the session of last year, amending the by-laws so as to admit ex-Confederates to membership, was adopted. Among the papers read were: "Treatment of Gunshot Wounds of the Abdomen," by Lieut.-Col. J. Van R. Hoff; "Varicocele, is it Properly a Disability from Enlistment?" by Major Bradley; "Appendicitis," by Gen. J. D. Griffith, and "Observations in China and the Tropics on the Canteen and on the Army Ration," by Major L. L. Seaman, late surgeon of the First United States Volunteer Engineers. The following resolution, presented by Dr. Seaman, was unanimously adopted:

"*Whereas*, The Association of Military Surgeons of the United States, now in session at St. Paul, recognizes that the abolition of the army post exchange or canteen has resulted, and must inevitably result, in an increase of intemperance, insubordination, discontent, desertion, and disease in the army; therefore be it

"*Resolved*, That this body deplores the action of Congress in abolishing the said post exchange or canteen, and, in the interests of discipline, morality, and sanitation, recommends its re-establishment at the earliest possible date."

It was ordered that a copy of Dr. Seaman's paper be sent to every member of Congress and to each officer of the Woman's Christian Temperance Union. The following officers were elected: *President*, Lieut.-Col. John Van Rensselaer Hoff, medical department, United States army; *First Vice-President*, Brig.-Gen. R. A. Blood, Massachusetts volunteer militia, retired; *Second Vice-President*, Surg.-Gen. Walter Wyman, United States Marine-Hospital service; *Secretary*, Major James E. Pilcher, United States army, retired; *Treasurer*, Lieut. Herbert A. Arnold, assistant surgeon, Pennsylvania National Guard, re-elected. The determination of the time and place of the next meeting was left to the executive committee.

"**Vratch.**"—The types made us say last week that this leading Russian journal had been in existence seventy-one years. It was founded twenty-one years ago by the late editor, Dr. Manasseïn.

The Maine Medical Association.—The forty-ninth annual meeting of this society will be held in the common council chamber, City Building, Portland, on June 12–14, 1901, under the presidency of Dr. Edward H. Hill, of Lewiston. The corresponding secretary is Dr. C. A. Peaslee, of Wiscasset.

The American Medico-Psychological Association.—The fifty-seventh annual meeting of this society, formerly known as the "Association of Medical Superintendents of American Institutions for the Insane," will be held at the Hotel Pfister, Milwaukee, on June 11–14, 1901, under the presidency of Dr. P. M. Wise, of New York. The secretary of the association is Dr. C. B. Burr, of Flint, Mich.

The Jamaica Hospital has hitherto had a mixed staff of ten physicians, seven regulars and three homœopaths, but the incongruity of this recently struck the board of managers and the homœopathic members of the staff were requested to resign. They did so, but it is said that there will be some strong protests against the action of the board on the part of friends of those who resigned.

The Indiana State Medical Society.—The fifty-second annual meeting of this society was held at Great Bend on May 15th, 16th, and 17th, under the presidency of Dr. G. W McCaskey, of Fort Wayne. The title of the president's address was "Physiology the Basis of Chemical Medicine: A Plea for Scientific Method." Dr. John A. Wyeth, of this city, delivered by invitation an address on "The Making of a Doctor." The officers elected for the ensuing year were: *President*, Dr. A. W. Brayton, Indianapolis; *Vice-President*, Dr. J. B. Berteling, South Bend; *Secretary*, Dr. F. C. Heath, Indianapolis; *Assistant Secretary*, Dr. W. H. Gilbert, Evansville; *Treasurer*, Dr. A. E. Bullson, Fort Wayne. The next meeting will be held at Evansville.

The Hospital Graduates' Club.—The annual dinner of this society took place at the Hotel Manhattan on the evening of May 23d, Dr. William Kelly Simpson presiding. A number of songs were well rendered by Messrs. Myles Bracewell, A. Hobart Smock, Paul Dufault, and A. J. Watrous, accompanied by Mr. Clarence Reynolds. Addresses were made by Judge Sweazey, of Newark, Mr. Martin Littleton, of Brook-

lyn, and Drs. G. E. de Schweinitz, of Philadelphia, and J. D. Bryant, E. G. Janeway, William K. Otis, and James E. Newcomb, of New York. There was an unusually large attendance of members and their guests.

The Late Dr. Conrad Wienges.—At a meeting of the attending staff of Christ Hospital, Jersey City, on May 24th, the following minute was adopted:

"We the members of the medical board of Christ Hospital record with sincere sorrow the death of our colleague and friend, Conrad Wienges, M.D., and in his demise the loss of a valued member, whose great interest in the work of this institution, and whose kindly and genial manner has so won our confidence that we cannot but regard his departure as a sad and personal bereavement.

"In the death of Dr. Wienges we mourn a citizen of high character, one long and honorably identified with our hospital, in the records of which he will always live as a faithful, intelligent, and esteemed member of his profession.

"We, as a board, tender our heartfelt sympathies to his bereaved family, and trust that the memory of his good work may soften their great sorrow.

(Signed) "B. P. CRAIG, M.D., President Medical Board."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending June 1, 1901. May 25th.—Dr. J. H. Iden appointed assistant surgeon in the navy, from May 4, 1901. May 28th.—Medical Director W. S. Dixon commissioned medical director, from April 28, 1901. Medical Inspector C. G. Herndon commissioned medical inspector, from April 28, 1901. Passed Assistant Surgeon E. V. Armstrong detached from the *Vermont* and ordered to Key West naval station for duty at Dry Tortugas. Assistant Surgeon T. M. Lippitt ordered to the Washington navy yard, June 1st. Assistant Surgeon R. B. Williams detached from duty at Dry Tortugas and ordered home, to be in readiness for sea duty. Assistant Surgeon J. H. Iden ordered to the naval hospital, Chelsea, Mass., for duty. May 29th.—Passed Assistant Surgeon J. F. Costigan detached from the *Yorktown* and ordered home; resignation to be accepted after arrival. Assistant Surgeon W. M. Garton detached from the Washington navy yard, June 1st, and ordered to the *Indiana*. Assistant Surgeon H. O. Shiffert ordered to the *Nashville*. Assistant Surgeon E. Thompson ordered to the *Solace*. Assistant Surgeon R. K. McClanahan ordered to the *Culgoa*. Pharmacist J. Cowan detached from the Manila and Cavité naval station and ordered to the naval hospital at Yokohama, Japan.

The Montefiore Home for Consumptives.—On Decoration Day the Country Sanatorium for Consumptives, which is to be conducted in connection with the Montefiore Home, was opened at Bedford. The sanatorium consists of a group of five frame buildings on a high hill near the railroad station. The administration building is in the middle and is flanked by wings on either side, which contain wards behind which are accessory buildings for kitchen and laundry. Addresses were made by Mr. Lyman Bloomingdale, Vice-President Roosevelt, and Bishop Potter. A large flag was presented to the institution by Mr. H. P. Murphy, representing Lafayette Post, G. A. R., and was accepted in behalf of the home by Mr. Henry Solomon.

The Plague in Hong-Kong. — During the week ending May 25th, there were one hundred and eighty-seven deaths from the plague in Hong-Kong, almost wholly among the natives.

Official Announcement of Rockefeller Institute.—Through the generosity of Mr. John D. Rockefeller, there has been established an institute, to be known as the Rockefeller Institute for Medical Research. The purpose of the foundation, as the name implies, is to furnish facilities for original investigation, particularly in such problems in medicine and hygiene as have a practical bearing upon the prevention and treatment of disease. The sum of $200,000 has been placed at the disposal of the board to begin the work. This is not for an endowment, but may be used in a series of years for current expenses. The home of the Institute will be in New York, although, as will be seen from the make-up of the board of directors, medical men from neighboring cities will share in its management. The board is at present constituted as follows: William H. Welch, M.D., Baltimore, *President;* T. Mitchell Prudden, M.D., New York, *Vice-President;* L. Emmett Holt, M.D., New York, *Secretary;* C. A. Herter, M.D., New York, *Treasurer;* Theobald Smith, M.D., Boston; Simon Flexner, M.D., Philadelphia; H. M. Biggs, M.D., New York. It is not intended to build at once, but with the funds placed at the disposal of the board work will be begun under its direction in several different places. The immediate aims of the board are twofold. First, to shape the lines of the work along which the Institute may wisely develop, both in contributions to knowledge and in the application of existing knowledge to humane ends. When this is done, it is felt that such local habitation as the future of the Institute shall require can be more wisely planned. The potential value of an institution of this kind and under such auspices, in medical science and in the interests of humanity, can hardly be overestimated.—L. EMMETT HOLT, *Secretary.*

Obituary Notes.—DR. JOHN L. FEENY died at his home in Stapleton, Richmond Borough, on May 31st, at the age of fifty-six years. Dr. Feeny, when fifteen years of age, entered the Seaman's Retreat Hospital at Stapleton, S. I., where he remained until he entered the medical department of the New York University, from which he was graduated in 1866. After graduating, he became the house physician of the Seaman's Retreat, where he remained until 1869, when he resigned to enter private practice. In 1870 he was appointed physician to the metropolitan police, and afterward to the Richmond County police, which position he held until the consolidation of the greater city. At the time of his death he was assistant sanitary superintendent in the Borough of Richmond.

DR. JOHN E. COMFORT died at his home in this city on May 29th. He was born in St. Louis, Mo., October 6, 1837, was graduated from the Albany Medical College in 1864, and entered the United States army January 19, 1865, as assistant surgeon of the Sixtieth New York State Volunteers. He took part in Sherman's famous march to the sea. On July 31, 1865, he was honorably discharged. For more than thirty years he practised in this city, and served twelve years as inspector on the board of health.

DR. WRIGHT LANE WITHAM, aged twenty-eight years, of South Lebanon, O., was struck by lightning and instantly killed on Tuesday, May 21st. He graduated in the class of 1900 at the University of Cincinnati, Medical Department, and had practised at the above place about ten months.

Progress of Medical Science.

Philadelphia Medical Journal, June 1, 1901.

The Examination of the Blood in Relation to Surgery is of Scientific but Often of No Practical Value, and May Misguide the Surgeon.—John B. Deaver states that the secret of life-saving surgery is promptness in diagnosis and operation, and often the time lost in awaiting the confirmation of our opinions by the laboratory can be ill afforded by the patient. As to the question of operation in anæmia, the degree of anæmia compatible with successful surgery will vary with each patient. In a general way, high grades of leucocytosis are most commonly satisfactory signs; while they are due to severe infection, they usually mean good reaction. Moderate grades of leucocytosis, if the other signs of infection are severe, are in themselves suggestive of a bad result; if the other signs of infection are slight, a mild leucocytosis means nothing of itself. Since the degree of leucocytosis is so dependent on the amount of poison absorbed and the resistance of the patient, no judgment can be formed as to the character of the infection from the blood count. Leucocytosis is very uncommon in cancer. It will be much better surgery if appendicitis cases are promptly operated on than if time is wasted over a blood count. In cases of obstructive jaundice leucocytosis is usually, though not always, present. Many drugs, such as quinine, the salicylates, antipyrin, and morphine, have the power of producing a leucocytosis. The writer concludes: Let us have blood counts made on our patients; we have already learned valuable lessons from them and undoubtedly will learn more in the future; but let us not be drawn aside by their still uncertain evidence from the lessons learned by practical experience at the bedside.

Pityriasis Versicolor, with Special Reference to Allen's Iodine Test.—Jacob Sobel concludes that: (1) The old theory that only hidden parts are affected is no longer tenable. (2) Allen's iodine test is of marked value not only for class-room demonstration and for bringing into relief pale and hidden lesions of pityriasis versicolor, but also for differentiating parasitic or presumably parasitic skin affections from those of a non-parasitic nature. (3) Recurrences are in the main due to the overlooking and non-treatment of the suprapubic region and to the use of desquamative agents to the exclusion of penetrating ones. Both must be combined if a cure is desired. (4) Phthisical subjects, while affected in great measure on account of the hypersecretion of sweat, do not form the majority of these patients. The affection occurs in all degrees of health and disease, a marked hyperidrosis, however, predisposing toward it. (5) Children and the very old are occasionally, though rarely, attacked. (6) It may occur in all shades from a very light pink to almost coal-black (pityriasis nigra), the color being influenced by the condition of cleanliness, the circulation of the skin, the occupation of the patient, and the color of the underclothing.

The Biceps Tendon Jerk in Locomotor Ataxia.—Moses Behrend, from observations which he has made, draws the following conclusions: The ataxia in the arms is, as a rule, more marked when the biceps tendon jerk is absent. The ataxia of the arms is usually marked when the same is found in the legs. In these the biceps tendon jerk is absent. In the presence of the biceps tendon jerk with slight ataxia in the arms, ataxia in the legs is invariably well marked. Sensation is usually normal in the cases with normal biceps tendon jerk. The sensory losses are usually found when the biceps tendon jerk is absent. Arthropathies are found only in the advanced cases. Astereognosis is present only in the markedly ataxic. The loss of the sense of position is almost constant in the advanced cases of tabes. The shooting pains in the arms do not bear any relation to the degree of ataxia. Marked ataxics seldom show the loss of weight sense. The intensity of the symptoms is not dependent on the duration of the case, but rather on the extent of the sclerotic process.

Two Successful Cases of Secondary Suture, One of the Posterior Interosseous Nerve and One of the Median and Ulnar Nerves.—By W. W. Keen.

Complicated Fractures, Their Diagnosis and Treatment.—By Thomas H. Manley.

Pancreatitis.—By A. W. Mayo Robson.

Medical News, June 1, 1901.

Streptococcus Bronchitis in Influenza.—F. Forchheimer believes that streptococci under certain circumstances produce a clinical picture which seems more or less characteristic. According to his experience, the influenza bacillus in influenza bronchitis disappears after a comparatively short time, having been, as it were, replaced by the streptococcus. In patients under ten years of age streptococcus infection of the bronchi with influenza is apt to take upon itself a different clinical picture than in older subjects. Pseudopertussis is, on the other hand, not rare in adults. Streptococcus bronchitis is rare after fifty years. However, this may be due to the comparatively small number of cases observed. The number of cases in this series includes twenty-four males and thirty females. As to the symptoms: Any form of influenza may be followed by this peculiar type of bronchitis. The symptoms of influenza disappear before the attack of bronchitis develops. This is nearly always the case. The attack begins rather suddenly, so that in the most common form it will be fully developed in from twenty-four to forty-eight hours. The most prominent symptom is the cough; always spasmodic, sometimes simulating whooping-cough, occurring at night as well as in the daytime, and being most annoying to the patient. From the violence of the cough there develop headache, pain in the lower thoracic region, and sometimes pain in the abdominal muscles; vomiting also occurs. Coughing is generally followed by expectoration. The pulse may vary from a slow to a rapid rate. The temperature has an abnormally great diurnal range. With proper treatment, begun at the proper time, the average duration will not exceed two weeks. The severity varies from the rudimentary to the excessively developed form. As to treatment: The writer gives quinine in attacks of respiratory influenza. When streptococcus bronchitis develops, he uses the benzoate of sodium, 1 gm. every two to four hours. When the cough is severe, antipyrin or codeine must be given. For profuse expectoration atropine or belladonna may be given. Injections of antistreptococcus serum are given in severe cases. A change of climate is beneficial. This affection is not only a local but also a general infection.

Fourth-of-July Tetanus.—H. Gideon Wells states that tetanus is endemic in Chicago, the specific organism being present in the dirt of the streets. Every Fourth of July an epidemic occurs, because these bacilli are carried deeply into wounds before wads from blank cartridges, and are then under favorable conditions for multiplication. Epidemics which always occur in other portions of the country at the same time are presumably due to the same cause. Most of the cases occur when wounds have been improperly cared for, the wads not having been removed or suitable drainage instituted. Therefore, the first indication is to secure thorough surgical cleansing and drainage of the wound, preferably and almost necessarily under an anæsthetic. As, however, tetanus sometimes occurs even in cases of well-drained wounds, and frequently follows blank-cartridge wounds, the writer thinks that such cases should receive a prophylactic dose of, say, 5 c.c. of tetanus antitoxin, as soon as possible after the wound is first seen. It seems certain that if antitoxin prophylaxis were adopted there would be no further Fourth-of-July epidemics, and this end would justify the means.

The Appearance of the Soft Palate a Pathognomonic Symptom of Epidemic Influenza.—Louis Kolipinski believes that influenza can be diagnosed with ease and certainty by observing the peculiarity of appearance of the velum palati. This has been found to be constant when the general symptoms were sufficient to make the diagnosis certain. The phenomenon consists of small convex projections of a pearly whiteness or transparency upon the mucous membrane of the soft palate. Their size is that of a grain of

sand. They are either few and confined to certain parts of the velum or its processes, or else abundantly scattered over the whole of its anterior surface. A spatula rubbed over them gives a hard, rough sensation. They are not distinguishable in obscure light. They must not be confounded with drops of mucus or saliva. Their existence is devoid of any subjective sensation.

Some Factors Relating to the Etiology of Prostatic Enlargement.—By J. Bentley Squier.

The Use of Methylene-Blue Injections in Pleurisy with Effusion.—By Charles H. Lewis.

Gastric Ulcer and Muco-Membranous Colitis at the Paris Congress.—By James J. Walsh.

Boston Medical and Surgical Journal, May 30, 1901.

The Diagnosis and Surgical Treatment of Renal Tuberculosis.—F. Tilden Brown urges the importance of early diagnosis. Urinary analysis should be careful, and smegma bacilli should be excluded by cystoscopic ureteral catheterization. As to symptoms, a dull aching in the lumbar region is significant; equally so a more acute pain referable to the kidney or ureter. Frequency of urination does not appear until the lower segment of the ureter has a genuine tuberculous lesion, or at least marked hyperæmia and œdema. The chief objective symptoms are enlarged and tender kidney, pyuria and hæmaturia, loss of color and weight, a marked diurnal variation in temperature, a reaction to tuberculin, and tubercle bacilli in the urine derived directly from the kidney. Before proposing nephrectomy the condition of the other kidney must be carefully ascertained. Every precaution to have the patient in a favorable condition must be taken. The author reports eighteen cases of tuberculous kidney.

Asthma.—F. P. Emerson reports several cases of persistent and severe asthma. In the first case a spur was found in the right naris well back on the vomer, and was removed. Recovery followed. In the second an adhesion between the septum and turbinate was relieved and ethmoiditis cured, whereupon the asthma ceased. In a third, ethmoiditis was the cause of the trouble; in a fourth the removal of a dislocated columnar cartilage, myxomatous tissue, and two posterior hypertrophies effected a cure; and in the fifth the removal of a ridge extending back through the inferior meatus and touching the inferior turbinate was followed by the best results. The cure of the asthma did not immediately follow the correction of the gross abnormalities of the nose, but yielded to the local treatment of the ethmoiditis.

A Case of Trichinosis.—By George G. Sears.

Journal of the American Medical Ass'n, June 1, 1901.

How to Treat Muscular and Joint Sprains of Railway Employees.—H. Sneve summarizes as follows: (1) Ligaments are rarely if ever torn in so-called sprains, and are never stretched. (2) The pathology in the majority of sprains is a rupture of the areolar and connective tissue around the joint, and a contusion of the lining of the joints. (3) Immobilization of muscles is not rest. On the contrary, in all sprains the muscles should have passive exercise the first few hours and days, and active exercise after that. In the majority of cases active exercise should be instituted from the beginning. (4) The plaster casts should not be used at all, even in cases in which we have a fracture, unless it is impossible to maintain a proper position of the joint. (5) Hydrotherapy in the shape of ice applied over a wet cloth the first few hours, or in the shape of water as hot fomentations or in the Scottish douche, when we wish a stimulation, is of very great value. (6) The counter-irritation of static electricity in conjunction with massage is the best treatment for a strain. (7) The ambulatory treatment of sprains in conjunction with massage is to-day the best treatment.

Is it Possible by Proper Dietetics and Hygiene to Exterminate Tuberculosis?—J. E. Kinney believes that this can be gradually accomplished, though there are two obstacles which are almost insurmountable. The first is the fact that as a rule people are not ready, while having a fair degree of health, to make effort to preserve it. Those who have not suffered are not willing to be taught, and so will not readily co-operate in regulating the conditions which have to do with their own health, or the health of their children, until they become ill. Secondly, the poverty of many in small communities, and of the masses in the large cities, does not permit such food and shelter, air and exercise as are required to produce healthful physical conditions. But each one must answer the question for himself, and as he thinks so will he work, and as he works so will the cause be hastened or retarded, for according to our present knowledge it depends not on any climate and its influence, nor on any community and its sanitation, nor on any one person and his work, but on the united efforts of all in every community.

Movable Kidney; its Cause and Treatment.—M. L. Harris draws the following conclusions from a careful study of this condition and an elaborate series of body measurements: (1) The essential cause of movable kidney lies in a particular body form. (2) The chief characteristic of this body form is a marked contraction of the lower end of the middle zone of the body with a diminution in the capacity of this portion of the body cavity. (3) This diminution in the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the centre of the organ, and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs, cause pressure on the upper pole of the kidney and crowd it still further downward. (4) It is the long-continued repetition, in a suitable body form, of these influences, which collectively may be called internal traumata, that gradually produces a movable kidney. (5) A distinctly movable kidney is never the immediate result of a single injury or external trauma.

Antipneumococcic-Serum Treatment of Pneumonia, with Report of Cases.—G. E. Tyler reports six cases. In addition to the serum the ice-pack was employed together with alcohol, strychnine, digitalis, and oxygen, according to the indications in each individual case. Five patients recovered and one died. The author believes that if fresh serum be given in large quantities before the advent of the pneumococcus into the blood it will prevent the development of the toxic symptoms. It is exceedingly doubtful whether antipneumonic serum has any effect on the condition of the affected lung. The exudate is extra-circulatory, the vascular supply being cut off. It is therefore almost inconceivable that the serum should have any effect on it, except possibly to prevent the involvement of new areas. But if we have a serum which prevents and combats toxæmia, that is a great advance.

The Appendix Vermiformis and Cæcum; a Comparative Study (1814-1901).—By B. Merrill Ricketts.

Diagnosis and Symptomatology in the Appendicitis of Children.—By T. H. Manley.

Zoology in the Medical School Curriculum.—By C. W. Stiles.

Photographing the Eye-Ground.—By S. Jackson.

Variola and Varicella.—By M. A. Austin.

New York Medical Journal, June 1, 1901.

On Theories of Inheritance with Special Reference to the Inheritance of Acquired Conditions in Man.—J. G. Adami, speaking of the indirect transmission of acquired diatheses, says that acquired disease and the effects caused by disease cannot in general be transmitted in such a way that the offspring presents lesions identical with those produced in the parent, though it has to be recognized that there is the possibility of modification in that offspring due to the parental disease. There is the possibility of a certain amount of transmission, not of the identical local lesion caused by the disease in the parent, but of a modified or impaired condition of the germ plasm. We must recognize that constitutional disease, by leading to disturbance in the activity of important organs, tells not only directly upon these organs, but secondarily upon other organs. It leads, for example, to an altered condition of the blood and so to altered nutrition of all the cells of the body. Among other cells, the germ cells may be directly affected, their idioplasm modified, and the offspring directly influenced. Conditions affecting the parents are capable of influencing and modifying the descendants. It is this which is forcibly brought home to us in our medical work. It is changes of this order which are almost inevitably neglected by the biologists, for they are not within their ken. The changes brought about in the tissues by what is essentially chronic intoxication may be so slight as to be inappreciable. Microscopical examination may reveal nothing; only by their physiological effects can their existence be recognized. It is in the study of these conditions and their effects that medicine can afford the most valuable aid in the matter of inheritance.

Muscular Action of the Arterioles.—By A. H. Smith. Physiologically, the entire arterial system is only a continuation of the left ventricle. The blood is forwarded by the contraction of each muscular segment in the arterial wall, the segment just in advance of the current relaxing and then contracting, analogous to the action of the œsophagus with reference to the passage of food. The value of this adjuvant apparatus for the propulsion of the blood is at once evident. Calcification destroys the elasticity of the vessel and makes its walls rigid. The mechanical obstacle which this condition necessarily presents to the forward movement of the blood is of the first importance, and this is enhanced when fibrosis of the outer coat is added. But in the latter case the effect goes beyond the mere impairment of elasticity. The delicate fibres of the vasomotor system distributed to the muscular coat are stretched

and compressed by the greatly thickened and condensed outer coat through which they pass. In this way the innervation is impaired or, it may be, cut off at certain points. The resulting impairment of muscular action throws just so much more labor upon the heart, which in pronounced cases is compelled to force the blood unaided through the entire round of the circulation. That hypertrophy of the ventricle should follow is only an illustration of a general law proportioning muscular growth to muscular activity.

A Case of Sarcoma in the Muscles of the Right Shoulder with Perforation into the Spinal Canal and Paraplegia.—By Leonard Weber.

Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); a Clinical Study.—By H. Illoway.

Appendicitis Perforativa in Irreducible Right Scrotal Hernia, with Report of a Case.—By O. Thienhaus.

American Medicine, June 1, 1901.

The Recognition of Tabes Dorsalis.—Theodore Diller believes that the following symptoms are the cardinal ones of tabes, named in the order of their importance: (1) Failure of knee jerks; (2) Romberg symptoms (swaying with eyes closed); (3) Argyll-Robertson pupil; (4) lightning pains; (5) Loss of functions of the bladder or sexual organs. The writer believes that with the presence of any three of these symptoms, the diagnosis may with certainty—and in the presence of any two, with probability—be made, when evidence pointing to multiple neuritis, paralytic dementia, or cerebrospinal syphilis is absent. Among the important secondary symptoms or signs are: (1) Paræsthesia, anæsthesia, or analgesia of the legs; (2) locomotor ataxia; (3) transient ocular palsies; (4) paræsthesia in the ulnar distribution; (5) optic atrophy. With the presence of two of the cardinal signs of tabes and one of the secondary signs, the writer believes the diagnosis may be made with certainty; and made as most probable with the presence of two of the secondary and only one of the primary symptoms; and, indeed, it may be made with certainty in the absence of all the cardinal symptoms. Many combinations of symptoms are, of course, seen in tabes, and the evidence presented by each case should be carefully weighed. When this is done, it will happen but rarely that the diagnosis cannot be made with certainty or probability.

A Case of Antrum Infection and Sigmoid Sinus Thrombosis without Present Middle-Ear Disease, Presenting the Symptoms of Facial Neuralgia and None of the Ordinary Symptoms of Disease in the Petrosa; Retropharyngeal Gravity Abscess; General Sinus Thrombosis without Much Impairment of Cerebration; Death After Three Months; Partial Autopsy; Presentation of Specimens.—By Bayard Holmes.

The Radical Cure of Internal and External Piles by Excision.—By John A. Hawkins.

Rigidity of the Spine (Spondylose Rhizomélique).—By Max H. Bochroch.

Practical Thoughts on Pulmonary Tuberculosis.—By Howard S. Anders.

Some Notes on a Case of Cerebral Embolism.—By Anna M. Littlefield.

Typhoid Fever and Pharyngeal Diphtheria.—By Morris Manges.

Simplicity in Therapeutics.—By Edwin W. Pyle.

The Lancet, May 25, 1901.

Acute Colitis in Children.—E. Cautley records the history of an epidemic of this affection recently occurring in a London tenement district. Out of thirty children in the locality six were attacked, and of these six, four died; of thirteen women in the same families, three were attacked severely but all recovered. This type of colitis seems to be less common in England than in America (if the writer can be believed). No source of infection or sanitary defects could be ascertained. Without doubt the poison was of a bacterial nature. The bacillus enteritidis and bacillus coli communis were found, but the disease could not be definitely ascribed to either of them. The onset was sudden, with vomiting, diarrhœa, and fever. The stools were green, small, very frequent, and contained mucus and bright red blood, but little or no fecal matter. The eyes were sunken, facies anxious, and the whole condition suggestive of great prostration. The best therapeutic results came from cocaine, in minute doses, for the vomiting, and salicylate of bismuth for the diarrhœa.

Two Cases of Carcinoma Treated with Cacodylate of Soda.—By E. M. Payne. Case I. was that of a woman aged forty-five years, with uterine cancer. Injections of the cacodylate of soda were commenced, the dose at first being 2 cgm., gradually increased to 7.5 cgm. Injections were made daily. All symptoms ceased, and the patient became so much better that she refused further treatment. Case II. was that of a man aged seventy years, with cancer of the tongue. Similar injections were given and marked improvement followed. The author realizes that these two cases are not conclusive, and does not claim that the remedy is a cure, though he does believe that it is a valuable palliative.

Ruptured Inferior Vena Cava; Vitality After Severe Injury.—A. Caddy reports the case of a boy of eight years who was run over by a wagon. The interest of this case lies in the fact of the boy's power of living after such extensive injuries for two and a half hours, excluding the time required to bring him to hospital (twenty minutes). The injuries included the rupture of the largest systemic vein of the body, laceration of the lung, and bruising of the left ventricle of the heart.

A Rare Cause of Sudden Death.—G. H. Metcalfe reports a case of sudden death supposed to be due to the impaction of a piece of orange in the trachea. Autopsy revealed the trachea blocked by pieces of caseous glands. On the right side, half an inch above the bifurcation, was a round mole with smooth edges. This communicated with a sac containing caseous matter similar to that found in the trachea.

Analyses of the Stools and Urine from Epileptic Patients under Treatment with "Brominol" Compared with Similar Specimens from Patients under Potassium Bromide.—By H. Martindale.

Pathology and Diseases of the Thyroid Gland.—Third Erasmus Wilson lecture, by W. Edmunds.

Operative Treatment of Abscess when Situated in the Brain.—By C. A. Ballance.

The Surgical Treatment of Chronic Ulcer of the Stomach.—By A. W. Mayo Robson.

British Medical Journal, May 25, 1901.

A Case of Almost Universal Ankylosis.—T. K. Monro reports this case. The patient was an iron-turner, and was eighteen years of age when the articular affection began. He would not wear flannels, and often became wet on going to and from his work. The first symptom was extreme pain in the left hip. After being rubbed in the morning he was able to go to work. Severe pains would run down the left leg from the hip. After two years he had to give up work on account of the pain in almost all the joints of the lower limbs and in the back, especially the back of the neck. As a rule, the disease in each joint began with pain, which was soon followed by swelling and finally by fixation. The greatest pain was in the knees. From the age of twenty-two till his death, at forty-six, he was completely bed-ridden. His legs would jerk terribly, especially just as he was falling asleep. Generally, a joint ceased to be painful only after its fixation was complete. Gradually his jaws became set, and he was fed through an orifice caused by the falling out or breaking off of two teeth. He had some toothache. He finally lost the sight of the right eye through the development of an acute iridocyclitis, atrophy of the globe, and subsequent ossification of the choroid. Breathing was chiefly abdominal. Sensation was unaffected. There was no ataxy in the early stages. Till the very last, when there was retention of urine, there was no disorder of micturition. He never lost control of the bowel. The skin remained sound. The lower limbs became fixed years before the upper limbs. The right arm was the last to be disabled. The patient generally slept about six hours out of the twenty-four, but he wakened two or three times an hour. Intelligence was perfectly preserved. His hearing was good. He was quite cheerful. There was a systolic murmur at the apex and base of the heart. There was no rheumatism in the family history. His last illness began with pain in the left side and cough. Death took place apparently through accumulation of bronchial secretion. This affection appears to correspond to the subacute type of the very rare disease described by Griffiths as "universal bony ankylosis or arthritis ossificans." Suffers from this affection are popularly known as "ossified" men.

A Method of Sterilizing Soft Catheters.—Herbert T. Herring has for some years given up the use of all chemical antiseptics, relying entirely on heat applied by means of water as the best agent to produce an aseptic condition in both instruments and lubricant. Experiments on this subject were conducted by William G. Savage. The catheters were soaked in a mixture of bacillus coli and staphylococcus pyogenes aureus. They were then put into water at the required temperature for the time given. Then inoculations were made from their interior on to agar smears, which were cultivated at 37° C. Previous to each batch of experiments controls were made by cultivating from the catheter immediately before it was put in the hot water. In every one of these cases copious growth resulted. Wa-

ter at 150° F. (65.5° C.), even for half a minute, is a reliable steriliser of catheters for ordinary work—that is, it will not in this time kill bacteria with spores, but these are not likely to be met with. The writer believes that this method is not more destructive to catheters than any other method of rendering them aseptic.

Case of Cancer of the Larynx with a Long Course.—E. Donaldson observed this case for the first time two years after its commencement. It lasted nine years and one month. Hoarseness was first complained of. There was discovered by laryngoscopical examination a sessile warty growth at the anterior part of the left vocal cord. It was removed with forceps and examined microscopically. The pieces removed were non-malignant. In two years the hoarseness returned, the wart this time occupying nearly one-third of the cord. Two years later a growth appeared on the right cord. The growths were touched with ethylate of sodium, absolute alcohol, and chloride of zinc solution. Four years later tracheotomy was performed. The condition of the larynx became progressively worse. The patient emaciated rapidly toward the end and died of exhaustion. Post-mortem examination showed the growth to be an epithelioma. Whether this growth was malignant at the beginning or became so during the course of the affection is left to the reader's judgment.

Furunculosis of the External Auditory Canal Simulating Mastoid Periostitis.—James Galbraith Connal states that it is extremely difficult in some instances to distinguish between mastoid periostitis and œdema over the mastoid arising from a furuncular inflammation in the external auditory meatus. The difficulty is increased if there is a coexisting purulent otitis media. A thorough inspection of the external meatus should be made, when the presence or absence of a localized furuncular swelling with its attendant sensitiveness to touch will probably settle the diagnosis. A case cited is that of a boy aged eight years. He had for eight days complained of deafness and great pain in the right ear. He could not sleep at night for the pain. Previously, he had been strong and healthy. Examination showed two furuncles. There was marked swelling over the mastoid with œdema of the eyelids on the same side. The furuncles were incised. The pus showed a pure culture of the staphylococcus aureus. Eight days later the boy was quite well.

Veld Sores.—N. Bishop Harman thinks that veld sores are due not to any novel specific organism but to the staphylococcus aureus, which has become attenuated in its virulence and by a process of adaptation has gained a peculiarly powerful resistance to destruction. It produces its effects among unwashed folk whose resistance is diminished by long feeding on preserved foods. These sores are more frequent among mounted men than among infantry, since the former are more liable to abrasions in the handling of their harness, etc. The infective organism of the "Natal sore" is the same as that of the veld sore, but the conditions are different. The veld sore arises primarily within the deep layers of the epidermis, which it lifts to form a bleb; while the Natal sore arises beneath the true skin, and its discharge is more purulent.

Suprarenal Extract in Prostatic Hemorrhages.—W. Habgood describes a case in which he gave suprarenal extract for prostatic hemorrhage. In a few days the hemorrhage lessened and after some weeks nearly disappeared, but such a degree of palpitation was induced that the patient could not take his usual exercise. When the extract was stopped, the palpitation ceased. Again hemorrhage occurred, the extract was given, and palpitation developed. The writer fears to use the treatment any further in this case.

An Address on the Symptoms and Modern Methods of Diagnosis of Stone in the Bladder, Kidney, and Ureter.—By P. J. Freyer.

Stretching the Sphincter Ani in a Case of Prolapsus Ani with Internal and External Hemorrhoids.—By A. Turnbull.

A Clinical Lecture on Appendicitis and its Surgical Treatment.—By J. Crawford Renton.

Notes on Two Hundred and Six Operations for Stone.—By W. F. Adams.

Complete Inversion of the Uterus; Recovery.—By S. Partridge.

Strangulation of Meckel's Diverticulum.—By Keith Campbell.

A Case of Eclampsia.—By E. J. W. Carruthers.

French Journals.

Rôle of the Lymphatic Ganglia in Infection and in Cancer.—Courtois-Suffit states that the lymphatic ganglia offer an organ of resistance to bacteria: By retaining in their course bacteria which have not been destroyed at the point of inoculation and which have escaped the action of the leucocytes and of the endothelium in the passage through the lymphatic vessels, and by attenuating their virulence. It has been proved that bacteria which have penetrated the ganglion are less virulent than those which have been isolated at the point of inoculation; in the normal state the ganglion plays the rôle, by means of its endothelial or its mononuclear cells, of massing together waste matter which circulates in the lymph (débris of hæmatin, of leucocytes, fragments of nuclein); during the course of an infection this rôle continues and assumes considerable importance. Besides the phagocytic rôle, the ganglion produces leucocytes which pass into the lymphatic system and especially into the general circulation. Physically, chemically, and anatomically, the lymphatic ganglion represents in the animal economy a true differentiated organ, whose function is to protect the organism against both the microorganism and its toxins. Cancerous ganglia are generally hypertrophied. At first they are movable, but they soon mass together on account of the cancerous or inflammatory periadenitis. There is a theory that the ganglionic tumor reproduces not only the histological type of the primitive tumor, but often also its most trifling characteristics. When the ganglion becomes cancerous, this condition remains for some time, the ganglion playing the rôle which it does in other infectious processes; but, finally, the ganglion ulcerates and becomes little by little destroyed, and thus a new centre of dissemination is created. When all the ganglionic barriers are destroyed, the cancer becomes generalized by the blood-vessels and is disseminated to the different organs.—*Le Bulletin Médical*, May 18, 1901.

Mercurial Injections in the Treatment of Syphilis.—Emery, in discussing this subject, speaks of the method of intravenous mercurial injections. This method is still in its infancy, although it is already several years old. The preparation which has been employed so far is the one-per-cent. aqueous solution of cyanide of mercury. The daily dose is 1 c.c., or 1 cgm. of the salt. The injection is made in one of the superficial veins of the arm. The needle is directed very obliquely into the vein and the liquid slowly injected. The point of injection is covered with a bit of cotton applied with collodion. Abadie has used this method for some years in ocular syphilis with the happiest results, certain troubles which had proved refractory to calomel yielding to the treatment.—*La Médecine Moderne*, May 15, 1901.

Abdominal Massage; its Indications in Gastro-Intestinal Dyspepsias.—F. Cantru, at the end of his discussion of this subject, which is quite detailed, speaks of the very beneficial effects of abdominal massage in constipation. In certain cases this method of treatment is followed by the most rapid results. In other cases the method has to be combined with other measures, such as electricity, the use of mineral waters, etc. However, in every case the true cause of the constipation must be discovered if the best results are to be attained.—*Journal des Praticiens*, May 18, 1901.

Deutsche med. Wochenschrift, May 9 and 16, 1901.

Concealed Gastric Hemorrhages.—I. Boas says that bleeding from the stomach occurs in two forms: either copiously in well-marked hemorrhages, or in minute quantities coming from capillaries, ulcers, or ulcerating growths. In either case the normal color of the vomited blood may be preserved or the material may present the well-known coffee-grounds appearance. If the quantity of blood lost is very small, no appreciable change is produced in the stomach contents, especially if the reaction is very acid. A large number of test meals examined by the author, even to the most careful scrutiny, revealed nothing suspicious, and yet there were more or less noteworthy quantities of blood. In testing, Weber's guaiac reaction is the most satisfactory, and if care is taken to use only a fresh tincture it exceeds all the other chemical, spectroscopic, and microscopical tests in delicacy. Material for such examination is preferably to be obtained by the careful use of the stomach tube, since vomitus is likely to contain traces of blood from the mouth, pharynx, or œsophagus. An analysis of eighty-three cases of stomach disease in which the presence of blood was searched for, permits the formation of three groups. The first gave uniformly negative results and embraces all the neuroses, gastritis anacida and subacida, hyperacidity, hypersecretion, and benign dilatation. In class two the results were not constant, blood being sometimes present, sometimes absent. These cases comprise ulcer, duodenal stenosis, syphilis of the stomach, and a probably carcinomatous stenosis of the colon. Group three was characterized by constantly positive results, and includes stenotic gastritis and carcinoma. In general it may be said that three conditions are especially conducive to the occurrence of concealed hemorrhages—viz., typical ulcer, new growths with a tendency to ulceration, and intense congestion.

The Hydriatic Treatment of Incipient Pulmonary Tuberculosis at Home.—H. Meffert says that the value of this method of treatment has been universally recognized, and describes a simple means of carrying it out in the homes of patients. The bed is first covered with a woollen blanket sufficiently large completely to envelop the patient from head to foot, and on top of this are spread two smaller blankets, one long enough to reach from the chin to the hips, and the other from there to the feet. Over these a sheet is spread and the patient wrapped up in the customary manner for a dry pack, lying quiet until thoroughly warm. The coverings of the upper part of the body are then unloosened and the arms and trunk rapidly sponged off by one or, preferably, two attendants, and the wrappings restored without drying, after which the lower extremities are similarly treated, the whole procedure not taking more than one minute. In this, which is virtually a wet pack, the patient is allowed to remain till he feels perfectly warm and dry again, when he is released and stands up by the bedside with his feet in a tub of warm water. The entire body is then showered with water from an ordinary watering-pot for a period of not more than thirty seconds, is rapidly dried, and the patient resumes his clothes. The treatment should be carried out twice a day, the first time in bed before rising in the morning, and the second time between four and six in the afternoon. The preliminary period of warming up is very necessary, as thereby all subsequent shock is prevented, and considerable care is also required in determining the temperatures of the water to be used for the sponging and showering in each case.

The Pathology and Treatment of Cicatricial Contraction of the Bladder.—D. Raskai reports a case of this affection in which the capacity of even the artificially distended bladder was only about one ounce, and there was imperative desire to micturate every thirty or forty minutes day and night, postponement of the act being followed by intense pain and involuntary discharge of the urine. Under daily catheterization with careful boric-acid irrigations and instillations of weak silver-nitrate solution the patient improved so far that after four months of treatment the pain and strangury were somewhat decreased, as well as the frequency of urination, and vesical capacity was slightly increased. Concentric hypertrophy and the so-called irritable bladder of women are the two conditions with which contracted bladder is most often confounded, and the latter of these is able to simulate almost every symptom of the organic lesion. The most valuable diagnostic point is the fact that the diminished capacity of the organ in other affections depends mainly on the irritability of the diseased mucous membrane, which makes distention ordinarily acutely painful, but not impossible during narcosis or even deep physiological sleep; while in contraction the reduction in volume is absolute, and not to be overcome by any means either natural or artificial.

The Morphology of Bacteria and its Relation to Virulence.—G. Ascoli, in discussing the significance of the Babes-Ernst bodies and other granulations found in bacteria, which numerous observers have considered as nuclear bodies, localizations of condensation products, hypochromatic substance, etc., says that the attempts at the demonstration of actual nuclei in the bodies of bacteria have as yet been unsuccessful. All the theories and observations so far made public on this subject are unsatisfactory and do not permit of any definite conclusion. The various types of granulation which have been described, in spite of chemical differences are to be looked upon as homologous structures, and while their exact biological position is still in doubt, it is probable that they indicate the termination of the vegetative state and are intimately concerned with sporulation. No positive conclusions regarding their relation to vitality and virulence are as yet possible.

Occupational Methæmoglobin Intoxications and their Treatment by Means of Oxygen Inhalations.—By H. Brat (conclusion).

A Simple Volumetric Method for the Estimation of Sugar.—By E. Riegler.

The Magnet Operating Room.—By J. Hirschberg.

The Serum Diagnosis of Tuberculosis.—By E. Romberg.

Journal of Tropical Medicine, April 15, and May 1, 1901.

A Case of Acute Lymphatic Leukæmia Supervening on Malaria.—J. Preston Maxwell reports the case of a man in Changpoo, who has been under observation for the last two years, with occasional attacks of malaria. After one such attack great weakness and weariness supervened. The peripheral blood contained no malarial parasites. The blood count was as follows: Red corpuscles, 1,200,000; hæmoglobin, fifteen per cent.; white corpuscles, 1–10. The latter were almost exclusively large and small lymphocytes, and the stained slides were typical of the disease known as lymphatic leucocythæmia. In spite of all treatment the patient died of exhaustion. This rare disease supervened directly upon a malarial attack, was steady in its progress, and lasted about five weeks. No rigors were noted, and bleeding was not a marked feature. The persistent depression which affected the patient was very noticeable. Without the blood examination the case might have been mistaken for malarial cachexia.

The Treatment of Chronic Granular Lids.—A. B. Dalgetty disinfects the conjunctivæ and the neighborhood of the eye with corrosive sublimate, 1:1,000, and then injects ten minims of a five-per-cent. solution of hydrochlorate of cocaine into the loose skin of the lid, rubbing the same solution into the everted and thickened conjunctiva. The eyelid is then grasped with a pair of fine-bladed forceps so as to expose the whole diseased portion; then, with a pair of scissors curved on the flat, the entire thickness of the hardened membrane is removed down to the healthy tissue beneath. When the forceps is removed, free bleeding ensues, but it is arrested at once by the perfect apposition of the eyeball. A pad of lint and bandage is all the dressing required. The lids are drawn apart and the exudation washed away with boric-acid lotion twice daily until healing takes place, usually in four days. There is no deformity of the eyelid as a result of this treatment, neither is a general anæsthetic necessary, nor slitting of the canthus.

The Etiology of Beri-Beri.—H. Noble Joynt describes an epidemic of this disease in Fiji among Japanese laborers. Out of 250 men, 226 contracted beri-beri, yet they were very cleanly in their habits. The Indian coolies lived in dark, ill-ventilated houses swarming with cockroaches, but not one of them suffered from infection. The author thinks that the conditions of heat, moisture, personal habits of crowding together, the slow beginning of the epidemic and its rapid spread as soon as the conditions became suitable, favor the generally received theory of direct infection by a slowly infective germ, introduced in this instance by a man already infected before arrival or by clothes or other belongings, and propagated by direct contact or by dwelling in a house saturated with the germs, and that these conditions negative Dr. Van Scheer's hypothesis that the cockroach is the means of propagation. Were the latter the case the Indians could hardly have escaped.

Note on the Treatment of Dysentery.—M. D. Eder, of Palmira, Colombia, does not consider milk a perfect food in this disease. He has found meat, boiled or roasted and finely chopped, to be the best food, accompanied by white of egg beaten up with sugar and water; rice and corn flour as progress is made. He does not believe in the expectant treatment as to drugs. Ipecacuanha has given him better results than the sulphates: 50 to 60 cgm. of the powdered ipecac with 15 to 20 cgm. of benzonaphthol or betol, in an emulsion every two hours throughout the day. For tenesmus and general pain morphine should be given hypodermically. For the post-dysenteric diarrhœa the most useful drug is strong lactic acid, in full doses, say 50 cgm., with a few drops of paregoric every two hours.

On Yaws Observed in Fiji.—Morgan Finucane concludes that the disease is a chronic and continuous one, and the subsequent phenomena seen in Fijians during adult and old life are sequelæ of the early infantile yaws that the race suffers from. The early infantile and late adult eruptions are polymorphous and symmetrical, more commonly presenting in early life vesicular, papular, and pustular forms, while in later life the tendency is to scaly, isolated, papular ones, psoriasis, rupial and ecthymatous sores, tubercular and lupoid forms of ulceration. The early bone pains and cachexia are similar to those noticed in early syphilis in Europeans. The author holds that greater attention should be given to the investigation of this disease by physicians and commissions.

How to Avoid Prickly Heat.—Major R. R. H. Moore considers the disease to be caused by irritation of the skin produced by a constant bath of perspiration. The remedy is to preserve nature's protective coat by abandoning the use of soap, and after the bath anointing the body with pure cocoanut oil. It should be put on with the hand, not a sponge or rag. The skin absorbs the oil, and the body can be rubbed with a towel without any of it coming off, unless an excess has been used, when the towel will remove the excess.

The Condition of the Teeth in Natives of the Tropics.—Major Buchanan reports that in Bhagalpur it is the exception to find sound and healthy teeth. The most remarkable fact is the very great contrast between the upper and lower jaws, the teeth of the lower jaw being much oftener bad and far worse than those of the upper jaw. The author considers the cause to be neglect.

Measles in the Tropics.—M. D. Eder records an epidemic in Colombia, probably introduced by soldiers returning from the coast.

A Case of Bilharzia of the Peritoneum.—By Frank Cole Madden.

Some Instances of Untreated Syphilis.—By A. B. Duprey.

Cerebro-Spinal Fever on Coolie Vessels.—By W. K. Miley.

A Case of Lupus in Singapore.—By Lim Boon Keng.

Pinta or Leucodermia?—By W. J. Buchanan.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL FUNDS—PARLIAMENT: RABIES, POISONED GLUCOSE, CREMATION—CANCER OF THE STOMACH—GASTRIC ULCER AND SUBDIAPHRAGMATIC ABSCESSES—OPERATIONS FOR ASCITES—SALINE INJECTIONS IN PUERPERAL ECLAMPSIA—BRITISH MEDICAL ASSOCIATION—SIR J. WILLIAMS, DR. ALLCHIN, ETC.

LONDON, May 17, 1901.

At the meeting of the council of the Prince of Wales' Hospital Fund last Friday it was announced that the King becomes the patron, resigning the presidency, which is taken by the Duke of Cornwall and York. The report showed an increase of £3,000 in the total receipts for the year. It was decided to award £50,000 to the hospitals and convalescent homes, to do which £2,183 has to be drawn from capital account. The appointment of visitors was considered to have produced satisfaction.

The report of the Hospital Saturday Fund for its twenty-seventh year also states that there was an increase in its total income. It was, however, small. The sum distributed was £17,698. This fund seems to have excited none of the distrust with which the Sunday fund is too often regarded.

In Parliament, in reply to a question as to rabies in the year preceding the regulations of the agricultural department, the minister stated that in 1895 there were 672 cases; in 1896 there were 438; in the year 1900 there were 6, and this year, up to May 4, there has been 1.

Attention was called to the statement that seven hundred tons of glucose contaminated with arsenic is in the hands of the liquidators of the manufacturers. Mr. Long promised that the subject would not be lost sight of by the local government board. This matter has also been before the royal commissioners, when Sir W. Church elicited important statements and promises.

The cremation bill is thought to have a good chance of passing.

The census is giving rise to some surprise as well as amusement. It will be necessary for many places to correct their vital statistics more thoroughly than they expected. The estimated rate of increase has in some been exceeded, in others not reached. There is a declining rate in most of the large towns, mostly due, no doubt, to the migration of residents to the suburbs, the demolition of crowded dwellings, and such-like causes. Substitution of business premises for dwellings has operated largely in some parts of London, and in others there has been a satisfactory migration from overcrowded localities.

At the last meeting of the Clinical Society a case of cancer of the stomach with unusual vascular and blood changes was related by Drs. Pasteur and Brice-Jones. Death occurred twelve days after admission. There had been capillary stasis in the nose and feet as in Raynaud's disease, and the blood was thought to resemble that of pernicious anæmia, but Dr. Hunter said the resemblance in these two affections was only superficial, and he mentioned some of the differences.

Dr. Norman Dalton then related a case of perforating gastric ulcer causing a sub-diaphragmatic abscess which burst through the diaphragm into the lung. While the patient, a parlor-maid aged twenty-five years, was in the hospital there was not the least sign of stomach trouble. Food was taken without causing uneasiness or pain, nor was there any cough or expectoration. All signs of fluid at the left base were present, and tapping yielded fifteen ounces of clear fluid. On the last day of her life the first sputum occurred and had a sour smell, which soon became gangrenous. At the post-mortem the true nature of the case was discovered. This is another illustration of the facts recorded about these cases. They may give rise to no suspicion of the stomach lesion, and clear fluid may be drawn off from the pleura though a foul abscess is in close proximity. Lung symptoms, too, may obscure the condition until gangrene announces the end.

Dr. L. Dickenson remarked that a little difference in the direction might have discharged the abscess through a bronchus.

Mr. Bidwell mentioned a case treated as pleurisy by aspiration. As it did not progress he resected two ribs and found an abscess which opened into the lung. Later, the patient ate some figs and the seeds appeared in the dressing. This opened his eyes. Further resection and drainage were resorted to, and the man recovered.

Dr. Hawkins mentioned another case, and referred to out-patients with dyspeptic symptoms who had later been admitted with ulcer—one case in which the pericardium had been perforated.

A paper was then read by Mr. Bidwell on cases of ascites treated by operation. He referred to the cases collected by Pachard and Lelanto and to three of his own, of which one was successful, although a complicated one. He thought the most suitable cases were hepatic, in which the liver was still enlarged, and that renal or cardiac disease need not be considered a contra-indication.

Dr. Morison questioned whether obliteration of the peritoneal cavity was altogether advantageous, and whether effusion into that space might not sometimes be beneficial. He had found that tight strapping after paracentesis prevented recurrence, and was trying to ascertain whether the tapping might not be dispensed with and the strapping alone suffice.

Other members mentioned later risks, although the operation might be practically safe. Such risks were a tendency to hæmatemesis or to poisoning by admixture of portal blood with the general circulation through obliteration of the peritoneal cavity; and hernia of the abdominal wound.

At the April meeting of the Obstetrical Society Dr. E. W. H. Groves read a paper on "Saline Infusion in Puerperal Eclampsia," the discussion on which was adjourned to the May meeting. Dr. Groves related two cases of his own and tabulated forty-seven others recorded by different observers. They gave a mortality of 12.7 per cent. He considered the efficacy of the injections to be due to their preventing the multiple capillary thrombi from forming, and also dissolving any already formed. The increased coagulability of the blood, which led to these thrombi, was attributed to toxins in the blood, and these produced the pre-eclamptic stage of the disease. The toxins might originate in the placenta, fœtus, and alimentary canal.

Dr. H. Spencer said he had tried the infusions in only two cases; but, though both resulted in recovery, he did not attribute the result to the treatment. The mortality of the disease varied greatly. He had a long series of successful cases, followed by several fatal ones. He thought morphine lessened the fits better than anything else, and its value was great though its use was not without danger. In the older cases septicæmia was included, but now they were separated, and this would vitiate statistics. He was not convinced that saline solutions had lessened the mortality.

Dr. Herman also was not satisfied with the statistics of the paper, and quoted those collected by Charpentier in his paper on chloral as giving a much lower death rate. As to the theory that the coagulability of the blood is increased in eclampsia, the only evidence offered is that in some cases the medical man had been surprised at the little blood lost. The "pre-eclamptic stage" described was the chronic renal disease of pregnancy, and not more than one in five of these renal cases suffered from eclampsia, so that the term could not be justified. In other cases eclampsia occurred without previous renal disease. He thought the morbid condition to be acute degeneration of the cells of the liver and kidneys, the thrombi being only the result of the fits.

Dr. Griffith thought it a mistake to discuss the subject under the term puerperal eclampsia, for that occurred in only a fraction of the cases of toxæmia with nephritis—the real disease. He compared eclampsia with placenta prævia, as both gave rise to great alarm and to dangerous methods of treatment. The patient's well-being was greatly increased by delivery, but the means to effect it should be safe. He feared many were victims of forced delivery, morphine, pilocarpin, and septicæmia.

Dr. T. W. Eden said that if the toxæmic theory of albuminuria were accepted, the renal and hepatic changes must be considered incidents of the disease—not its cause. The objection to this view was, to him, that it proved too much, for according to it every pregnant woman ought to be albuminuric. There must at first be deficient elimination allowing toxins to accumulate in the blood—perhaps something like the "renal inadequacy" described by Sir A. Clark.

Dr. A. Giles said primary renal disease was associated with imperfect elimination, in which other measures were preferable to saline injections. In other cases they might give good results. Injection into the cellular tissue was easier and quicker than transfusion, and might be better, as the fluid was mixed with the serum in the tissues before reaching the blood.

Dr. Jardine, of Glasgow, believed in the toxæmia theory and in the saline solutions as remedial. He gave statistics from the Glasgow Maternity Hospital, where many bad cases were admitted, often moribund. The older plans gave a death rate of forty-seven per cent, saline infusions twenty-four per cent. Personally, he had had three deaths in twenty-two cases. He used decinormal saline solution with one drachm of acetate of soda added to each pint. Diuresis was quickly established by this.

Dr. M. Kerr, of Glasgow, was equally in favor of the remedy, but rather as an adjunct to general treatment than otherwise.

Dr. A. Routh held that whatever the value of salines in pre-eclamptic states, sedatives must be relied on in the actual convulsions.

Dr. Handfield-Jones said the retention of toxic substances might produce the fits in some cases, but in others they must be due to change in the central nervous system. No doubt in some cases the injections were useful, but not in others.

The president (Dr. Horrocks) confessed he was not convinced that the treatment was a remedy for eclampsia. We had already many remedies, or, at least, modes of treatment, and that meant there was no known cure. Pilocarpin was at one time given in all bad cases, and he thought it valuable, but it must be carefully used. It had not fulfilled expectations, and perhaps saline fluids may not. These it seemed to him better to inject into the cellular tissue rather than into the veins in these cases, as there was no hemorrhage, and so no underfilling of the vascular system. If it were true that diluting the blood was the object, then venesection should be performed and the saline injected into the rectum and cellular tissue.

The King has consented to be patron of the British Medical Association. You may remember his majesty was made honorary member when Prince of Wales. The Metropolitan Branch is issuing invitations to a *conversazione* at South Kensington.

Sir John Williams is the new crown member of the Medical Council.

On Monday the officers for the ensuing year were elected by the Medical Society of London. Dr. Allchin is the new president, and Mr. J. Hutchinson, Jr., takes the vacant honorary secretaryship.

GENERALIZED GONORRHŒAL INFECTION.

To the Editor of the Medical Record.

Sir: In your editorial of May 18th, entitled "Generalized Gonorrhœal Infection," after a fair statement of the cardinal facts concerning infection by the pathogenic organisms, you say: "We thus have to do with two principal conditions: (1) Infection, which may be local or general; and (2) intoxication." You also suggest bacteræmia as a synonym for the general infection, and you assert that these terms are sufficiently descriptive and comprehensive, and should displace others such as septicæmia and pyæmia. Will you allow me to differ from this opinion and present the reasons for such difference?

Infection can only mean the reception of an organism into some portion of the animal body, and its colonization at such point of entrance, therefore all infections, taking place naturally, must be primarily local. In some instances the colony remains permanently localized, in others some members of the colony pass into the general circulation. No allusion is here intended to artificial inoculations from whatever cause, only to natural infections due to the inherent powers of the invading organism.

There are therefore two factors in a natural infection, the invading organism and the animal body invaded. It must rest, therefore, that all phenomena connected with such an infection depend upon the potentials inherent in the germ and those inherent in the animal body. It would seem, therefore, that our nomenclature must depend upon our knowledge of these potentials.

Infection is a very general term; one may be infected by an absolutely harmless germ, as with colon or proteus organisms in the alimentary canal, or even with pathogenic organisms producing, under certain conditions, no deleterious results from even a considerable colony. The term, therefore, only indicates the presence of a colony of any certain germ.

With such colonization the development of the potentials of the germ commences, and now it is that we have the origin of the second term which you use, "intoxication."

Intoxication is the expression of the reaction of the animal body to the development of the germ potential of toxicity, or poison production. With the natural infective organism this expression is remarkably constant; the symptoms being nearly the same in all cases of the same disease, showing the development of a potential in each organism specifically defining its influence upon the animal body, they are specifically potential. Each of them, like giant powder, is potentially harmful, but each must be brought under environment suitable for the development of this potential before harm may result. In other words the bacillus diphtheriæ is specific and harmful in only a throat or other environment suitable for its potential development, and it is not specific actually in the agar-agar tube. Nor is it specific or harmful in a throat environment unsuited to the development of its potential forces.

Natural immunity depends upon this fact of the non-development of these forces, although there may be a large growth of the invading germ. We can determine the fact of such development only by the reactive expression which may arise.

It would then seem necessary that we include in our nomenclature the term "specificity," or at least that of specific infection, since the expression of the reaction from the toxins absorbed indicates the presence of a germ colony somewhere in the animal body which has given rise to specific disease.

These two terms, expressing the toxic power and the specific power of the organism, do not suffice to convey all the knowledge which we have of the natural infections, for, as you say, "even with the most of these [organisms] the local infection is the more conspicuous," that is, that the primary colony is the most prominent because of the production of attractive symptoms; and you continue, "From the site of the local infection the invading bacteria may gain entrance into the blood-vessels or lymphatics." This condition you would call bacteræmia, rather than use the older term septicæmia. Are there not almost insuperable obstacles to this change? The literature of bacteriology contains sufficient evidence to convince one that the power to enter the "blood or lymphatics" is natural or inherent in the germ; that it is an entity capable of being lost and regained by it; that it is closely associated with the power to produce toxins, and that it belongs as much in the nomenclature of bacteriology as does the toxic power (as an expression of which it may be considered).

Septicæmia, blood sepsis, used in relation to a specific pathogen means much more than it formerly did; it is well defined and pregnant with information; it is taken out of the category of generalized terms and crystallized. "Bacteræmia" would mean practically the same thing, but "septicæmia" depends upon the inherent potential of an organism to produce septicæmia, the infection of the blood by the organism. Can we say as much for bacteræmia, the inherent power of an organism to produce—what—bacteria?

These potential forces of the organisms must influence us in the formation of terms to express our knowledge of their action.

Specificity, toxicity, and septicity are clean cut, give every information, and depend absolutely upon the inherent qualities of these germs. Bacteræmia depends only upon the chance presence of the organisms in the blood.

Elsewhere, I have endeavored to show the dependence upon these potentials of all the forms of cases which we encounter in the acute infectious diseases, the toxic types, the septic types, and the admixture of these two. How awkward it would be to say the "toxic types" and the "bacteric types" of these diseases!

Reverting to the gonococcus, we know that it is specific, and that frequently the constitutional reaction indicates the formation and absorption of a considerable amount of toxin; there are malaise, fever, etc., the primary colony remaining limited to the canal wherein it has chanced to be lodged. But this is at times accompanied, as stated in your editorial, by meningeal, joint, cardiac, or other complications due to the presence of the coccus itself in the circulation, a specific septicæmia with such local expressions.

Gonococcic bacteræmia does not convey the appropriate idea, that of the development in the coccus of an inherent property to thus invade the blood. Gonococcic sepsis is better, it explains the entire condition.

The term septicæmia has been defined by most lexicographers as of double meaning, the one expressing the idea of intoxication from the products of putrefaction, and the other that of the presence in the blood of the organism giving rise to the putrefaction. There should be no such definition, for bacteriology has demonstrated that the former is an intoxication comparable to that from alcohol or other intoxicant, while the latter meaning alone should be retained in relation to the expression of the power of the germ to produce blood infection followed by remote local symptoms.

I trust you will pardon the criticism, since it is made only with the desire that, if we must coin a new term, all points may receive consideration.

Eugene Wasdin,
Surgeon M. H. S.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-second Annual Meeting, Held in St. Paul, Minn., on June 4, 5, 6, and 7, 1901.

CHARLES A. L. REED, A.M., M.D., OF CINCINNATI, PRESIDENT.

(*By telegraph to the* MEDICAL RECORD.)

GENERAL SESSION.

First Day—Tuesday, June 4th.

THE meeting was held in the Metropolitan Opera House, and was opened at 10 A.M. with prayer by Bishop H. B. Whipple. The address of welcome was delivered by Hon. R. A. Smith, Mayor.

President's Address.—See page 881.

DR. J. R. PENNINGTON, of Illinois, presented with appropriate remarks a portrait of the father of the association, Dr. N. S. Davis. A committee was appointed to endeavor to secure portraits of all of the other ex-presidents.

Report of the Secretary.—This report showed the present membership of the association to be over ten thousand six hundred, an increase of between fifteen hundred and sixteen hundred over last year. This was a larger increment than in any previous year in the history of the association.

Report of the Executive Committee.—In this report attention was directed to the fact that three hundred and ninety-one papers appeared on the programme this year, as against four hundred and ninety-one last year. The provision requiring abstracts to be furnished had not been heeded, for out of the three hundred and ninety-one only one hundred and ninety-six abstracts had been presented. For this reason, it was voted that "Hereafter no titles of papers be printed in the programme unless the required abstract is furnished and printed in connection with the same."

Report of the Board of Trustees.—This showed the association to be in a very flourishing condition. Thus, on January 1, 1900, the cash assets were $28,000; on January 1, 1901, they were $31,864.07, and on June 1, 1901, $45,254.

Report of the Committee on Legislation.—DR. H. L. E. JOHNSON reported that this committee had aided in killing the antivivisection bill, and that this measure had met with such crushing defeat that it was not very probable that it would be brought up in future. Section 15, House of Representatives bill 13,423, providing for a change in the postal regulations, which would have cost the journal department of the association alone $30,000 a year in postage, was defeated. Among other good things accomplished by this committee was the appointment of a committee to secure unification of medical practice acts, and of another committee to aid in promoting better State medical organization. It was recommended that the work of the committee on legislation be continued, and that an annual conference be held at Washington, D. C.

Report of the Committee on Reorganization.—DR. J. N. MCCORMICK, of Tennessee, presented this report, which contained the following recommendations, regarding chiefly a business section, to be known as the "House of Delegates":

1. The delegate body shall hereafter be known as the "House of Delegates of the American Medical Association."

2. The House of Delegates shall consist of not more than one hundred and fifty members, and shall be created as follows: (*a*) One delegate for every five hundred members or fraction thereof of the State and Territorial societies recognized by the American Medical Association; (*b*) one delegate from each of the sections of the American Medical Association, to be elected as are officers of the section; (*c*) one representative each from the United States army, the United States navy, and the United States Marine-Hospital service.

3. Delegates representing the State societies shall serve for two years, one-half, or as near as may be, of such delegates to be elected the first year for one year only.

4. Whenever the number of delegates exceeds one hundred and fifty, there shall be such a reapportionment among the affiliated State societies as will bring the total membership of the House of Delegates below that number.

5. The House of Delegates—as the sections—shall hold its sessions daily, from 9 A.M. to 12 M. and from 2 P.M. to 5 P.M., or so much of such time as may be necessary, provided that it shall hold no session on the morning of the first day of the annual meeting, nor during the time of the general sessions.

6. The general sessions of the American Medical Association shall be composed of members and delegates who may be in attendance at the annual meeting, and the time of meeting shall be 11 A.M. on the first day of the annual meeting, 7:30 P.M. on the first three days of the annual meeting, and 12 noon (or such other hour as may be agreed upon) on the last day of the meeting, which session shall be for the installation of the officers for the ensuing year and other concluding exercises.

7. All the officers of the association shall be elected by the House of Delegates, but no member of the House of Delegates shall be eligible to any office whose incumbent is elected by that body.

8. No one shall be elected a member of the House of Delegates who has not been a permanent member of the American Medical Association for at least two years.

9. The election shall take place on the morning of the fourth day of each annual meeting.

10. No one shall be elected to any office who is not present at the annual meeting at which the election occurs.

11. The officers elected shall be installed at 12 o'clock on the last day of the annual meeting.

12. The membership of the association, in addition to the delegates, shall be composed of permanent members, honorary members, and associate members.

DR. E. ELIOT HARRIS, of New York, then introduced the following resolution, which was adopted:

Resolved, That the report of the committee on organization be referred to a joint committee composed of the general executive committee and the enlarged committee on organization, representing, as it does, all the States, and that the joint committee meet at the rooms of the general executive committee at the Hotel Ryan at 3 P.M. to give a hearing to any member who desires to be heard on the subject of the report. Also that this committee be directed to report to-morrow morning.

SECTION ON PRACTICE OF MEDICINE.

First Day—Tuesday, June 4th.

Address of the Chairman.—DR. J. M. ANDERS, of Philadelphia, pointed out a few lines on which organizational and professional progress must be conducted, believing that, if the American Medical Association was to be one of the great powers of the country, it was of great importance that the proposed reorganization scheme be promptly effected, and due efforts be made to establish and maintain proper respect and forbearance between the various sections, to the end that they might work in perfect harmony.

Appendicitis.—Dr. John B. Deaver, of Philadelphia, stated that the appendix was the most vulnerable of the abdominal organs, from several causes. It was a structure in the process of retrograde metamorphosis. It was deficient in blood, nerve, and lymphatic supply. It was long, and its calibre was small; hence its drainage was easily interfered with. It was subjected to traumatism by the movements of the psoas muscle upon which it lay. It was apparent that the appendix might easily become the target for the destructive micro-organisms, when from any cause these were incited into activity, and it was specially noteworthy that a hollow, glandular organ remained intact only so long as the production and evacuation of its secretions continued normally. When this function was deranged, there were serious results: first, retention, stagnation, and decomposition of the appendix contents; second, pressure, leading to impairment of the appendix wall; third and most important, bacteria, especially the colon bacilli, were so increased in number and virulence that they were able to penetrate the coats of the appendix and set up their irritant processes in varying degrees. Such he considered to be the brief pathogenesis of appendicitis. The following classification was suggested as convenient and well founded: Acute appendicitis: (1) catarrhal, (2) interstitial, (3) ulcerative, (4) gangrenous. Chronic appendicitis: (1) catarrhal, (2) interstitial, (3) obliterating. One could not always distinguish between different pathological varieties of appendicitis. Apparent inconsistencies were explained by the fact that most symptoms were due to peritoneal inflammation by extension. The majority of inflammations of the appendix were chronic in nature; many so-called acute cases represented exacerbations, the lighting up of a quiescent focus.

Nature's Effort at Cure.—He had never seen much good from efforts of nature to cure. The abscess itself, by its tendency to infect the peritoneum, was a grave menace, and even if the abscess ruptured into a hollow viscus the situation was not much better. Two points of the pathology were specially emphasized: First, the practical non-existence of any form of inflammation which by obliterating its lumen rendered the appendix harmless. Second, the appalling rapidity and suddenness with which the appendix might suffer bacterial invasion and necrotic degeneration with resulting general peritonitis. Upon these two facts treatment was founded, as well as the claim that appendicitis was a purely surgical affection. Few diseases presented their signs and symptoms in such varied form and locality as appendicitis. In all abdominal cases it was advisable first to exclude appendical irritation, because careful examination would often reveal, as due to it, affections otherwise apt to be classified as "entero-colitis," "acute dyspepsia," "cholera morbus," etc. In all inflammations of the appendix not entirely chronic, there were three cardinal symptoms: pain, tenderness, and rigidity. Pain was the most significant; so much so that he regarded with suspicion every clinical history containing such terms as bellyache, inflammation of the bowels, neuralgia of the stomach, etc. Pain in appendicitis had certain characteristics: above all, it was paroxysmal, cramplike, and colicky, and might at intervals almost disappear. It was usually first referred to the umbilical and epigastric regions, becoming localized in the right iliac fossa only after the lapse of several hours, but not in all cases. The medical attendant should first examine at a distance from the seat of disease, and slowly and gently approach the tender area. A localized spot of extreme tenderness he considered to be the surest indication of pus formation; conversely, abrupt cessation of such pain was apt to denote complete gangrenous change and a paralysis of peripheral nerve filaments by toxin absorption. He did not depend to any extent upon the blood examinations. A leucocytosis of over 20,000 usually indicated pus unless it be shut off by adhesions or the individual was overwhelmed by septic absorption. The symptoms of appendicitis were seldom proportionate to the appendical lesion; therefore, it should suffice to diagnose early the inflammatory involvement, which was of itself sufficient indication for treatment. The aseptic scalpel promptly used was the only treatment.

Dr. Delancy Rochester, of Buffalo, made a strong plea for the value of the blood count during the acute inflammatory stage, particularly during the development of pus. When there was an elevation of temperature there was a higher leucocytosis.

Dr. J. B. Kelley, of Philadelphia, did not think that any medical man should treat a case of appendicitis after the first twenty-four hours.

Dr. J. A. Witherspoon, of Nashville, Tenn., considered appendicitis both a medical and a surgical condition. Many of the patients got well, not by medical treatment, but by going to bed, stopping all nourishment, applying ice-bags, and keeping perfectly quiet.

Some Phases of Malaria.—Dr. J. B. McElroy, of Stovall, Miss., cited a case in detail, discussing some of its phases. As to perniciousness in malaria it was a well-known fact that in these infections the æstivo-autumnal parasites were found in exceedingly large numbers. There were usually two predominating broods of parasites in the blood of patients with pernicious fever; but Marchiafava and Bignami had reported cases in which the viscera as well as the peripheral circulation showed a very small number of parasites. We must look for the causes of malignancy elsewhere than in the large quantity of parasites. These causes might be found in what had been termed the biological characteristics of the æstivo-autumnal parasites. The first of these was their capacity for rapid propagation. Another characteristic was their disappearance from the peripheral circulation to complete their cycle of development in other vascular areas. The virulence of these parasites should also be taken into account. Many attempts had been made to demonstrate a malarial toxin, and there was good evidence that such a toxin existed, although it could not be demonstrated. It was probable that this property of the æstivo-autumnal parasites more than any other accounted for malignancy in malaria. Another proof of the great virulence of these parasites was the occurrence of hæmoglobinuria. The blood offered other evidence of malarial infection besides the presence of parasites, viz., pigmented leucocytes, and the characteristic leucocytic variation. In all the cases studied there were pigmented leucocytes. If pigmentation and leucocytic variation were evidences of malarial infection when parasites were few or absent in the peripheral circulation, hæmoglobinuria must be malaria, and being malaria was a most striking evidence of the extreme virulence of the æstivo-autumnal parasites. Phenomena occurring in these infections after the disappearance of the parasites, which had been termed post-malarial, also furnished evidence to support the toxin theory. As to immunity, it had not infrequently been stated that the negro was relatively immune from malarial infections, sometimes absolutely so. These statements were not in accord with the speaker's experience with the negro in the southern Mississippi valley. Forty-one per cent. of whites were infected with malaria. Five who did not have malaria were away from home during the greater part of the malarial season. So, excluding these, the percentage of malarial morbidity would be about fifty-three per cent. among the whites. The were one hundred and eighty-four blacks on one plantation, and of these sixty-one were infected. Concerning gangrene,

Professor Osler's classification of gangrene was given. Multiple spontaneous gangrene of the limbs in young and middle-aged subjects might occur without obvious cause. He reported a case of multiple gangrene in æstivo-autumnal infection, and referred to a second case of spontaneous gangrene associated with malaria.

SECTION ON SURGERY AND ANATOMY.

First Day—Tuesday, June 4th.

Chairman's Address.—Dr. A. J. Ochsner dealt chiefly with the etiology of diffuse peritonitis and appendicitis and their prevention. Death in almost every case resulted from diffuse peritonitis. This, in order of frequency, ensued as follows: 1st, gangrenous form; 2d, suppurative form; 3d, cases in which the cæcal end was closed and the distal end dilated; 4th, in rare cases of abscess of the appendicular wall; 5th, septic thrombosis. Turning to those factors which should guide us in our treatment of all cases of appendicitis, Dr. Ochsner pointed to the paramount importance of the omentum, which acted not alone by mechanically protecting the area, but by virtue of its great blood supply carried away the inflammatory products. Another factor of material aid in indicating our treatment was the absolute rest afforded by the tense abdominal muscle. Whatever course would yield to nature the greatest help in this direction was the right one to pursue. Upon these and similar observations made in the course of the last nine years he concluded that the rational management of all forms of appendicitis, particularly those which had been classified as too late for early operation and too early for late, was founded on the following simple and successful rules: 1st, absolutely no food should be given by the mouth; 2d, no cathartics should ever be used; 3d, frequent gastric lavage should be performed. Since the introduction of this treatment, the mortality of that great class of cases just cited had in his service decreased three-fourths. By it he felt emphatically that almost without exception every fulminating case could be converted into a simple chronic condition. Over ninety per cent. of these patients had recovered. Of the three factors, perhaps the most important was gastric lavage: it stopped nausea, meteorism, and pain which resulted from peristalsis. Of five hundred and sixty-five cases operated upon in the last four years, embracing every conceivable variety of the disease, the mortality was but three and one-half per cent.

Remarks on the Surgery of the Spinal Cord, with Illustrative Cases.—Dr. Andrew J. McCosh, of New York, said that one hundred years ago Sir Astley Cooper had urged the desirability of early operation even in cases apparently hopeless. To-day, with no less vigor and with greater hopes of success, we could urge exploration of the spinal canal with an astonishingly small percentage of risk. It was definitely known now that the results obtained from operative work on the cord did not promise such brilliant results as similar explorations on the brain. The difficulty of establishing a correct differential diagnosis between hæmatomyelia and certain other conditions was great. When such diagnosis could not possibly be established he advised immediate exploratory incision. Even when the symptoms seemed to point to complete severance of the cord, he felt that operation was not contraindicated, partly because of the fallibility of human judgment, partly because of the remote possibility of a physiological union of the completely divided cord. Tumors were more successfully dealt with here than in the brain. The mortality after operation should not exceed ten per cent. He reported six cases; two of the patients died of secondary sarcoma, two recovered, two died of septic decubitus. Unfortunately, every case of tumor of the cord was too frequently subjected to long anti-syphilitic treatment, and when finally operated upon, degenerative processes from pressure necrosis were often so advanced as to make the result hopeless. There were two types of operation. The first consisted in removal of the spines and laminæ, the second in an osteoplastic resection. This being difficult of execution, the speaker preferred the first. The skin incision, for trophic reasons, should be as high as the lesion would permit. Speed was of paramount importance, pressure the only possible hæmostatic. The after-treatment was simple, no support whatever being used.

Spina Bifida, with the Report of an Interesting Case.—Dr. Paul F. Eve, of Nashville, outlined in detail the etiology of this condition. Although the tumor was almost invariably pre-natal in development, numerous cases had occurred in which it was not manifest until after the third month. Since the affection was so invariably fatal one would be justified in assuming risks which under other conditions could not be admitted. Prior to the development of modern surgical technique good results were obtained in many cases by the injection of various astringents. Now, however, in most cases, and certainly in all those in which ample skin-flaps could be obtained, and in which the tumor was distinctly pedunculated, no one should hesitate to operate. The speaker thought the condition was analogous to hernia, and believed it should be treated accordingly. Among the contraindications to operation were: age of the child (less than three months old), paralysis, and hydrocephalus. The operation was specially indicated when the child was seven or eight years old, or when the tumor was of rapid growth.

Methodical Exploration of the Brain for Fluid.—Dr. C. Fenger, of Chicago, read this paper. He discussed subcortical purulent collections only. He disagreed with von Bergmann, who maintains that all cerebral explorations should be made with the knife, and at a depth of not more than 3 to 4 cm. The speaker preferred a long, blunt aspirating-needle used as follows: A half-inch trephine opening was made over the suspected area. When aspirations anteriorly, inferiorly, and posteriorly had proved negative, another trephine opening was made over the same hemisphere as far from the first as possible. If necessary this double operation should be repeated on the other side. With this instrument he invariably tapped the lateral ventricles and carried the needle without dread through three or four inches of cerebral matter. He thought this method was vastly superior to the limited one of von Bergmann.

Immediate and Remote Effects of Brain Injury.—Dr. D. S. Fairchild, of Clinton, Iowa, said that of paramount importance in the treatment of these cases was a knowledge of the way in which the injury had been received. There were three types of cases as regarded symptoms: (1) Indeterminate trauma, without symptoms; (2) the same with symptoms; (3) definite trauma with marked symptoms. Anatomically he would group these lesions as follows: (1) pressure lesions, giving Jacksonian epilepsy; (2) trophic lesions followed by minute sclerotic changes which ultimately often terminated in insanity. In concluding he said that injuries in which the brain matter as a whole was violently shaken, as by falls from a height, were infinitely graver in every respect than those in which a local lesion was produced by a concentrated force. Cerebral scar tissue, he said, frequently underwent cystoid degeneration.

Dr. W. W. Keen, of Philadelphia, opened the discussion. He agreed cordially with the previous speaker in his radical views regarding the treatment of spina

bifida. He regretted that Dr. Fenger had limited his paper to a discussion of the search for pus only. Ten years ago he had advocated free opening of the lateral ventricles, their irrigation and drainage. This procedure was in no way to be dreaded. Less than six weeks ago he had operated on a man whose skull had been fractured in 1892. Epilepsy appeared in 1899. On opening the skull over the lateral ventricle he discovered what appeared to be a cyst. No cortex intervened between the dura and the tumor. Upon opening the supposed cyst he found to his amazement and alarm that he had inadvertently entered the ventricle. The man recovered from the operation, but there was no cessation of his seizures. While many cases of cerebral hemorrhage presented typical symptoms, we must not forget, Dr. Keen said, that the period of intervening consciousness might on the one hand be abrogated, or, on the other, might extend into the sixth week.

Dr. McLean, of Detroit, seconded the assertion that spinal supports were unnecessary and that in spina bifida the treatment should be radical. Cerebral injuries differed very positively according to whether the patient had fallen or had been struck.

Dr. Frazier, of Philadelphia, described a new operation for the relief of trigeminal neuralgia. It consisted in a simple severance of the posterior roots of the ganglion. In dogs so operated upon physiological re-establishment of function had been found not to occur. The operation was to be recommended for its simplicity, for its freedom from hemorrhage, and because of the certain preservation of the cavernous sinus and the sixth nerve.

Dr. R. F. Weir, of New York, asked what was to be done in cases of cerebral injury not presenting classical symptoms. For many years he had done nothing. He now felt that the great Agnew was right when he insisted that in every case of this type an exploration should be made. He advocated the old operation on the Gasserian ganglion, believing that newer methods were incomplete and unnecessary. Particularly he emphasized the fact that after splitting the zygoma there was danger from non-union of this process, which might ultimately lead to a painful limitation in the power of the lower jaw.

Dr. Earle, of Milwaukee, said that Dr. Fairchild's radicalism, albeit advanced, was certainly not too pronounced to meet the crying needs of these somewhat neglected cerebral injuries. Every injury causing fracture of the skull must be capable of injuring the brain. The only safe attitude for the modern surgeon was to assume the presence of cerebral injury in every case and to act accordingly. He had found it in eighty-seven per cent. of his cases.

Dr. Moore, of Minneapolis, said that it was safe to operate for spina bifida in children under the age of three months, and that a sudden and complete evacuation of the sac was in no way dangerous.

Dr. R. H. M. Dawbarn, of New York, reported a case which he had operated upon in the presence of Landon Carter Gray, of New York. In this case there were the classical symptoms of right-sided epidural hemorrhage, but he found no blood. Death ensued in a week, and the autopsy revealed an immense clot on the paralyzed side. Dissection revealed that in this case the fibres had not decussated, an anomaly which the speaker thought was probably not so infrequent as had been supposed. There were, however, but two other cases on record, though this was very probably owing to unfortunate limitations placed upon the procuring of autopsies.

Dr. McCosh, in closing the discussion, emphasized the need of early operation and the fact that complete loss of reflexes did not necessarily contraindicate exploration.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

First Day—Tuesday, June 4th.

Chairman's Address.—The Chairman outlined the advances in gynæcology and obstetrics which had been made during the past year, and expressed the opinion that the field of spinal cocainization was very limited, not applicable in children, nor in major pelvic operations in women. There was no complete relaxation of muscular tissue while the patient was under its influence; therefore it was useless under most conditions and unreliable in obstetrics, because its application could not be accurately timed. He said that the only way at present to prevent uterine cancer was to remove all abraded surfaces in the cancer-bearing area in every woman. The present tendency was to remove the uterus, in cases of cancer, by the vagina. The literature of ovarian transplantation was reviewed, and the honor of having been the first to apply this principle was awarded to Dr. Robert T. Morris, of New York. According to the latest observations, ovarian tissue would grow and functionate anywhere in the pelvis when transplanted. Cæsarean section was now advocated in cases of placenta prævia, the result being the saving of two lives, for with present methods the child generally died. Statistics, he said, were accumulating to show that eclampsia was best treated by Cæsarean section. In this case also two lives would be saved, instead of one as hitherto. The shock of the operation was very insignificant. Enteroptosis was now treated surgically with excellent results. This was one of the most recent advances in gynæcology. The angiotribe had taken a prominent place in our armamentarium as a hæmostatic. Puerperal infection was now due solely to adventitious circumstances, and to the neglect of the midwife. There had formerly been too much neglect of obstetrics as a specialty, but in the future as much time would be given to this in the section as to gynæcology.

Post-Operative Hemorrhage.—Dr. Cordier said that the cause of most cases of post-operative hemorrhage was a slipping of the ligatures, the fault generally of the ligature material. The speaker's only fatality was due to his use of catgut, and he advised the use of silk in all intra-abdominal work. The use of the Trendelenburg posture in old persons was often productive of post-operative hemorrhage, because when the patient was restored to the horizontal position the blood pressure was increased and the surfaces that were anæmic before now bled. The speaker advised that a drainage tube be inserted for a few hours in every case when hemorrhage was to be feared. The symptoms of hemorrhage and shock were alike, and no one could differentiate the two conditions by the symptoms. If these symptoms came on a few hours after a slight operation, the cause was probably post-operative hemorrhage. The operator should then remove a stitch and insert a long hæmostatic forceps and see if there was any bleeding. If the symptoms were present when the patient left the table, the operator should put in a tube for a few hours and thus be safe. Shock almost always occurred during the operation and not after. One should give large decinormal salt infusions in these cases. If the injected solution was below 110° F., the patient would often have a chill.

Dr. McMurtry, of Louisville, said that the ligature material had nothing to do with the slipping of the ligature. An operator got the best results with the material and method with which he was best acquainted. If the broad ligaments were clamped before they were cut, and tied later, the tension was relieved and the ligature was not so apt to slip. A simple secondary operation was much more serious than the

most severe primary operation. Often in neurasthenic women the same symptoms appeared that were indicative of shock and hemorrhage, and it was difficult to differentiate them.

Dr. Gardner, of Maine, used catgut ligatures only, and then stitched with needle and running catgut suture all the parts ligatured.

Dr. Howard Kelly, of Baltimore, related a case of hemorrhage occurring eight days after operation, which was due to the catgut being absorbed. He used fine silk for ligatures, for if everything was sterile there was no trouble from silk afterward. Very often he applied two ligatures to the larger vessels. He made a careful inspection of the parts after operation and examined the woman as she was taken from the table. If in doubt, he opened first, caught all the large arterial trunks with clamps, and then cleaned out the blood.

Dr. H. O. Marcy, of Boston, advised the use of tendon as ligatures.

Dr. F. Holme Wiggin, of New York, used fine chromicized catgut for his ligatures. It should be taken direct from alcohol to the wound; he also used it as suture material. He had never had a ligature slip. He advised that with catgut a single knot be tied first and later a double knot, for such a knot did not slip. Most of the secondary operations that he had seen were the result of the use of silk as a ligature by other operators.

Dr. C. C. Frederick, of Buffalo, N. Y., had seen catgut slip but once in one thousand cases. Previous methods of sterilization were responsible for the too ready absorption. He employed formalin as a sterilizing agent.

Dr. Cordier in closing said he believed that silk ligatures *en masse* were perfectly safe, but that silk was contraindicated in pus cases.

Elimination of Peritoneal Infections and Prevention of Surgical Peritonitis.—Dr. G. G. Clark, of Philadelphia, read this paper. As a result of a study of seventeen hundred cases he was radically opposed to drainage after cœliotomy. Experiment proved that if granules of fuchsin were deposited in the pelvis, within eight minutes they appeared about the diaphragm, and in a few hours were to be found in the liver, lungs, and bone marrow. The micro-organisms were carried by the lymph up through the lungs and liver, and were there excreted. Drainage as ordinarily employed was resorted to too late, because by the time that the fluid would carry away the germs the damage was beyond repair. Therefore, it was advisable to get rid of as much pus as possible, and then in order to diffuse the rest throughout the peritoneal cavity one litre of decinormal saline solution should be left in the abdomen. This, however, was contraindicated in cases of ascites and of general surgical peritonitis.

Dr. Wiggin, of New York, stated that he published his results with this method in 1894, and had employed the procedure ever since. His present low mortality was due to this, for the method lessened the dangers of adhesions.

Dr. Howard Kelly, of Baltimore, said he never drained except in cases of general septic peritonitis, due to appendicitis. In cases in which septic foci were present he obtained sequestration by means of gauze.

Dr. Montgomery Baldy, of Philadelphia, did not favor leaving fluid in the abdomen.

Dr. Deaver, of Philadelphia, believed in drainage in pus cases.

The Accidents and Complications of Pelvic Surgery and their Treatment.—Dr. J. B. Deaver, of Philadephia, read a paper with this title. He said that post-operation adhesions were the bane of the surgeon, for it was impossible to get at them by way of the vagina. The region about the sigmoid flexure was the most dangerous place in the pelvis. When breaking up adhesions the omentum, when adherent, should be ligatured in small sections with fine silk and then cut. A cyst or innocent tumor which was adherent to and inseparable from the bladder or bowels should be removed as far as possible, and the remainder should be seared with the cautery. Rubber gloves should be used throughout the operation by all taking part in it. No minor gynæcology should be attempted when salpingitis or any other pelvic disease was present. Curettage was a dangerous operation if any infection was present. All women who had borne children had lacerated cervices, he said, yet not one in fifty thousand was operated upon. The strongest possible indication for repairing lacerations was a family history of cancer.

Dr. Merrill Ricketts, of Cincinnati, Ohio, said that in puerperal infection pus should be let out per vaginam, by puncture or incision.

Dr. Warner, of Columbus, Ohio, said that all lacerations should be repaired, for no one could know whether or not the patient would develop cancer. Cancer was hereditary in only one-third of the cases.

Dr. Steele, of Chicago, had saved many more patients by operating through the vagina first, and by the abdomen at a later period, than he had when using the abdominal route exclusively.

Dr. Watkins, of Chicago, had noted recurrences in only five per cent. of the cases in which pus had been evacuated from below.

The paper was further discussed by Drs. Henry, Smith, Harris, Carey, and Rosenthal.

GENERAL SESSION.

Second Day—Wednesday, June 5th.

The session was opened by an address by his excellency, S. R. Van Sant, governor of Minnesota.

Report of the Committee on Reorganization.—The general report of the committee on reorganization was then read by the secretary. Dr. E. Eliot Harris moved that the full report of the joint committee on reorganization, including the revised constitution, be adopted. This motion was carried by a large majority. Dr. J. N. McCormack then moved that the motion by which this report was adopted be reconsidered and that the reconsideration be laid upon the table. This was carried. It was then ordered that a copy of the revised constitution and by-laws be printed and mailed to each member as soon as possible. The committee on reorganization was then appointed an engrossing committee on the new constitution and by-laws.

Address on Surgery.—This was delivered by Dr. J. A. Wyeth, of New York (see page 892).

Report of the Prize Committee.—The committee on the American Medical Association medal reported that two essays had been submitted to the committee, but neither was deemed worthy of the prize.

SECTION ON PRACTICE OF MEDICINE.

Second Day—Wednesday, June 5th.

The Chemical and Microscopical Examination of the Blood.—Dr. W. Kelly, of St. Paul, read this paper. The blood serum, containing serum albumin and serum globulin, he said, was subject to chemical change in puerperal septicæmia, but in febrile disease serum globulin was less subject to change than was serum albumin. The pathological variation in the quantity of the phosphate of the serum was but slight,

and in that of the chlorides was not very great. A high percentage of chlorides was usual in anæmia. The larger the proportion of plasma the greater was the percentage of chlorides in the blood. Sodium salts were found chiefly in the plasma, being usually increased in watery blood. The amount of potassium found in the red cells was diminished in hydræmic conditions. Seegen, Chauveau, Cavazanni, and others had found, in normal blood, traces of glucose, which substance was increased by a diet of carbohydrates, and diminished by muscular exertion. The diastase ferment of the blood was found in the red cell and serum; it was said by Precka and others to have the power of coagulating the blood; this power was inhibited by the nuclein and increased by sodium sulphate and chloride. The presence of fat had been demonstrated in the blood after a hearty meal, and free fat both in health and disease had been frequently observed. Acetone had been found in fevers, and fatty acids in the blood of leukæmia, acute atrophy of the liver, and infectious diseases. The poisonous symptoms developed in cholæmia had been referred by most authorities to the presence of biliary acids. Isotonic tension and increased resistance of the red cells were peculiar characteristics of the blood in jaundice. Bile acids affected the union of hæmoglobin with the stroma of the red cells, rendering the hæmoglobin more readily soluble; this accounted for the solution of the red cells in jaundice, as well as in other conditions. The specific gravity of the blood might be increased by sweating, lack of food, and muscular exertion, and decreased by free imbibition of fluids. Homberger found that albumins, phosphates, and chlorides behaved differently in changing osmotic conditions. When a little acid was added to blood, albumin and phosphates passed from the red cells to the serum, while chlorides passed from the serum to the cells. But when an alkali was added, a reverse transfer was induced. In order to make a satisfactory examination of the blood, the apparatus must be absolutely clean, and the various stages of the process must be performed rapidly. The work must of course be done accurately.

The Leucocyte Count in Hemorrhage. — Dr. George Douglas Head, of Minneapolis, placed on record some experimental work regarding the leucocytes in hemorrhage, which gave results somewhat different from the one generally accepted. The same law, he said, seemed to govern the increase or decrease of leucocytes in the circulation of the dog as in man. There was in the dog a leucocytosis of digestion and also one following septic infections, just as in man. In dogs diminution in the number of white cells in the circulating blood immediately followed profound hemorrhage. This initial leucopenia was followed sooner or later by an increase in the number of leucocytes in the circulating blood. This was the so-called post-hemorrhagic leucocytosis of all writers. This leucocytosis of hemorrhage continued for at least seven days, sometimes much longer. In human beings immediately following hemorrhage there was an increase in the number of leucocytes in the circulating blood which had hitherto been overlooked because of the failure to make counts early enough after hemorrhage had occurred.

Pernicious Anæmia.—Dr. Thomas McCrae, of Baltimore, reported a series of forty cases, thirty-two in males and eight in females, in the service of Dr. Osler at the Johns Hopkins Hospital. During about ten years there the total number of medical patients was twelve thousand five hundred. Two of the patients with pernicious anæmia were colored. The ages varied from ten to seventy years. Worry and mental strain were factors in three cases. Oral sepsis was not invariably present in the recent cases. The most frequent symptoms were weakness, change of color, and loss of weight. The last-named was present in more than one-half of the cases, and emaciation was marked in ten. Pigmentation of the skin was found in eight and petechiæ in four instances. The liver was palpable in two cases and the spleen in six, but in none was the enlargement at all marked. When the cases first came under observation the hæmoglobin averaged 30 per cent.; the red corpuscles numbered 1,560,000 and the leucocytes 6,929 per cubic millimetre. Of the sixteen patients in whom the count was below one million, only four recovered. The average differential count for eighty-six cases was: polymorphonuclears 61 per cent., small mononuclears 31 per cent., large mononuclears and transitionals 4 per cent., eosinophiles 2 per cent., and a fraction of 1 per cent. of myelocytes. The average number of nucleated red cells per 1,000 leucocytes was 37, of which 23 were normoblasts, 5 were megaloblasts, and 9 were intermediary forms. In a comparison of the fatal and non-fatal cases, the average percentage of small normoblasts was rather higher in the cases that ended in recovery, but the number of megaloblasts was eleven times greater in the fatal cases. The nervous manifestations in fourteen cases varied from slight sensory disturbances to complete paraplegia, the prevailing type being spastic, with some inco-ordination and marked sensory disturbances. In some, the nervous symptoms seemed to vary with the state of the blood. The distinction from gastric cancer might be difficult. In this the higher count of the red cells, the lower color index, the lower percentage of small mononuclear cells, and the absence of megaloblasts were all important factors. Cases showing some features of splenic anæmia were hard to place. The average duration of life in seventeen fatal cases was twelve months. In eight, the course was under six months. One patient recovered, one was in good condition six years after the onset. The treatment included rest, fresh air, good food, and the administration of arsenic.

Dr. W. T. Higgins, of Cortland, N. Y., thought some doubted Hunter's theory and the importance of mouth conditions in the etiology of pernicious anæmia. Hunter's success in the treatment of this disease seemed to favor his theory. The speaker had treated one very marked case on the lines laid down by Hunter, with complete success. One should secure asepsis not only of the mouth and teeth, but of the nose and upper air passages.

Dr. W. D. Kelly, of St. Paul, referred to the importance of keeping the air from the veins in rabbit experiments; if air gained entrance, death would ensue in a few seconds.

Dr. McCrae, in closing, said that he agreed with Hunter in his theory, but he also believed that it was important to pay attention to the intestinal tract. Brilliant results had been obtained from the use of arsenic. One patient treated in 1880 was alive today. Another returned six years after cure of the anæmia with cancer of the stomach. One case was under observation for six years. Recovery might follow rest, fresh air, good food, epsom salts, arsenic, and oral asepsis.

Osmotic Pressure and its Relation to Uræmic Manifestations.— Dr. Heinrich Stern, of New York, thought physicians were laboring in the wrong direction when they referred the origin of uræmia and kindred affections to purely physiologico-chemical conditions. Most of the effete products were but little toxic *per se*. Potassium it seemed exerted the greatest poisonous qualities. Intravenous injection of urine for experimental purposes had shown what was not known before, namely, that uræmia was a consequence of the retention, not of one, but of all substances which normally enter into the composition of urine. There was no other substance in the blood of uræmia than in

that of health, the only difference being in the quantity. Uræmia, therefore, was a physical rather than a chemical anomaly.

Osmotic Pressure in the Body Fluids.—The cells of the body were more or less permeable to water. If for a certain period neither water nor salts were introduced or eliminated, all the watery constituents of the organism would become one homogenous liquid, and the same osmotic pressure would prevail over the entire system. There was no vital process in which diffusion, or osmosis, did not participate. The conditions for the evolvement of osmotic pressure always existed in the organism, for whenever two solutions came in contact by means of a semi-permeable wall, osmotic tension was displayed. When the excretory activity of the kidney was materially interfered with, the products of catabolism were retained in the blood. The great number of molecules dissolved in the plasma caused a high osmotic tension toward the less concentrated body liquids, but ultimately all the fluids of the body exhibited a similar degree of concentration. This process was accompanied by a series of manifestations, co-ordinate and successive, grouped together under the name "uræmia." This was really a mechanical intoxication, not a chemical one, being due to an abnormal increase in the osmotic tension of the blood plasma and the fluids of the body. The phenomena occurring in the blood after the injection of large amounts of concentrated salt solution were the same as those in uræmia; they appeared with the increase in the concentration of the blood, when elimination of the accumulated substances from the blood ceased. Noss had noticed tonic and clonic convulsions in dogs after the intravenous injection of a ten-per-cent. sodium-chloride solution.

Circulatory Disturbances Accompanying Cirrhoses with Inosculation of the Portal Branches with the Systemic Veins.—Dr. Charles G. Stockton, of Buffalo, N. Y., read this paper, of which the following were the conclusions: 1. Normal blood pressure in the portal vein was low, but when raised suddenly it was apt to be followed by symptoms of toxæmia, and these symptoms might be primarily relieved by purgation. 2. When the vascular changes and the raised portal blood pressure, that permit the passage of the portal blood into the systemic veins, were brought about gradually, the subject was better able to resist toxæmia, becoming, as it were, immunized to the offending portal blood; hence the symptoms were less striking, and with proper care as to diet and the exhibition of laxatives might be practically overcome.

Cirrhoses of the Liver due to Metallic Poisons.—Dr. Victor C. Vaughan, of Ann Arbor, Mich., said that lead and copper were the metallic poisons exerting the most pronounced effects upon the liver, and especially upon the connective tissue of the liver. Alcohol was one of the most important factors in the production of the cirrhosis of Laennec. Metallic poisons generally, if not always, produced changes in the liver cells which were characterized by a fatty degeneration or fatty deposits in these cells. The changes in the liver cells were prior to changes in the connective tissues—at least they were recognizable earlier. If hours or days after the administration of metallic poisons in not immediately fatal doses fatty deposits might be found in the hepatic cells, it was not presumable that the changes in connective tissue took place so rapidly. It was not often that the early stages of liver changes were seen at autopsy, therefore one had to rely on animal experimentation to trace the relationship of these changes. In a number of cases there occurred subsequently an overgrowth in the connective tissue in the liver. The effects of the soluble salts of aluminum hypodermically or intravenously administered to animals were seen first in the hepatic cells and subsequently in the connective tissue.

Treatment of Cirrhoses of the Liver.—Dr. John H. Musser, of Philadelphia, divided cirrhoses of the liver into those in which no symptoms occurred during life, and those that were not suspected until such an accident as hemorrhage made them apparent, *i.e.*, latent cirrhoses of the liver; and again into cases with the symptoms of portal obstruction, and those with evidences of biliary obstruction. Treatment was largely dietetic and hygienic, great care being taken to keep the functions of the gastro-intestinal tract in action, and the renal and skin secretions properly regulated. Caution was necessary in regard to the treatment of hemorrhoids in cases of cirrhosis. Many patients were operated upon without careful investigation, and the speaker had seen two or three deaths follow the operative treatment of hemorrhoids in cirrhosis patients. In cases of hemorrhoids a thorough knowledge of the state of the liver should be had before any operation was undertaken.

Ascites.—The management of ascites occurring in cirrhosis was interesting because of the late attempts at treatment through surgical intervention. In the treatment of ascites medicinal and surgical measures were applicable. The speaker relied upon a pill of digitalis, squills, and calomel, balsam of copaiba, and early and frequent tapping. One should not be appalled at the frequency of tapping required. In one case the abdomen had been tapped one hundred and ninety times. Among the cases operated upon in Philadelphia by opening the abdomen, a very large percentage had been relieved or cured.

Cirrhoses with Pigmentation.—Dr. Thomas D. Futcher, of Baltimore, read this paper. Pigmentation of the skin and tissues was associated with hypertrophic cirrhosis of the liver rather than with the atrophic form. Pigmentation was associated with the hypertrophic cirrhosis of the liver which occurred in the disease described by von Recklinghausen as "hæmochromatosis." Diabetic cirrhosis with bronzing of the skin was probably identical with von Recklinghausen's hæmochromatosis. So far as the speaker knew, only four cases of cirrhosis of the liver with general pigmentation (hæmochromatosis) had been reported in this country.

Rheumatic Stimulants.—Dr. James J. Walsh, of New York, said that rheumatism, gout, and catarrh were similar. Acute rheumatic arthritis was an acute infectious disease of microbic origin. Its similarity to gonorrhœal rheumatism pointed strongly to a microbic origin. Joint symptoms occurred in certain toxæmias, but there might be serious involvement of joint structures without necessarily any microbic metastasis. Painful affections around a joint afforded evidence of the fact that the nervous mechanism supplying the joints was extremely sensitive to disturbances of circulation, and also that the tissues in the neighborhood of joints were liable to chronic inflammation. Among forty cases, fifteen had so-called rheumatic symptoms due to flat foot. The nerves were much more sensitive in damp weather.

Occupation Neuroses.—Any occupation involving frequent repetition of muscular movements might produce a neurosis, even so simple an action as sweeping, if done as a regular occupation, often resulting in such a condition. Brachyalgia from frequent and badly directed use of the small muscles of the forearm was well known in telegraphers, writers, typewriters, piano players, etc. As a result of a sort of sympathy with the lower arm the upper arm and shoulder often suffered from a decided ache, and it was surprising, the author said, how often this ache was treated as rheumatism. In many other occupation neuroses, antirheumatic treatment had been instituted.

Acromegaly Presenting Features of Unusual Interest.—Dr. Charles Lyman Greene, of St. Paul, Minn., presented the case of a man twenty-five years old who for some years prior to the development of this disease had spent the winter on the ice. Exposure to cold and dampness had been mentioned by writers as a predisposing or exciting cause. Five years ago a rapid enlargement of the hands and feet occurred with change in the physiognomy. The enlargement of the hands and feet steadily progressed. Three years ago swelling of the knee-joint, lassitude, and genêral weakness appeared. The patient complained of languor and weakness, but had had none of the severer pains in the lumbar region or limbs. There was no disturbance of the special senses or of the nervous system. Enlargement of the upper jaw had accompanied that of the lower jaw, depriving the case of one of the so-called typical signs of the disease. The tongue was large, and the larynx and its cartilages also appeared to be the seat of hypertrophy. The radiograph demonstrated the remarkable enlargement both in length and thickness of the bones. A feature of especial importance was the marked increase in the bulk of the overlying tissues, which presented the appearance and sensation of hard œdema exactly resembling myxœdema. The treatment had been solely by thyroid extract, the result being an immediate and marked amelioration of the disease.

The Election of Officers resulted as follows: *Chairman*, Dr. Frank A. Jones, of Memphis, Tenn.; *Secretary*, Dr. Robert B. Preble, of Chicago.

SECTION ON SURGERY AND ANATOMY.

Second Day—Wednesday, June 5th.

The Mortality of Appendicitis.—Dr. J. B. Deaver, of Philadelphia, based his remarks on statistics of appendicitis occurring during the year 1900 at the German Hospital. Of the total number operated upon, 268, 144 were acute and 124 chronic. The mortality in the acute cases uncomplicated by intercurrent disease was 15.9 per cent. In every case the appendix was ablated. The time elapsing from the onset of the symptoms to operation varied from a few hours to fifty days. Among the chronic cases there was but one death, this being due to rupture of an ovarian cyst. Autopsy was made in every case of death occurring in the hospital. The speaker divided his fatal cases into three classes according to when death occurred: (1) prior to operation, (2) during operation, or (3) following operation. Septic peritonitis was a general cause of death. It arose in various ways. Certain cases, the fulminating, were invariably lethal despite all operative promptness. These cases were characterized by absence of fever, slightly elevated pulse, absence of leucocytosis, and almost invariably by severe disturbances attendant during anæsthesia. Second in importance to removal of the appendix was thorough search for hidden pus cavities. By early operation and exsection we should successfully avoid (1) fæcal fistulæ, (2) subsequent attacks, (3) necrosis of the bowels. Of eleven patients not operated upon, three died, and six left the hospital with a swelling in the right side of the abdomen. Every death occurring in the second attack could have been prevented. Upon whom, Dr. Deaver asked, should this responsibility rest?

Some Unusual Features of Appendicitis, and Their Treatment.—Dr. Ernest Laplace, of Philadelphia, said that in the numerous affections grouped under the title appendicitis were a great many varying pathological conditions and symptoms. In every fatal case there had existed a time which was not "taken at the flood." Of all symptoms, the induration of the muscles on the right side was perhaps of greatest value. Pain was frequently referred to the opposite side, and was hence of secondary importance. Appendicitis as such did not kill; the fatal condition was diffuse peritonitis. Leading to this were three stages: (1) Inflammation limited to the appendix; (2) circumscribed abscess; (3) septicæmia. The speaker advised continuous irrigation, the operator being careful, however, to avoid hydrostatic pressure.

The Knot within the Lumen in Intestinal Surgery.—Dr. F. G. Connell, of Chicago, read this paper. The position of the knot was a point of particular import. It should not lie upon the serosa, and hence, since it cannot be extraperitoneal, it must lie upon the mucosa. It seemed strange that the operators of to-day who have devoted so much attention to a study of the submucosa should have overlooked the writings in 1843 of Gross, then of Louisville, who recognized not only the existence of this layer, but also its surgical importance. The actual thickness of the submucosa is one two-hundred-and-fortieth of an inch, that of a needle is one-fortieth of an inch. With this disparity it would seem scarcely possible that any operator could split this layer. Dr. Connell's method was one by which all knots must lie within the lumen of the gut, and in some respects it resembled Maunsell's. The results in nineteen cases in which it had been used seemed to indicate that of all stitches it obviated best the liability to leakage, was most rapid, provoked fewer adhesions, while it did not yield.

Dr. Steele, of Chicago, was impressed with the value and accuracy of Dr. Deaver's paper, and he thought that every hospital in the land should insist upon an autopsy in every fatal case. He indorsed the advocacy of continuous irrigation, feeling that since it gave such good results in joints, it should be of equal value in abdominal surgery.

Dr. J. B. Murphy, of Chicago, agreed cordially with Deaver in every detail, but asked the following questions: "What constitutes suppurative peritonitis? Does the term signify simply a collection of cream-colored pus, or is its more important characteristic a destruction of the endothelial cells of the serosa? Is relief of abdominal tension of as great import here as elsewhere? Can a diagnosis of inter-peritoneal lesions be made from a study of the symptoms?"

Dr. Knight, of Connecticut, cited two cases to illustrate the importance of leucocytosis in appendicitis. Thorough washing of the abdominal cavity, he said, was better than continuous irrigation.

Dr. Andrews, of Chicago, asked whether or not the abdominal cavity should be drained or washed out. He said that probably all cases of so-called general peritonitis in which recovery took place were localized; all others ended fatally. Relief of tension was as important in abdominal work as elsewhere. Fowler's recommendation, that the patient should be tied down in the bed, if necessary to secure perfect rest, was a very valuable one. Connell's stitch, he said, was far superior to any other stitch extant. Its two great merits were that it was continuous, and that it acted as a clamp.

Dr. Harris, of Chicago, said it was not possible as yet for any one to diagnose intra-abdominal conditions, hence the only safe course was early operation.

Dr. Moore, of Minneapolis, said that Dr. Deaver's doctrine was pernicious and dangerous. We must have the extremists to show the mid-paths, but except in great metropolitan hospitals such radicalism was criminal and such teaching fatal.

Dr. R. T. Morris, of New York, said that principles must be taught to medical students as they are taught to students of law. If these principles enjoined early operation, early operation should be taught. Leucocytosis was of collateral rather than

determining interest. In the treatment of appendicitis one should endeavor to establish an alliance with the phagocytes. The patient should be left alone, and the surgeon should neither irrigate nor pack. Blood washing, to insure removal of the toxins, was of greater importance than abdominal lavage.

Dr. Deaver, in closing, said that when the peritoneum was red and abraded, the case was beyond the aid of mortal man. Relief of tension was of paramount importance. There were symptoms which pointed to definite intraperitoneal conditions. When the belly walls were hard and the onset was sudden, without fever or increased pulse, and there was bad reaction to the anæsthetic, the case was grave. Leucocytosis might indicate, but never contraindicated operation. Fowler's position was good. Surgical teachers should have the courage of their convictions. Early operation was without the slightest doubt the *sine qua non* in the treatment of appendicitis.

Anatomical Technique.—Dr. Jackson, of the University of Missouri, detailed the technique of cutting sections and the methods of studying them in use in his laboratory. A fifty-per-cent. solution of formalin was injected and followed within an hour by the usual pigments. The body could then be cut with an ordinary butcher's saw and knife into sections which possessed india-rubber-like strength, and which when carefully studied and drawn created in the student's mind a picture which enabled him "to see directly through his patient the relation of every organ to its neighbor and to the surface."

The Nature of the Cancerous Process.—Dr. Roswell Park, of Buffalo, said that the question of the etiology of cancer was one of the oldest problems in the history of medicine. It had been approached from (1) the diathetic, (2) the embryological (Cohnheim), and (3) the parasitic side. For the first little could be said. The second represented a great advance, in that it explained the cause of the teratological type of tumors; it did not, however, explain the development of the typical neoplasm. Granting the ubiquitousness of the parasite, one could easily explain, in a measure at least, the relation of trauma to cancer. For a proper investigation of the etiological factors in this research there were needed the combined investigations of the chemist, the clinician, the pathologist, and the histologist. The speaker's more weighty arguments in favor of parasitism were: 1. Analogy. In trees and plants tumors were frequent; they were often known as tree cancers; these were parasitic. 2. Comparative Pathology. Tumors are common among the invertebrates, almost all being produced by protozoa. 3. Granulomata. We knew the causes of these growths; they were often as fatal as cancer, and they yielded to the same treatment. 4. Metastases. 5. Auto-infection. Cancer bodies must be either cell degenerations or parasites. They could be reproduced only from a cancerous process. This, the speaker held, was no bacteriological problem. There was reason to suppose that these new organisms belonged to a type of life hitherto unknown. Koch's laws might or might not be valid in regard to them. That the duration of cancer was long was no argument against the parasitic theory, for two well-known microbic diseases, syphilis and leprosy, took longer to kill than did cancer. Dr. Park expressed the hope that a drug might be found which, acting like quinine in malaria, would give the physician a similar control over this new protozoan.

The Present Status of the Carcinoma Question.—Dr. N. Senn, of Chicago, said that the etiology of cancer was the most important question of the day. Carcinoma resulted from an atypical proliferation of epithelial cells, and as carcinoma originated in epithelial cells, it could not exist in mesoblastic tissues. Extension of a tumor to adjacent tissues afforded proof positive of malignancy. The present alleged increase of carcinoma was more imaginary than real, he said. Heredity was in his belief a potent factor in the causation of the disease. When cancer occurred in persons under twenty-three years of age, it was very malignant. The growth seldom followed a single injury, but one which was often repeated. Inoculation had failed to support the parasitic theory. Direct injection into a carcinoma did not stay its development. The future treatment of cancer, Dr. Senn believed, would consist in the injection of materials which should change the embryonic cells into harmless adult epithelium.

Early Diagnosis of Carcinoma.—Dr. G. A. Powers, of Denver, said that in not more than nine per cent. of carcinomatous cases did the patient apply to the surgeon early enough. The laity must be educated in this matter just as it has been in regard to tuberculosis. The examination of the blood and of the gastric juice was of little value in detecting hidden carcinoma. Sera might evidently have a use similar to that of tuberculin. It was questionable whether a preliminary microscopic section should be made for diagnostic purposes, for many felt that this procedure might spread the growth. He did not share this opinion, however, believing that every case should be subjected to the pathologist.

The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment.—Drs. W. S. Halsted and J. C. Bloodgood, of Baltimore, presented this communication. They held that the problem was difficult because of the great variety in the nature of breast tumors. There was no doubt, however, that every breast tumor seen by the surgeon should be excised. The authors' deductions were based on a study of four hundred and twenty-six cases from the Johns Hopkins Hospital. Of all surgical cases entering this hospital, 2.4 per cent. were carcinoma, and of these 39 per cent. were inoperable.

Carcinoma of the Cæcum.—Dr. W. J. Mayo, of Rochester, Minn., said that iliocæcal carcinoma was not infrequent, seven per cent. of all neoplasms of the bowel involving the cæcum. The affection might occur at any age; its tendency was always to form a ring-like constriction. The duration was often long, even up to twelve years. The differential diagnosis from tuberculosis was difficult. Impaction of fæces and dermoids were conditions which complicated the diagnosis.

Improved Method of Resecting High Rectal Carcinomata.—Dr. R. F. Weir, of New York, read this paper. All were familiar, he said, with the dangers of Kraske's operation, and it was especially difficult of execution in the case of high-lying growths. Maunsell had suggested the pulling down of the tumor through the anus—a sort of artificial intussusception. It was, however, found that even though the anus was dilated or incised, the procedure was difficult and dangerous. It had, however, suggested to Weir the following technique: "Open the abdomen in the median line, separate the bladder and fret the gut to the lower rectal segment from its peritoneal attachment. Cut the gut below the growth and carry the tumor through the abdominal wound. Have an assistant pass a narrow-bladed forceps through the dilated anus to grasp the severed end of the upper bowel and the margin of the lower segment. These without effort are pulled well beyond the anus, sutured, and readily returned to place. A drainage tube is inserted in the peritoneal space; the abdominal wound is then closed."

Treatment of Malignant Diseases by Surgical Operation.—Dr. F. S. Dennis, of New York, said that certain life-insurance statistics, not yet published, showed an appalling increase of cancer in the past thirty years. In some localities, notably those from

which the younger portion of the population had migrated, the increase reached nearly two hundred per cent. Of all the modes of treatment, none was comparable to free excision. Of the many drugs which had been tried, thyroid extract would kill the odor and relieve the pain, but would not cure. In conclusion, he said there was no mortality after operation in the early stages of cancer. Recurrence after three years should be regarded as a new infection. Favorable cases gave eighty-three per cent. of cures.

Method of Operating on Carcinoma of the Tongue.—In the absence of Dr. J. C. Warren, of Boston, DR. C. FENGER, of Chicago, detailed his method of procedure. As yet the percentage of cures did not exceed ten, and in cases of growth at the base of the tongue it was very much less. The lymphatic drainage of the tongue should be a guide in determining the extent of this operation, and until the importance of this was recognized, the author held there would be no improvement in these statistics. The glands on both sides of the neck must be removed. Death ensued in less than two years in all cases not operated upon. Aphonia was caused more by the contraction of the scar than by the loss of the larynx. The taking of a double pedunculated skin flap from the neck was the best mode of preventing this contraction.

DR. RODMAN, of Philadelphia, said that the belief was gaining ground that carcinoma was parasitic. Until recently the disease had not been found among negroes and Indians, but why should this have been the case unless the growth was due to germs?

DR. DAWBARN, of New York, indorsed Bloodgood's view that all breast tumors should be extirpated on sight. In operating on carcinoma of the tongue the chief cause of death was shock induced by hemorrhage. The speaker could not agree with Fenger, who doubted the desirability of ligating the carotids. He advised the rubbing of all wounds which would later be bathed in pus with aristol, which formed an insoluble albuminate as capable of protecting from absorption as is granulation tissue. He did not pack the buccal cavity, but irrigated every two hours. The position of the patient was important; the head should be kept low for weeks. Deglutition was materially helped by grafting the twelfth nerve into the stump of the tongue.

DR. LEAVINGS, of Milwaukee, said the embryology of the teeth afforded a strong argument against Cohnheim's theory, as here more than at any other spot in the body were collected useless masses of embryonal cells.

DR. MCKENZIE, of Oregon, believed in the parasitic origin of carcinoma. His belief was founded on clinical study. It was the exposed portions of the body, those areas particularly liable to trauma, and hence open to infection, which were found by the clinician to be almost without exception the site of carcinoma. The new growth seemed always to have been preceded by some anatomical disorder of the part.

Election of Officers.—Dr. Deforest Willard, of Philadelphia, was elected *Chairman*, and Dr. J. B. Bullitt, of Louisville, *Secretary*.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Second Day, Wednesday, June 5th.

Atresia Hymenalis.—DR. O. THIENHAUS, of Milwaukee, Wis., read this paper. The occurrence of hæmatosalpinx, he said, proved that the atresia was of inflammatory origin. Gonorrhœa of the new-born often affected the vagina, and was a very common cause of atresia. If hæmatosalpinx was present, it must be removed by abdominal section. Simple vaginal incision was fatal in seventy per cent. of cases.

The paper was discussed by Drs. A. H. McDermott and A. Goldspohn, of Chicago.

Results, Immediate and Remote, of Conservative Surgery.—DR. A. GOLDSPOHN, of Chicago, presented this communication. In ninety-seven cases of cystic degeneration of the ovary treated conservatively by excision and ignipuncture, there were ten pregnancies. In all of those cases in which the operation was performed through the abdomen the results were satisfactory two years after the operation. In one-half of the cases treated by vaginal incision the results were unsatisfactory. In cases in which an inguinal incision was made, the results were satisfactory. The appendages were more easily secured in this way. In eighty-seven per cent. of the operations done for retroversion by the author's inguinal method perfect results were obtained.

DR. J. W. BOVÉE, of Washington, D. C., believed that if it was necessary to remove a part of a tube it was better to remove it entirely; and when there were extensive incisions, the ovary should be removed entire. When they were treated by ignipuncture, they were covered by adhesions, and pain and discomfort generally remained. The stormy menstruation of such cases was worse than the artificial menopause.

DR. B. COHN, of Buffalo, stated that he had examined one hundred patients operated on in the manner described, and in more than half a secondary operation was necessary. In thirty-five per cent. of the cases pus was found. The part of the ovary left after such operations was generally found to have undergone degeneration.

Electrothermic Hæmostasis in Abdominal and Pelvic Surgery.—DR. A. J. DOWNES, of Philadelphia, said that electrohæmostasis was the ideal method in abdominal surgery, especially in appendectomy. The instruments used consisted of the author's angiotribe and hæmostatic forceps, provided with a platinum strip in the jaws and connected with a storage battery. The operation left a homogeneous mass in which no vessel nor nerve could be detected.

How to Deal with Uterine Myomata.—DR. E. E. MONTGOMERY, of Philadelphia, said that thyroid extract exerted a special influence on uterine epithelium. It arrested bleeding and relieved pain. Both in normal and carcinomatous uteri large doses must be employed, but the remedy was of value only in the milder cases. Treatment by electricity was condemned. Fibroids should be removed by enucleation, a vertical incision being made and as many growths as possible being removed through one incision. If there was much mutilation, the operator should drain on account of the danger of hemorrhage, but it was very rare that the uterus must be sacrificed. Submucous fibroids should be removed by the vagina after dilatation and splitting of the cervix.

DR. S. C. GORDON, of Maine, said that hysterectomy should be done for the removal of all fibroids that caused any symptoms.

DR. G. B. MASSEY, of Philadelphia, stated that it required at least six months of treatment by electricity to influence favorably any fibroid.

The question was discussed further by Drs. G. H. Wathen, of Louisville, and V. A. P. Dudley, of New York.

Cancer of the Cervix Uteri.—DR. J. M. BALDY, of Philadelphia, said that cancer of the cervix was practically incurable, even with the advances that surgery had made up to the present day. According to reliable statistics, a cure resulted in less than five per cent. There was considerable difference of opinion between expert pathologists as to the appearance of early cancer examined under the microscope. A critical analysis of the Johns Hopkins Hospital reports would show very unfavorable results. Too much stress

in the past had been laid upon the microscopic findings, and too little upon the clinical symptoms. Hemorrhage and progressive loss of flesh and strength were the earliest symptoms. Any single show of blood occurring one year after the menopause without trauma was, in his experience, almost invariably due to cancer. It might be only a few drops of blood after coition, or a constipated movement of the bowels. It was extremely rare to have blood from any other cause.

Dr. J. G. Clark, of Philadelphia, strongly advocated the use of the microscope because by it a diagnosis of cancer could be made in many cases.

Dr. F. H. Wiggin, of New York, said that any increase in flow in a woman over thirty years of age was suspicious. If a case was seen before six months had elapsed from the inception of the disease there was a fair chance of recovery. If the report of the pathologist was doubtful and the clinical symptoms were marked, the surgeon should operate first and examine later.

Dr. E. Ries, of Chicago, described his method of extirpation of uterus and appendages together with all glands in the pelvis. He claimed that he had good results, although admitting that his primary mortality was twenty per cent.

Dr. G. B. Massey, of Philadelphia, advised electrolysis with oxychloride of mercury.

Dr. E. Kolisher, of Chicago, insisted upon a differentiation between cancer of the cervix and malignant growth of the portio vaginalis.

The paper was further discussed by Drs. J. H. Carstens, of Detroit, and Montgomery, of Philadelphia.

Dr. Baldy, in closing, stated that recurrence took place mostly in the cervical portion.

Relative Merits of the Different Methods of Uretero-Ureteral Anastomosis.—By Dr. J. W. Bovée, of Washington, D.C. The experimental work done in this field on dogs had been more unsuccessful, the speaker held, than when the same operation was performed on human beings. The history of thirty-three cases, collected from the literature, operated upon by various methods, with perfect results, testified to this fact. There were four methods, of which the transverse end-to-end was the best for most cases.

Some Results of Ovarian Surgery with Further Report upon Intrauterine Implantation of Ovarian Tissue.—Dr. Dudley read this paper. In one hundred and ninety consecutive cases of conservative operations there had been no failures. It was very rare that hysterectomy was necessary in pelvic disease. Conservative surgery was suitable only in young persons and during the child-bearing period, and those who were able to rest after the operation. Out of one hundred and twenty-eight cases in which the subsequent history had been followed, there had been twenty-eight pregnancies. The ovary must be cut lengthwise, the cysts being opened and scraped, and the cavity stitched with fine floss silk threaded in a cambric needle. The cautery must not be used to puncture cysts. The speaker had never seen any pus form in these cases. He referred to six cases of intrauterine implantation of the ovary. The uterus was split at one horn and the ovarian graft, attached to its own ligaments, was suspended in the uterine cavity and stitched to the mucous membrane, hanging there like a polyp. In this manner the artificial menopause was obviated.

Dr. J. Riddle Goffe, of New York, said that in a hundred cases of conservative operation he had seen eleven pregnancies follow in women previously sterile.

The paper was further discussed by Dr. W. H. Humiston, of Cleveland.

Dr. Dudley, in closing, said that the sclerotic ovary was not suitable for implantation.

The Various Incisions in Different Renal Operations.—Dr. Howard A. Kelly, of Baltimore, presented a communication with this title. By anatomical demonstration, he said, it had been shown that by the ordinary incision for approaching a kidney we cut off some nerve trunks, thereby causing an area of anæsthesia over the hip. In cases of simple exploration of the kidney the operator should begin over the last rib, cut obliquely down to the fascia, divide this, and separate the rest by blunt dissection. No muscles should be cut in any incisions for removal of the kidney, but they should be separated after the manner of McBurney.

GENERAL SESSION.

Third Day—Thursday, June 6th.

Suppression of Vice in the Army.—As a matter of courtesy, Miss Susan B. Anthony was presented to the association and allowed to speak on the regulation of vice among the soldiers in our new possessions.

Rev. Annie Shaw also spoke on the interest of virtue and the suppression of vice, and referred to the memorial passed by the association of woman suffragists. She requested co-operation in the effort to regulate vice in the Philippines and other of our possessions.

Dr. L. L. Seaman, of New York City, declared that these ladies were misinformed. Statistics showed that fifty per cent. of all cases of disease in the late war were venereal, and that the number of such cases had been doubled by the abolition of the army canteen.

Reorganization.—On motion of Dr. McCormick, of Tennessee, the secretary of the association was empowered to indorse the plan of reorganization already adopted so far as it applies to State and county societies. The secretary was also instructed to open correspondence with the officers of the State societies and to report at the next annual meeting.

Report of the Executive Committee.—Dr. L. Duncan Bulkley, of New York, then presented the report of the general executive committee. Each recommendation was separately considered.

A committee was appointed to draft resolutions commemorative of the lives of Drs. Alfred Stillé, Lewis A. Sayre, Hunter McGuire, and Beverly.

Incorporation of the Board of Trustees.—The association then formally ratified the article incorporating the board of trustees.

Revision of the Code of Ethics.—An animated discussion was elicited by the recommendation that "a committee of three be appointed to revise the code of ethics with instructions to report at the next annual meeting of the association, and that the printed report of their revision be published in the *Journal* of the association not later than April 1, 1902." A motion was made to lay on the table, and as the vote on this motion could not be decided satisfactorily, a roll call was demanded. Dr. Bishop, of Harrisburg, then came to the rescue of the association by moving a postponement of the roll call until next year. The motion was carried, and the chairman accordingly ruled that the entire question had been postponed for one year.

The Medical Department of the Army.—A resolution was adopted expressing disapproval of the action of Congress, tending to degrade the medical department of the army and cripple its efficiency.

Appropriation.—An appropriation of $500 was made for the committee on scientific research, and the same sum was allowed for continuing the pathological exhibit for another year. The association gave its formal approval of a proposition to establish a psycho-physiological laboratory in connection with the Department of the Interior.

Oration on Medicine.—By DR. N. S. DAVIS, JR. (see page 888).

Officers.—The following report of the nominating committee was adopted: *President*, Dr. John A. Wyeth, of New York; *First Vice-President*, Dr. Alonzo Garcelon, of Maine; *Second Vice-President*, Dr. A. J. Stone, of Minnesota; *Third Vice-President*, Dr. A. F. Jonas, of Nebraska; *Fourth Vice-President*, Dr. James A. Dibrell, of Arkansas; *Treasurer*, Dr. Henry P. Newman, of Illinois; *Secretary*, Dr. George H. Simmons, of Illinois; *Board of Trustees* whose terms expire 1904: Dr. T. J. Happell, of Tennessee; W. W. Grant, of Colorado; John F. Fulton, of Minnesota; *Judicial Council:* Drs. George Cook, of New Hampshire; H. H. Grant, of Kentucky; John B. Murphy, of Illinois; Philip Marvel, of New Jersey; Louis H. Taylor, of Pennsylvania; John L. Dawson, of South Carolina; N. Fred Essig, of Washington; *Orator on Surgery:* Dr. Harry Sherman, of California; *Orator on Medicine:* Dr. Frank Billings, of Illinois; *Orator on State Medicine:* Dr. J. M. Emmert, of Iowa; *Chairman of the Committee of Arrangements:* Dr. G. F. Comstock.

Place of next meeting, Saratoga, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 1, 1901:

	Cases.	Deaths.
Tuberculosis	286	158
Typhoid fever	25	2
Scarlet fever	505	38
Measles	329	11
Diphtheria and croup	247	50
Smallpox	64	17
Chickenpox	63	0
Cerebro-spinal meningitis	0	4

The Bacteriology of Healthy Organs.—Dr. William W. Ford, fellow in pathology, McGill University, Montreal, has elaborated studies on this subject, begun by Professor Adami and Dr. A. G. Nicholls, and has published his conclusions in pamphlet form. The results from autopsies on man were as follows: The colon, staphylococcus, and mesentericus were the common forms of bacteria found, together with a number of long, narrow bacilli like those seen in gangrene. No putrefactive organisms were isolated, and from the similar results of early and late cultures one is led to believe that at the time of death a few bacteria were scattered in the organs, which were capable of development and transplantation, rather than that there was a post-mortem passage of bacteria from the intestine, for example, into the organs. In several cases a pure staphylococcus was grown, yet a large quantity of gas was evolved from the original culture, smears made directly, however, showing many bacilli, which might either be the gas-producing colon or some pure anaerobe, overgrown by the hardier staphylococcus. Anaerobic culture in Buchner's jars revealed nothing further to solve the problem.

A Literary Moral.—The New York *Tribune* of Sunday, March 31st, quotes these remarks from the London *Academy:* "An Edinburgh correspondent sends us the following: 'Addressing his students last week on the intoxicants, Dr. Wylie, the professor of medicine in Edinburgh University, adduced an experience of his that is not without its literary moral. He was called one day to see a young man. As he was entering the house, the patient's sister exclaimed: "Oh it's all that horrid book!" Inquiry elicited the fact that the patient's favorite reading was "Sherlock Holmes." The young man was in a very low state, and his tell-tale arm was dotted with hypodermic punctures. His admiration for the most popular paper detective had betrayed him into the cocaine habit. Taking this case as a text, Dr. Wylie permitted himself a sentence or two of severe stricture on Conan Doyle's knowledge of the action of drugs: "If such a man as Sherlock Holmes had existed, dosing himself as depicted by his creator, in a few weeks his opinion on anything would not have been worth having." Cocaine, according to Dr. Wylie, is even more disastrous than morphine. "It renders its subject vainglorious and pleased with himself, but blunts the intellect and blasts the imagination."'"

Nursing the Insane.—At the graduating exercises of the Training School for Nurses of the Manhattan State Hospital, held on May 22, 1901, Dr. Frederick Peterson, commissioner in lunacy, made the following remarks: "I remember less than twenty years ago observing the inauguration of the first training school for asylum nurses in the State of New York, and I believe this was the second school of the kind in the United States. I understand now that there is scarcely a hospital for the insane in the country which does not give some degree of training to its attendants. The result has been a higher standard of intelligence and character required in the applicants for admission to the training schools, a vastly improved body of attendants, and a correspondingly better kind of treatment and care for the unfortunates placed in their charge. Indeed, they are no longer attendants merely, but nurses in every sense of the word. This speaks well for the progressive spirit of the superintendents of the asylums, who are always quick to perceive the value of new ideas and to seize hold of new possibilities in the evolution of the modern asylum. Nursing the insane is a delicate, difficult, and often perilous vocation. It demands an unusual number of virtues. It demands courage, self-poise, patience, sympathy, tact, kindness, and loyalty to superiors, to an extreme degree. Few in the outside world appreciate the arduous nature of this occupation. Those who read the criticisms often made of asylum nurses in sensational newspapers have no means of knowing the other side of the story. They never hear of the good things they do. They do not learn of the hundreds of thousands of insane who have been and are in charge of a vast body of nurses—painstaking, faithful, hard-working, humane, and brave. They do not learn of the thousands who have gone home from the hospitals cured, and of the thousands of grateful letters sent by these patients to those who cared for and guided them through their brain disorders. You are like an army of soldiers, in which there are some who desert, some who are disloyal, and some who are cowards, but the great body of them stand by their colors and follow their leaders to victory or defeat. The world knows little of you, of your good work, of your feats of patience and valor. I wish I had eloquence to tell the public of your good deeds. I should like to tell the story of an attendant whom I knew who followed an insane man, bent on suicide, from block to block of floating ice in the Hudson River on a biting winter's day and brought his patient safely back to shore. I would tell of another who caught a suicidal melancholiac as he was jumping out of a fourth-story attic window, and clung to him over the window-ledge with all of his strength, while two of his own ribs were being broken by the pressure, until help arrived that saved them both. Such instances could be multiplied by the experiences of every asylum

physician. I should like to write the story of—let us call her Mary Smith—a woman who for many years had charge of the maniacal ward of an asylum. There were thirty-five or forty patients in a crowded ward. Nothing can describe the noise and uncleanness, destructiveness, violence, assault, profanity, obscenity—it was a veritable hell upon earth. This nurse ruled the ward during all those years, patient and serene, a ministering angel. She never lost her temper, never said an unkind word, but preserved throughout her years of nerve-racking and depressing work a gentle and courageous spirit, never uttering a word of complaint though she grew old at her task. Deeds less heroic than these have been rewarded with the Victoria cross. And this leads me to add that I hope the day is not far distant when means will be found to show appreciation of such heroism and self-sacrificing lives among our asylum nurses by the presentation of some special form of certificate, diploma, ribbon, or medal, as a recognition on the part of the public of the same virtues for which we reward the soldier—loyalty, devotion to duty, courage, the voluntary offering of one's life for another."

Production of Bacterial Disease in Rats and Mice.—In April, 1900, Professor Danysz, of Paris, published in the *Annales de l'Institut Pasteur* an account of a micro-organism pathogenic to rats, whether given in their food or by subcutaneous infection, and presenting some resemblance to Loeffler's "mouse typhus" bacillus and to the bacterium coli bacilli, which, having once passed through an animal, killed rats in from seven to twelve days; but by successive passages through animals their virulence diminished, and finally disappeared altogether. Professor Danysz was very successful in experiments which he made on a large scale for the destruction of rats in drains by this means, for the dead rats were eaten by the others, and thus the disease was spread. With a view to test the applicability of the method for the destruction of rats in time of plague, Dr. P. Kister and Dr. P. Köttgen, of the Public Health Institute in Hamburg, have made a number of observations, which are published in the *Deutsche medicinische Wochenschrift* of May 2d. They found, like Professor Danysz, that the virulence of the bacillus for rats diminishes with successive passages through the animal organism, and after about ten passages it no longer causes death. For their experiments they grew five cultures from the heart blood of dead animals on agar plates. The weight of an agar-plate stroke-culture mass of twenty-four-hours' growth was about 9 mgm., and a rat was, on an average, given bread soaked in fluid containing one of these. These rats, after they had eaten the whole of the bread, were put in a cage with a large number of healthy rats. The latter did not fall ill if the infected rats, as they died, were immediately removed from the cage, but if food were withheld so that the dead rats were eaten by the others, the disease immediately spread, and the rats infected from the dead bodies died in about the same time as those which were fed on the bread to which the cultures were added. Fowls, cats, dogs, and guinea-pigs, to which the bacilli were administered, suffered from no symptoms of the illness whatever. The rats killed in this way never showed the swellings of the lymph glands or hemorrhages into the internal organs and into the subcutaneous connective tissue which are almost invariably found in rats that have died from the plague.

The Growth of London and New York.—The census returns for the city of London, which have recently come to hand, afford a basis for comparison between the two great cities of the old and new worlds. In each there has been a rapid increase during the past decade, but there is something prophetic of the future in the fact that not only has the rate of increase in New York City been very much greater than that in London, but that the actual increase has been two hundred and fifty per cent. greater. In 1891 the population of London was 4,433,220, and in 1901 it has increased to 4,803,342, an increase in ten years of 370,122. In the year 1890 the population of what is now Greater New York was 2,492,591, and by the year 1900 it had increased to 3,437,202, an increase during the decade of 944,611. Fifteen years ago London was growing at the rate of 50,000 a year, whereas the increase of the past decade averages only slightly over 37,000 per year. As against this, a comparison of the census of the last two decades in this country shows that Greater New York increased from 1,901,000 in 1880 to 2,492,591, an increase of 591,246, or 31 per cent., while the increase of 944,611 was at the rate of 37.8 per cent. Assuming a rate of only 40 per cent. during the next ten years, the population in 1911 should be equal to that of London at the present time. It is likely, however, that the rate of increase will be nearer 50 than 40 per cent, and, should the rate at which London is growing continue to decrease, it is quite possible that about the time the next census is taken the population will be nearly the same.—*Scientific American.*

Physical Regeneration of the Human Race.—To speak of the physical regeneration of the human race is, in fact, to talk so much frank nonsense. Alike in physical and intellectual faculty, an upward progress is traceable from the very earliest period of which science takes a reasonable cognizance up to the present hour. The principle of selection has always been recognized by nature, and the advances which have been made both in a physical and intellectual sense have resulted from unsought but inevitable conditions. We were long delayed from a knowledge of the facts under which these conditions operated by the mistaken belief that the racial elements which compose a nation were to be determined by the language employed by its population. Dr. Lagneau, in his exhaustive study of the anthropology of France, has shown that the French population is composed of the most diverse ethnological elements. Here is the list he offers: "Celtes, Aquitains, Ligures Galates, Kimmeriens, Belges, Francs, Goths, Burgundians, Saxons, Normands, Pheneciens, Juifs, Sarrasins, Maures, Grecs, Romains." Dr. Eugene Talbot, whose book on "Degeneracy" is one of the most brilliant and useful in The Contemporary Science series, proves an equally various mixture in England, and even Daniel Defoe, in his famous satire, "The True-Born Englishman," saw a part of the truth when he wrote:

> "The Pict and painted Briton, treacherous Scot,
> By hunger, theft, and rapine hither brought,
> Norwegian pirates, buccaneering Danes,
> Whose red-haired offspring everywhere remains,
> Who, joined with Norman-French, compound the breed
> From whence your true-born Englishmen proceed."

The Teutonic people are equally rich in varied ancestors, and in Austro-Hungary, where the blend is not yet truly accomplished, there are something like a score of races, speaking eleven different languages. Of all existing peoples, and probably of all peoples which ever existed, the Americans are the richest in variety of ancestry. It would appear reasonable to suppose that in the richest blending of ancestral faculty we find the richest fruition for the present and the richest promise for the future.—*London Referee.*

Shop Assistants' Hours in Australia.—Shop assistants, according to *Tit-Bits*, work only fifty hours per week. In Ballarat every shop, except those of

tobacconists, fishmongers, and hairdressers, closes at 6 P.M. for the first four days of the week, on Friday at 1 P.M., and on Saturday at 10 P.M. Work is begun at about 8:30 A.M. An hour is allowed for dinner; the total being about fifty hours' labor per week. There are also eight or ten whole holidays in the year.

Health Reports.—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended June 1, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, San Francisco	May 11th to 18th	5	
Illinois, Chicago	May 18th to 25th	7	
Iowa, Clinton	May 18th to 25th	2	
Louisiana, New Orleans	May 18th to 25th	7	
Shreveport	May 18th to 25th	1	
Maryland, Baltimore	May 18th to 25th	2	
Massachusetts, Boston	May 18th to 25th	3	
Fitchburg	May 18th to 25th	1	
Marlboro	May 18th to 25th	1	
New Bedford	May 18th to 25th	2	
Michigan, Detroit	May 18th to 25th	67	
Minnesota, Minneapolis	May 18th to 25th	9	
Winona	May 11th to 18th	1	
Nebraska, Omaha	May 11th to 18th	9	
N. Hampshire, Manchester	May 18th to 25th	5	
New Jersey, Camden	May 18th to 25th	1	
Newark	May 18th to 25th	2	1
Passaic	May 18th to 25th	1	
New York, New York	May 18th to 25th	134	13
Ohio, Cincinnati	May 17th to 24th	4	
Cleveland	May 18th to 25th	39	1
Pennsylvania, Erie	May 18th to 25th	1	
Lebanon	May 18th to 25th	8	
Philadelphia	May 18th to 25th	3	
Williamsport	May 18th to 25th	1	
Tennessee, Memphis	May 18th to 25th	6	2
Nashville	May 18th to 25th	2	
Utah, Salt Lake City	May 11th to 18th	5	
Washington, Tacoma	May 12th to 19th	1	
W. Virginia, Huntington	April 13th to May 24th	48	
Wisconsin, Green Bay	May 19th to 26th	6	
Philippine Islands, Manila	March 23d to April 13th	35	
Porto Rico, Ponce	April 27th to May 4th	5	
Smallpox—Foreign.			
Austria, Prague	April 27th to May 4th	3	
Brazil, Rio de Janeiro	April 1st to 15th	..	5
Belgium, Antwerp	April 27th to May 4th	5	2
China, Hong-Kong	April 6th to 13th	6	6
Ecuador, Guayaquil	March 30th to May 11th	..	3
Egypt, Cairo	April 15th to May 6th	..	4
France, Paris	April 27th to May 4th	..	5
Gibraltar	May 6th to 12th	2	
Great Britain, England, Liverpool	May 4th to 11th	2	
London	May 4th to 11th	1	
Scotland, Dundee	April 27th to May 11th	10	
Glasgow	May 3d to 11th	..	4
Italy, Naples	April 30th to May 12th	296	57
Mexico, Mexico	May 11th to 18th	1	
Nicaragua, Grenada	May 16th	Present.	
Masaya	May 16th	"	
Managuez	May 16th	"	
Russia, Moscow	April 21st to 27th	9	2
Odessa	April 27th to May 4th	5	2
St. Petersburg	April 20th to May 4th	21	4
Vladivostock	October 1st to 31st	1	
Warsaw	April 20th to 27th	7	
Spain, Malaga	May 4th to 11th	..	1
Valencia	April 27th to May 11th	..	2
Straits Settlements, Singapore	March 30th to April 13th	..	3
Uruguay, Montevideo	March 16th to 23d	5	
Yellow Fever.			
Brazil, Rio de Janeiro	April 1st to 15th	..	31
Colombia, Panama	May 6th to 20th	7	
Cuba, Havana	May 11th to 18th	3	
Plague—Insular.			
Philippine Islands, Cebu	April 4th	1	
Manila	March 23th to April 13th	76	64
Plague—Foreign.			
Japan, Formosa	April 21st to 28th	170	111
Turkey, Basra	May 13th	3	

Fresh Air and Consumptives.—It is interesting to learn some of the results already achieved at the Durham County Consumption Sanatorium, recently opened in Weardale, England. In an interim report on fifteen cases treated during the nineteen weeks of the establishment of the institution at the end of 1900 the medical superintendent said: "These fifteen patients gained on an average one and a half pounds in weight per capita each week, and at the same time their walking powers very greatly increased. The walks are extensive and varied, and are along sheltered roads, by running streams, through woods, up hills rising seven hundred feet, and across heather-clad moors fourteen hundred feet above sea-level. Almost all the patients remained out of doors the maximum amount of eleven hours and a half each day, and slept with their French windows wide open all night."

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Oscar Schaeffer, M.D. 8vo, 150 pages. Illustrated. W. A. Saunders & Co., Philadelphia, Pa.

ANATOMICAL ATLAS OF OBSTETRICS. By Oscar Schaeffer, M.D. 8vo, 315 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

ATLAS OF THE NERVOUS SYSTEM. By Christfried Jakob, M.D. 8vo, 218 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

ATLAS AND EPITOME OF OPHTHALMOSCOPY. By Dr. O. Haab. 8vo, 85 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

MUNICIPAL SANITATION IN THE UNITED STATES. By Charles V. Chapin, M.D. Royal 8vo, 970 pages. Illustrated. Snow & Farnham, Providence, R.I.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Hermann Eichhorst, M.D. Royal 8vo. Vol. i., 628 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Hermann Eichhorst, M.D. Royal 8vo. Vol. ii., 590 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

NEWYORKITIS. By John H. Girdner, M.D. 12mo, 164 pages. The Grafton Press, New York.

APPENDICITIS, ITS PATHOLOGY AND SURGERY. By Charles Barrett Lockwood. 287 pages. Illustrated. Macmillan & Co., London.

NEW REMEDIES AND THERAPEUTIC MEASURES. By J. W. Wainwright, M.D. 12mo, 224 pages. G. P. Engelhard & Co., Chicago, Ill.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Marcus P. Hatfield, M.D. 12mo, 135 pages. G. P. Engelhard & Co., Chicago, Ill.

SIXTH ANNUAL REPORT OF THE METROPOLITAN WATER BOARD. 8vo, 271 pages. Illustrated. Wright & Potter Printing Co., State Printers, Boston, Mass.

ESSENTIALS OF THE DISEASES OF CHILDREN. By William M. Powell, M.D. 12mo, 259 pages. W. B. Saunders & Co., Philadelphia, Pa.

HANDBUCH DER PHYSIKALISCHEN THERAPIE. Dr. A. Goldscheider und Dr. Paul Jacob. Folio, 563 pages. Illustrated. George Thieme, Leipsic.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twelfth Session. By Walter Lester Carr, M.D. 8vo. Vol. xii., 249 pages. Illustrated.

THE EXTRA PHARMACOPŒIA. By William Martindale. Tenth edition. 16mo, 688 pages. H. K. Lewis, London, England.

THE GOLDEN RULES OF AURAL AND NASAL PRACTICE. By Philip A. W. De Santi. 87 pages. Simpkin, Marshall, Hamilton Kent & Co., London; John Wright & Co., Bristol.

RABIES: ITS CAUSE, FREQUENCY, AND TREATMENT. By Dr. E. Salmon, D.V.M. 8vo, 36 pages.

ECZEMA. By L. Duncan Bulkley, M.D. Third edition. 12mo, 368 pages. G. P. Putnam's Sons, New York.

A TREATISE ON ORTHOPÆDIC SURGERY. By Royal Whitman, M.D. 8vo, 650 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

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ORAL SURGERY. By Stewart Le Roy McCurdy, M.D. 8vo, 368 pages. Illustrated. Calumet Publishing Co., Pittsburg, Pa.

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Original Articles.

A NOTE ON THE SPREAD OF YELLOW FEVER IN HOUSES.

EXTRINSIC INCUBATION.

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IT is well known that when a case of yellow fever develops in a house, the house (or its contents) may become infected, *i.e.*, endowed with such properties that people susceptible to yellow fever may contract the disease by visiting or residing in the house. Now, there is evidence to show that a certain (not inconsiderable) time from the development of the infecting case of yellow fever passes before this property of communicating the disease to other people is attained by the place.

It is not meant that the presence of the patient for that time, or even at a certain stage of the disease after the beginning (analogous to what we probably have in smallpox), is necessary to contaminate his environment. There is evidence to the contrary. For instance, at Lauderdale, Louisiana, an isolated way station on the T. & P. R. R., the agent, Mr. L., developed yellow fever (contracted elsewhere) October 8, 1897. He began work as usual that day; complained of malaise during the day, but stayed in his office attending to his work until the evening, then went to a shanty some distance off and reported sick next morning. He died. The house was vacated, and, I think, burned. His successor, Mr. B., used the same office during the day—it not being considered contaminated by so slight and so short an indisposition—but lived in a section house about a mile farther off. During the night of November 8th, or early morning of the 9th, this man sickened with yellow fever, having been apparently well when he went to bed. He in the early morning took the train for Donaldsonville, where he died November 13th. Being now afraid of the office his successor, McG., moved the telegraph instruments down to this section house, making it both office and dwelling-place. He developed yellow fever December 4th, and died December 11th. These were the only cases in the neighborhood.

Here we have in the first case a patient sick less than a day in the office, infecting it, and a subsequent occupant (working in it continuously) developing yellow fever from it twenty days later. In the second, a patient sick not over half a day in the section house, infecting it so that a subsequent occupant, living and sleeping continuously in this house, developed yellow fever twenty-five days thereafter. In both cases, then, the houses showed infection, although the patient's stay in them was very short, and only in the beginning of the disease.

Nor do we mean that the infection of the house is at first slight, and gradually, from new increments from the patients or otherwise, increases, and that the escape from fever of those living in the house soon after the introduction of the infecting case is due to the slight degree of infection, and that the development of yellow fever in those living in, or visiting it, later is due to the increased degree of infection.

Of course, in any disease in which the patient infects his environment, the degree of infection of the environment increases with the length of time the sick man remains therein. If the cause of disease be a saprophytic micro-organism, and the environment furnishes a suitable culture medium, the infection also increases with the time since the first contamination of the environment, whether that contamination be continuous or not. With such diseases, then, the chance of contracting the disease from an environment is less soon after the development of the case which infects it than later, and this chance is approximately proportioned to the length of residence of the patient and the time since his introduction. In other words, of susceptible people visiting the house at different times a lesser proportion of those who go there soon after the introduction of the infecting case will contract the disease than of those who go there later, and this proportion will, for a short time at least, be proportional to the length of time after the introduction of the primary case.

What we have observed in yellow fever does not seem capable of this explanation. None of those visiting or living in a house only up to "—— days" after the development of the primary case, and not afterward, contracts yellow fever, while many so exposed afterward do. There is no gradual increase with the increase of time of the proportion of those exposed who contract it. On the contrary, the secondary cases generally appear more or less in a group after a considerable interval from the primary case. For instance:

Mrs. A. and E., a young child, came from Ocean Springs to a country house in North Mississippi, near Edwards. Mrs. A. developed yellow fever the day of arrival, August 8, 1897, and E. the next day. There were twelve persons in the family. No other cases occurred until the night of August 21st, over thirteen and one-half days, when one other member of the family sickened, and by the 26th all ten had developed yellow fever.

S. W. G. developed yellow fever, contracted elsewhere, in a country house in North Mississippi, on August 6th. No other case developed until August 23d. Yet by August 25th five others besides the one on the 23d had developed yellow fever. These were all that resided in the house.

The above are typical examples of the spread of yellow fever in hot weather in a house where no precautions are taken, and to the writer seem not explicable by a gradual increase of the degree of infection from the development of the first case. It is rather as if the houses were at first incapable of imparting infection to those exposed to it, which property was acquired (developed) later. Let us assume this to be true, and call this period between the contamination of the house by the patient and its becoming capable of imparting the disease to those exposed to it, "the period of extrinsic incubation." This expression (from A. Corre) is fairly suitable, as it represents the time during which the infection derived from the patient is present,

but not patent in the environment; just as the infection derived from the environment is present but not patent in the patient during the time of his "intrinsic (?)" incubation. No likeness is predicated between the processes.

It is the time taken for such an evolution of the infection, derived from the patient, as renders the environment patently capable of imparting the disease to other men.

We have said "there is evidence to show" that a certain time elapses from the development or introduction of the first case before the disease can be contracted from the environment. The nature of the question admits of only negative evidence. The most that can be expected is to show that susceptible people visiting or living in a house during —— days after the development of a case of yellow fever therein, and not after that time, do not contract yellow fever. Evidence of this kind is cumulative, and is convincing only if in considerable mass. So far as a few cases of people visiting a house under the condition named and escaping fever is concerned, the evidence is of little value. The houses may have escaped infection altogether—this is common enough; or the house having been infected, the people, although exposed to infection, have not contracted fever at this exposure. This also is common. Yet the only way to show that a place cannot communicate disease is to show that it does not, opportunity being offered, communicate it; and, if we find many such instances, the evidence becomes of more weight, especially if developments show the house to be infected later and the people susceptible. If in addition we can find no case in which the contrary takes place, *i.e.*, no person developing yellow fever who has been exposed to an environment only under the above conditions, we have supplied all of the evidence which the question admits, and it is convincing in proportion to its mass.

I. Let us take first a class of cases, viz., those that occur on vessels at quarantine stations after disinfection. These cases occur aboard ship, and the vessel is disinfected again and kept under observation —— days from this second disinfection. As a rule, but a short time elapses between the development of the case and the second disinfection of the vessel. Yet some time elapses, especially if they develop in the early night and other vessels are at the disinfecting wharf, etc., or, as has happened, when the diagnosis is not made at once; and, as we have seen (vide the Lauderdale cases), the presence of a patient is needed but a little while to contaminate an environment. Yet no cases of yellow fever have developed at quarantine from exposure to infection left by these cases.

Here we have a number of people—from six to seventy-five in each instance—exposed to an environment shortly after the development therein of a case of yellow fever, the time of such exposure being from, say, half a day to five days. Yet the records of five such vessels (seven cases) at the Louisiana quarantine—one disinfected three days after development of the case of yellow fever; of one at the Tampa Bay station, and of five treated by the writer, one disinfected three and one-half days and one five days after disinfection—give no case of yellow fever contracted from infection induced by these cases.

II. In the same class must be included the cases in which houses are disinfected soon after the occurrence of a case of yellow fever. In the little epidemic at Orwood in 1898 an opportunity was offered to do this in a few cases. I quote from Assistant Surgeon Von Ezdorf's report:

"An attempt was made to disinfect houses where the disease had occurred in one or two of the family, to prevent secondary infection. This was done in five houses. One house was re-infected"—by a new case contracted elsewhere—"twenty-eight days after the disinfection. All were successful. Six foci were thus destroyed before secondary infection."

1.	One house,	5	in family,	1	sick,	no recurrence.
2.	"	"	9	"	1	"	"
3.	"	"	5	"	1	"	"
4.	"	"	8	"	1	"	"
5.	"	"	3	"	2	"	"

Here we have five houses in each of which yellow fever had occurred disinfected soon afterward, and with no subsequent developments, although they aggregated twenty-four non-immune inmates; while in the other houses of this community, the fever once introduced generally spread through the family, extremely few escaping.

With these should have been grouped two houses similarly treated at McHenry, Miss., and with the same result, but the notes of which have been lost. Nor is the interval between the development of the case of fever and the disinfection known for these houses save in two cases.

For house No. 4 it was seven days and for one (which one is unknown) two days.

The writer had advised him (Von E.) to disinfect to prevent secondary cases up to ten days, but to make the interval as short as possible. It was found, however, impracticable, save in one instance, to disinfect until the patient was convalescent, as the family were afraid to have the patient moved into a tent in the beginning of his sickness. It will be safe to put this interval, then, as between four and ten days for the other three.

The expression "secondary infection" is evidently used to mean that condition of the house in which infection can be contracted by one visiting or residing in it, the so-called "secondary" cases.

Note that the evidence here is not only that five houses where yellow fever had existed were disinfected soon after development without secondary cases, but also that in no house (although only five) disinfected soon after the development of the first case did secondary cases arise.

III. There are some instances of people visiting or living in houses in which yellow fever occurred, moving away soon after.

(1) C., an Italian tailor, developed yellow fever at Franklin, La., October 7, 1897, and died October 13th. On the 14th, eight days after, the inmates of his house—nine in number—were moved from the house and placed under observation and the houses adjacent vacated. None of these people developed yellow fever. A case, which was followed by another, occurred in a house across the street, which was narrow, October 22d or 23d.

(2) C. L., of the same town, developed yellow fever October 20th, and died the 26th. On the same day—six and one-half days after inception of his case—the five inmates of his house were moved and placed under observation and the house and the adjacent houses vacated. None of these people developed yellow fever. Two cases developed in a house just back of it, to leeward.

(3) S. W. G. developed yellow fever at a country house at Orwood, Miss., August 6, 1898. A number of people visited this house. Of eight that we could trace who visited it prior to August 16th and not afterward, none developed yellow fever, while of thirty-four people there subsequently visiting or residing thirty-three developed yellow fever; three, however, had other exposures.

(4) Mrs. T., Orwood, Miss., developed yellow fever August 31st; Mr. T. on September 1st. Both contracted the disease elsewhere. There were ten in the family. All the children were in the house, of two rooms, until September 6th, the three youngest in the

room with the two sick people. At this date—six days after the first case—five of them were isolated from the house. None of the five developed yellow fever, while the three who remained all did so.

(5) Col. R. developed yellow fever, contracted in Edwards, Miss., on September 16, 1897, in a country house. The diagnosis was made on the 17th; the next day all of the family left save four. None of the ten who left developed yellow fever. All of those who remained did so: the first three, seventeen, eighteen, and nineteen days after, and the fourth later.

(6) D. C. developed yellow fever, contracted elsewhere, September 10th, 10 A.M., at a country house near Orwood, Miss. The family consisted of eight persons. The house was burnt and everything disinfected September 17th. None of the remaining seven, who had all been residing continuously in the house of two rooms, developed yellow fever.

(7) Dr. W. developed yellow fever August 27th, in Water Valley, Miss. There were ten persons in the family. September 1st, all save Mr. W. left and went into the country. None developed it until they returned to the house September 24, when all of them developed yellow fever; the first three days after return. This house had been disinfected just prior to the return of these children, but unquestionably not successfully.

(8) With these single houses we should group the results of the little "Observation Camp" at Jackson, Miss., in 1899. In this camp were received only the inmates of houses in which a case of yellow fever had occurred, and the attempt was made to get them to come away from their houses as soon after the development of the case as practicable. Many came within the first two or three days. Not a few cases of yellow fever, however, were not diagnosed for a few days, and in not a few others the family declined to accept the diagnosis, or failed to realize the gravity of the disease until several days had elapsed and the patient was very ill or dead, when they would come out to the camp. Forty-nine persons, all white, came to this camp, all, as stated, from houses in which yellow fever had occurred. None of them developed yellow fever. None of them were expected to do so. Yellow fever developed in a certain number of the houses from which these people came among those remaining to care for the sick; although this was done by immunes as far as possible. People were not taken from houses in which cases had been contracted.

IV. Finally, there is the large and, to the writer, convincing class of observations of the spread of yellow fever in a house (or vessel) infected by some one who has contracted the fever elsewhere developing the disease in (or aboard) it. It is necessary for these observations that we know: (1) The dates of development of the infecting and secondary cases; (2) that the inmates of the house have resided there continuously from the development of the first case to their own sickness; (3) that they have been exposed to no other source of infection, save at their own premises. And all these things must be known beyond cavil. In all cases fulfilling these conditions there is a considerable interval of time between the infecting and the first case contracted in the house; then such secondary cases come rapidly, sometimes in a bunch. The two instances in the first part of this paper are typical. Here are a couple more:

(3) M. C. developed yellow fever at Nitta Yuma, Miss., September 11, 1897, at Mr. B.'s house. Mrs. B. developed yellow fever September 27th at night, Miss T. on September 28th, J. S. on October 1st, Miss B. on October 2d, Mr. B. on October 6th, Mrs. S. on October 8th, and J. P. on October 8th.

(4) C. H. P. developed yellow fever at Nitta Yuma, Miss., October 8, 1897, in Mr. D.'s house. J. D. developed it on October 21st, H. D. on October 21st, J. T. R. on October 21st, M. J. E. on October 23d, S. S. on October 23d, Mrs. D. on October 24th, and R. D. on November 24th.

Of these four houses, the interval between the first (infecting) and the next (secondary) case is, for Mr. A.'s house, 13½ or 13¾ days, and then 10 cases in 5 days; Mr. G.'s house, 16½ days, and then 6 cases in 2½ days; Mr. D.'s house, 13½ days, and then 6 cases in 3 days and 1 later; Mr. B.'s house, 16 days, and then 4 cases in 6 days and 3 later.

The writer made a study last winter (*New Orleans Medical and Surgical Journal*, May, 1900) of the spread of infection in houses at Orwood and Taylor, Miss., fulfilling the required conditions. The findings were all similar to the above, and are here reproduced in tabular form:

TABLE I.

House.	Infecting case.	First secondary case.	Interval in days.	Number of secondary cases.	Number of people in house.	
Orwood—						
1.....	Aug. 6th.....	Aug. 23d...	16½	6	7	First secondary case was in existence Aug. 22d, 5 P.M., interval 16 + days.
2.....	" 29th.....	Sept. 13th..	15	3	4	All developed in one day.
3.....	" 28th.....	" 18th..	20	4	5	
4.....	Aug. 31st and Sept. 1st	" 20th..	19½	5	7	Two infecting cases.
5.....	Sept. 3d.....	" 26th..	26	6	7	
6.....	Aug. 31st.....	" 22d...	21½	4 or 5	6	Source of infection in one secondary case doubtful.
7.....	Sept. 4th.....	" 20th..	16	2	?	
8.....	" 2d.....	" 22d ..	20½	1	?	
9.....	Aug. 29th, 30th	" 9th...	11½	1	3	Two infecting cases. Interval 11 days 15 hours.
Taylor—						
10.....	" 7th.....	Aug. 27th ..	20	13	14	
11.....	" 17th.....	Sept. 2d	16	8 or 10	11	All in house had fever, but two may have contracted it elsewhere.
12.....	" 10th, 11th	Sept. 25th or " 28th.	15 or 18	3 or 2	5	Two infecting cases; one secondary case may have contracted it elsewhere.

House 1 is Mr. G.'s home mentioned before in this paper.

In addition to the above, the writer has records of a few other houses and a few vessels: these will not be given, but wherever he has been able to trace the spread of yellow fever in a house which fulfils the conditions I have mentioned, the existence of this interval, not less than 11½ days, usually over 14 days, has been found. Now this interval is habitually greater, and considerably greater, than the period of incubation of yellow fever. For instance, in the Gray house at Orwood the minimum interval is 16 days, while the period of incubation observed by the writer of six cases contracted about the same time from a single exposure at this house were 3¾ days, 4 days, 3 days, 3½ or 4 days, 3 days, 5¾ days, respectively. It is obvious that yellow fever was not contracted by those residing in this house for a considerable time after the development of the first case, for there is no reason why these six residing in the house from the beginning should have an incubation of from 16½ to 19 days, and the six who visited the house once afterward should have incubations of from 3 to 4½ days.

But the above statement is general. In all cases which I have been able to observe, the interval between the infecting case and the first secondary case is habitually considerably greater than the period of incubation of yellow fever.

Yellow fever, then, is not contracted in any of these houses by those residing continuously in them until a considerable time (in days) after the development of the infecting case, although these same inmates do contract the disease from the same houses later. This

latter fact, as I said at first, strengthens the position that at first, when none took the disease, the house was not capable of transmitting it, and that later it became so. To sum up:

I. Cases of yellow fever which occur aboard ship after disinfection at maritime quarantine stations have not been followed by any others among the crew.

Eleven vessels disinfected from "at once" to five days after the first case.

II. Cases of yellow fever which occur in houses disinfected soon after occurrence were not followed by other cases among the inmates.

Five houses—twenty-four susceptible inmates—disinfected, one seven days, one two days, and the rest probably four to ten days after first case.

In no case has the contrary been observed.

III. Cases of yellow fever which occurred in houses vacated soon after have not been followed by other cases among the inmates leaving, although cases occurred among those who remained in the houses or in the neighborhood.

From seven houses forty-six inmates were removed from two to eight days after development of the first case. In no case has the contrary been observed.

With these consider the forty-nine people moved from houses in which yellow fever had occurred to the Jacksonville "Observation Camp"; none of whom developed yellow fever.

IV. Cases of yellow fever which occur in clean houses are not followed by other cases among the inmates exposed to no other infection until after such time as shows that the disease was not contracted for a number of days after the development of the first case, although these same inmates do develop yellow fever from these same houses later.

Fifteen houses, with eighty-one susceptible inmates subsequently developing yellow fever, here reported; others have been observed. In no case was the contrary observed.

As before said, the class of evidence here presented is convincing in proportion to its mass. Whether it is enough to convince, the reader must determine. Yet, in the writer's opinion, the phenomenon of the "interval" in house infection is itself sufficient.

It may be that the force of this may be plainer if the full history of one such "house infection" be given in detail. We will take one already mentioned in this paper:

House 1: Gray House, Orwood, Miss., 1898: S. W. G. developed yellow fever (contracted at Taylor's) August 6th, 11 P.M. L. G., roommate of the above, August 23d, 11 A.M; A. G., August 24th, 11 A.M.; S. G., August 24th, 7 P.M.; C. G., August 25th, 2 A.M.; C. G., August 25th, 12 midnight.

All the above were inmates of this house, and were the only inmates living there continuously up to the 25th.

In addition the following cases were contracted here by visitors and others:

1. L. O. spent the evening here August 18th, single exposure; developed yellow fever August 22d, 5 P.M. 2. G. M. was at this house 2 to 6 P.M. August 25th, single exposure, developed fever August 29th, noon. 3. P. S. was at this house several times August 25th to 28th, developed fever August 29th. 4. P. R. was at this house night of August 25th, single exposure, developed fever August 29th. 5. M. O. was at this house August 24th and 27th, developed fever August 30th, 1 A.M. 6. J. R. was at this house nights of August 25th and 27th, developed fever August 30th, night. 7. W. S. was at this house August 25th, 28th, and 30th, developed fever August 30th, night. 8. J. T. was at this house August 25th and 30th, developed fever August 31st. 9. A. J. was at this house night of August 27th, single exposure, developed fever August 31st, morning. 10. G. L. S. was at this house August 25th, 26th, and 27th, developed yellow fever August 31st. 11. H. S. was at this house several times to August 30th, developed fever September 1, 2 A.M. 12. Mrs. J. T. was at this house August 29th (10 to 4 P.M.), single exposure, developed fever September 11th, 4 P.M. 13. Mrs. I. C. was at this house August 29th (10 A.M. to 4 P.M.), single exposure, developed fever September 2d, 4 P.M. 14. W. M. W. was at this house August 27th and 29th (in evening), developed fever September 2d, 1 A.M. 15. M. K. came to nurse August 28th, 1 A.M., developed fever August 31st, 2 A.M. 17. M. C. came to nurse August 27th, 6 P.M., developed fever September 1st, 9 A.M. 18. G. S. came to nurse August 29th, 9 A.M., developed fever September 2d, 3 P.M. 19. P. D. (colored) came to the house to nurse August 27th, 7 P.M., developed fever September 3d, 2 A.M. 20. Dr. M. visited the house on the evening of August 29th, returned August 30th, and was continuously exposed to date of his illness, September 3, 8 A.M.

This list includes nearly all, non-immune to yellow fever, who visited this house about this time. Of the remainder, one physician developed yellow fever August 27th, but may have contracted his disease elsewhere. His successor was Dr. M. above. A third relieving him succumbed later in the season, date not known. Of three friends who had been at the house at intervals since August 25th, dates not known, two sickened September 6th and 7th respectively, and the third escaped infection from her visit, the only person known to have done so.

Now here are twenty people, fifteen visiting and five living, in this house from August 18th to September 4th, all developing yellow fever by the latter date. Note that six of them were of a single exposure, incubation of from three to five and three-quarter days; and that the exposures of the rest were not prolonged or often, yet all developed fever, and all developed it within a few days after their first exposure; and that the three whites who entered the house to nurse developed fever within from three to four and one-half days, as did the physician. Yet the six habitual inmates of this house lived there with no sickness from August 6th to 23d. Obviously the condition of this house as regards power of communicating disease must have been very different soon after August 6th from what it was, say, from the 20th on. Taking into consideration the bunch of cases among these inmates from the 23d to the 25th, and the fact that nearly every one who visited this house at this time and after developed fever within a few days, whether he had one exposure or more, one is led toward the conclusion that this house was not capable of imparting infection for some time after the development of the infecting case on August 6th. Since all such houses give the same finding, although few so flagrantly as this one, the conclusion seems to the writer justifiable and the point proven. Because, although one may be exposed to infection many times without contracting disease, and yet contract it on another exposure, yet, if a large number of people under varying conditions be exposed for a considerable interval of time, some of them will contract it at such exposure. Conversely, if of a large number of people thus exposed in a certain place none contracted the disease, it is fair to say that the place is not capable of communicating infection. Certainly there is no other evidence possible.

I have not attempted to determine the time of extrinsic incubation. I have not the data to enable me to do so definitely in any particular case. Suffice it to say that "while it takes but a short time—less than a day—after the development of a case of yellow fever for a patient's environment to receive infection, yet it requires a considerable number of days before

this environment is capable of imparting yellow fever to other men."

The observations on house infection, the most definite bearing on this subject seem, however, to give us a clew. We have noted the "interval" from the infecting case to the first secondary case as being usually considerable, and have determined it in a number of cases. Now, the interval from the infecting case to any secondary case from it is composed of the sum of three periods: (1) The period of extrinsic incubation for the environment; plus (2) the time the individual in question was exposed to infection before he contracted the disease; plus (3) the period of incubation of the secondary case. In the general case all three are variants: the middle term depending on individual exposure and individual susceptibility to the disease.

Yet where there are many secondary cases—as in house No. 9, Table I., thirteen cases—this term in the interval to the first secondary case should become small, because of so large a number contracting yellow fever in a house, some one of them must have contracted it soon after exposure. The argument is stronger when we consider five houses (see Table II.) having a total of thirty secondary cases, with an interval of sixteen days (fifteen and one-half to sixteen and one-half days) between the infecting and first secondary case.

Surely here the middle term must be small; some one of these thirty cases exposed to five different sources of infection must have contracted fever very soon after exposure.

As the usual limits of the period of incubation, the last term of the sum, are fairly known, it is evident that a knowledge of this "interval" in a sufficient number of instances is sufficient to determine approximately the usual period of extrinsic incubation.

I have found the interval between the infecting and the first of the secondary cases in a house as nearly always over fourteen days; while later these same houses give periods of incubation of from three to less than six days; and when people go to visit or reside in them some of these people, usually several, develop yellow fever in the same time, less than six days, from the first exposure. From this I would place the period of extrinsic incubation as generally not less than ten days; indeed, it may fairly be placed somewhat higher; as there are few instances in which any inmate of such a house has contracted yellow fever within ten days from the introduction of the infecting case. Its limits, doubtless, vary, but probably not very considerably—the intervals between the infecting and the first secondary case (when there are many secondary cases) do not. The inferior limit is probably not far from below the ten days which I have suggested as generally the minimum.

The following table of "intervals," most of which have been given in detail elsewhere, illustrates this—fractions of days have been omitted:.

TABLE II.

Number of houses.	Interval in days.	Number of secondary cases.	
1.....	12	1	11 days, 15 hours.
1.....	13	6	
1.....	14	10	13¾ days.
2.....	15	5	One may have been 18 days.
5.....	16	30	
1.....	18	7	
1.....	19	5	19½ days.
2.....	20	17	
3.....	21	8	
1.....	23	6	

From this, from ten to seventeen days after the development of the infecting case, seem to be about the usual limits for contracting the disease by the first of the secondary cases, when there are many of such cases in a house.

It is understood that the above determination of the period of extrinsic incubation is tentative and approximative only.

There is a practical application of this doctrine. When a case of yellow fever develops at a maritime quarantine station, aboard a vessel after disinfection, and the vessel is disinfected promptly (within a few days), she need not be detained longer than to cover the period of incubation from the first disinfection, instead of from the second one as has been the case. The second disinfection being done before the vessel is capable of imparting infection to men, the completion of the first disinfection was the last exposure of any of her personnel to a chance of contracting the disease, and from this the detention should date. Similarly, when a case of yellow fever develops in a clean house, the inmates of this house who leave within a few days (if exposed to no other source of infection) may be permitted to leave without quarantine detention, for they will not develop yellow fever.

Since writing the above, the experiments of Major Reed at Quemados have been published. It is obvious that what we have here called "the period of extrinsic incubation" is the time he finds to elapse from the infection of the mosquito by biting a yellow-fever patient to the time it, the mosquito, becomes capable of communicating the disease to man. This he places definitely, in his experiments, at not less than twelve days, and up to eighteen or more days; somewhat in excess of my probable finding. Yet the agreement in time is fairly close, and Reed's theory agrees absolutely with the conclusions of this paper. Under it the disease could not be contracted in a house until this number of days had passed since the mosquitos had access to the patient.

As is natural, experiments which one makes, and of which he controls all the conditions, give conclusions much more definite, and hence more valuable, than we are apt to obtain by observing never so painstakingly experiments which are accidentally made for us in the ordinary course of an epidemic.

ON THE ORIGIN OF CANCER: WHAT REMAINS TO BE DEMONSTRATED.

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REFERRING to the recent results reported by Gaylord with regard to the injection into animals of cancer tissue and juices, and peritoneal fluid, Cullen says: "We fail to find a single instance where there is conclusive evidence of a pure culture of a germ being employed."

"The third requirement (to recover the organism from the cancer thus produced) is barely touched upon, and no proof of its successful accomplishment is adduced. In justice to Dr. Gaylord, it must be added that the above-mentioned article is a preliminary communication, and that the completed work may solve many of the still obscure points." It may, therefore, be in place to consider these two points, in order to determine what questions are to be decided in the final report, and to make clear the basis on which a definite decision must then be made.

Parasitic yeasts and blastomycetæ have been found by various investigators in different pathological affections. Cultures have been obtained, but not in all instances. In the pus of a chronic skin affection causing death, Gilchrist and Stokes found blastomy-

cetæ and large sporulating cells (16 to 20μ) from which small bodies (2μ) passed out through the cell membrane, leaving only a glass-clear structureless ring. Cultures of these so-called "cell inclusions" were obtained, but Gilchrist does not say whether he considers them to be blastomycetæ or not.

In a woman thirty-one years old who died of multiple, purulent, tumor-like inflammations in the bones, skin, lungs, kidneys, and spleen, Busse found a great development of yeast cells in these centres, and cultures were easily obtained. From four to eighty-three days after inoculation the test mice died, and yeasts were found in great numbers at the point of injection and in the internal organs, but a growth of tissue resulted only after a long continuation of the affection. Busse obtained yeast cultures from a squamous carcinoma of the skin, a carcinoma of the cheek, and a carcinoma of the lips, as well as from a vaginal sarcoma of a four-year-old child.

In a case of sarcoma of the omentum, Corselli and Frisco cultivated a yeast both from the fluid of the hydrops ascites chylosis obtained during life, and from the sarcomatous mesenteric glands obtained post mortem. The fluid and cultures caused "neoplasms" in guinea-pigs, dogs, and rabbits, but no drawings of the same are shown.

Curtis found in a myxosarcoma "cell inclusions" which, on cultivation, proved to be a white yeast, which he called saccharomyces subcutaneus tumefaciens. When injected it caused tumors composed of great groupings of these parasites, but no pathological malignant neoplasms. The same results were obtained by Buschke, and by Petersen and Exner, who examined twenty-two non-ulcerated carcinomata and sarcomata, but obtained no cultures.

Plimmer, who examined twelve hundred and seventy-eight carcinomata, found in eleven hundred and thirty "cell inclusions" which he considered to be parasitic, but only nine times were they plentiful. Only once did he obtain a culture and that from a rapidly growing carcinoma of the mamma, though, as Leopold says, no mention is made as to whether the carcinoma was ulcerated or not.

Sanfelice found in fruit juices saccharomyces neoformans, which were pathogenic for guinea-pigs. Injected into the mamma of a dog, it caused an adenocarcinoma of the mamma, and epithelial elements as metastases in the affected lymphatic glands. He injected a pure culture into both testicles of a dog, and obtained adenocarcinoma with metastatic nodules in the surrounding tissues, finding blastomycetæ in both. On injecting a pure culture into the veins of dogs he obtained connective-tissue neoplasms. A pure culture injected into the organs of dogs causes, as he finds, epithelial tumors like malignant growths as regard structure and course. He finds the saccharomyces neoformans to be of two forms in the tissues of animals, one of which has a capsule and is like the fuchsin bodies of Russell.

At the recent surgical congress in Berlin, Sjöbring demonstrated small micro-organisms with amœboid movements cultivated from a carcinoma, which, in the stained specimens, were found to be round, concentrically layered bodies with which, in white mice, he obtained "genuine epithelial tumors." Concerning the microscopical specimens O. Israel said, "There are only tissue forms, and we see only what is found in all tissue elements preserved in sterile inappropriate media, but nothing which may be called amœbæ." He considers it useless labor to seek for protozoa. Gussenbauer has known these parasites for years, but could never get cultures. Jürgen said that Sjöbring had demonstrated the same specimens previously and had considered them the cause of sarcoma. He does not believe that any weight is to be attached to them. Czerny defended Sjöbring against the accusation that he had carelessly given out as the cause of carcinoma what might perhaps be only an accidental product, by calling attention to the fact that Sjöbring has busied himself with this question for ten years.

Sanfelice was the only one who, after introducing cultures of blastomycetæ into the animal body, obtained tumors of a connective-tissue and epithelial nature which were malignant, contained blastomycetæ, and brought about the death of the animal; but these micro-organisms were not obtained from human beings.

In 1896 Rosenthal wrote "Concerning Cells with Independent Movement of their Contents found in Carcinoma, and Concerning the So-Called Cell Inclusions, based on the Examination of Fresh Material." He found (1) fatty degenerated cells, (2) granular cells, (3) glass-like bodies, (4) round cells with double contour, and filled with yellow angular or long bodies of a shining color. Immediately after preparing specimens in hanging drops for the microscope, and sometimes only in the course of such observation, a movement of the bodies in the last-mentioned cells was noted, sometimes strong and sometimes weak, but often continuing for hours and days. There was a movement of these small bodies in the cells among each other, as if cooking or boiling. At various periods these dancing bodies passed out one after the other, without any appreciable injury to the cell membrane, until finally only a pale, simple cell capsule was left behind, sometimes with a nucleus but generally as a body clear as glass. Outside of the cells the small bodies continued their movements. The question of importance was whether this was a molecular movement of broken-up changed cell elements, or whether cocci or parasites were in question. The surrounding fluid was too small to cause a movement of all the bodies in the cells, and therefore either an external chemical influence was being exerted or else, as was found to be the case, the condition represented parasites in sporulation.

These investigations, made in the clinic of Leopold, were continued by the latter, and in January, 1900, he reported cultures of blastomycetæ obtained from human carcinomata, and reported tumors caused by the introduction into animals of both human carcinomatous tissue and cultures of blastomycetæ obtained therefrom.

Leopold used carcinomata of the uterus, ovaries, tubes, vagina, external genitalia, mamma, peritoneum, omentum, etc. The material was taken from the inner portion of metastatic nodules from the "outposts" or extensions of the primary growths, and farthest from the primary ulcerating area. It was wrapped in sterilized towels, handled with sterilized instruments, and examined in sterilized fluids in a thermostatic microscope. The tissues were examined in hanging drops of sterilized bouillon for over two hundred days without contamination. No cocci or bacteria developed in the hanging drops. The tissues were also examined in caustic potash, caustic soda, hydrochloric acid, and weak nitric acid according to the method of Busse and Sanfelice. These dissolve the cell elements, but not parasites like the blastomycetæ. The "outpost" pieces were put in sterilized bouillon and in grape-sugar solution in U-shaped glasses. After a few hours, on the formation of CO_2, the fluid was poured into sterilized glasses with a little caustic potash and a few pieces of metallic iodine were added. The resulting iodoform smell proved the formation of alcohol through the action of yeasts. Pieces taken from the non-carcinomatous tissue caused CO_2, but no alcohol.

Microscopical examination of the stained specimens proved that at times the structures took no stain. This was probably due to changes occurring in the process of hardening the tissues, or else it depended on the

varying degrees of development of the blastomycetæ. The result showed uniformly the glass-like bodies with processes of sporulation and budding. The above-mentioned boiling or cooking cells are too large to be considered cocci. They are not bacteria of decomposition; for the hanging-drops, fluids, and instruments were too clean. They are not the result of fatty changes, for their forms do not change in ether, alcohol, or osmic acid. They are not degenerating cells because of the sporulation, and because they differ from other degenerating cells which are present. They are blastomycetæ.

It is interesting to observe the results obtained by Leopold in conforming with the postulates of Koch. First postulate: the demonstration of a micro-organism in the blood, juices, or tissues. Leopold believes that the above-mentioned bodies may cause malignant growths. The blastomycetæ were also found in ascitic fluid. In one case a drop from the ascitic fluid was examined in sterilized bouillon: fresh carcinomatous tissue in sterilized bouillon; fresh carcinomatous tissue in a drop of hydrochloric acid, in a drop of weak nitric acid, in forty per cent. phosphoric acid, and in caustic soda. In all these hanging drops the same structures were found, namely, glass-like bodies of a diameter of 1 to 10μ with a clear centre and a light-breaking inner ring.

Koch's second postulate: the cultivation of the microzoon outside of the body. In twenty carcinomata Leopold obtained pure cultures four times from the "outposts." In a case of carcinoma of the ovary the hanging drop was examined for months. No degeneration of the glass bodies occurred, although the increase ceased finally, as if insufficient nutrition were present. After ten months cultures were made in neutral gelatin. Within twelve days a white growth appeared on the surface. When stained with carbol fuchsin, mycelia and round bodies of 1 to 25 μ with a double contour, and containing finer bodies, were found. They were like the blastomycetæ of Busse. A second culture was made in gelatin, and after thirty-seven days there appeared a growth with mycelia and some blastomycetæ. A third culture was made in somewhat acid gelatin, and in fourteen days there appeared a thick white layer, with many blastomycetæ and some mycelia. A fourth culture made thirty-six days later produced in twenty days a pure culture of blastomycetæ.

In a second case of carcinoma of the ovary six succeeding cultures were made. From the last were found in hanging drop double-contoured glass-clear cells of 1 to 3 μ. The large ones contained bodies often in active motion, and many processes of sporulation and budding were observed. The same results were obtained from a carcinoma of the mamma, and from a carcinoma of the portio. When a growth of any of these four successful cultures was made in grape-sugar solution CO_2 and alcohol were always obtained, and the same result was noted with the fresh carcinomatous tissue. The above-mentioned bodies were found also in sections of the affected areas.

Third postulate of Koch: to produce the same growth by inoculating the organism into another body. The "outpost" tissue in pieces or as a mixture was introduced into the abdomens of rats, guinea-pigs, and rabbits, and into the backs of rats. The tails of rats were irritated by croton oil, and the carcinomatous mixture was rubbed in. Pure cultures were injected subcutaneously, and into the testicles, mamma, and peritoneum. A bit of a carcinoma of the portio introduced into the abdomen of a rat caused its death in one hundred and fifty-six days. On the right side under the liver, between it and the entrance of the pelvis, was found a tumor with pus-like contents, in which were blastomycetæ containing moving bodies. A portion of a carcinomatous ovary was introduced into the abdomen of a rabbit. When killed after three hundred and three days yellowish-brown bodies were found in the urine, in and about which were found blastomycetæ.

Before mentioning the next two cases I quote the following by Cullen from *American Medicine* of May 18th. "I have had the opportunity of examining some of Dr. Gaylord's specimens, and it is certain that the nodules that he produced in the guinea-pig's lungs are cancer. He, however, used peritoneal fluid, and not pure culture of the organisms. He cannot exclude the possibility of cancer cells from the patient having been carried over in the fluid to the guinea-pig, and it is a well-established fact that cancer cells may be transplanted and grow."

In his third experiment Leopold introduced the tissue from a carcinomatous ovary into two rabbits and one white rat. The first rabbit died in three days, and in the urine were found bodies like blastomycetæ. The second rat was killed after four hundred and thirteen days; in the lungs were small, yellow nodules composed of infiltrated tissue and blastomycetæ. The latter were found also in the epithelia of the smaller and larger bronchi. Yellow, double-contoured, round and oval structures containing small bodies were found, some at the base of an epithelial cell and some in the epithelial cell pushing the nucleus aside. The white rat developed in the abdomen, between the intestines, a tumor the size of a walnut filled with a thick substance, and containing some blastomycetæ. On the right thigh was found a tumor the size of a walnut containing blastomycetæ. Other cells in this tumor were found to be filled with very fine bodies. About the cells were many small bodies as if they had just been discharged from the cells. They resemble the boiling cells mentioned above. The description of the tumor was as follows: "In a loose, partly œdematous, and myxomatous connective tissue lie numerous round and long oval structures like the blastomycetæ found in human carcinoma. In this myxomatous tissue are found isolated alveolar-like groups of cells arranged in the form of strands, between which are blastomycetæ. The arrangement recalls most closely the adenomatous grouping, and if we are to give a name to the entire tumor, according to its histological structure, the one most nearly correct would be adenosarcoma infiltrated with numerous blastomycetæ." The fourth experiment of Leopold, the introduction of a portion of a carcinoma colli uteri into the abdomen of a rabbit, caused the death of the animal after four years and five months. The liver was covered with nodules, and the lung likewise with nodules of a gray-white color. These represented "epithelial neoplasms, in part atypical, and also blastomycetæ. The nodules in the lung are completed epithelial neoplasms, whose character at certain points, through the non-limited growth and the displacement of the lung tissue, may be characterized as atypical."

It is certain that these results obtained by Leopold, if we judge from the histological description, do not fulfil the third postulate of Koch. It might be claimed that the micro-organisms of carcinoma must not necessarily reproduce in animals tumors like the parent growth in the human being. On the other hand, we have the statement of Cullen to the effect that Gaylord obtained carcinoma in animals after the injection of fluid containing cancer cells. Since cancer cells have produced real carcinoma in animals, we must demand the same result on injection of the causal micro-organism, and this Leopold certainly did not obtain by introducing carcinomatous tissue. What results did he obtain by the use of cultures of blastomycetæ obtained from human carcinoma?

A pure culture mixed in bouillon was injected into

one testicle of five white rats. In one which died after one hundred and ninety-five days, bluish-red, small and large nodules were found in the abdomen. All the abdominal organs were covered with these nodules, and the diaphragm was thickened by them to 1 cm. The juice of the tumors contained blastomycetæ. The structure of the nodules is that of a giant-celled sarcoma. "In the sarcoma and intermingled between intercrossing bundles of loose, wavy, connective tissue lie connective-tissue cells of all sizes and running in all directions. The large cells (15 to 20 μ) have a swollen protoplasm; the nuclei in some cells are enlarged and six or eight may be found closely pressed together, situated especially at the edge of the protoplasm. The tumors are very rich in blood-vessels, and in cross sections of the blood-vessels many blastomycetæ are found. Many large cells are present, filled with small bodies, while others have such small bodies in their direct vicinity, as if the cells had just burst. These resemble the glass-like bodies, the blastomycetæ of carcinomatous tissue."

The value of these experiments must necessarily rest on the judgment of the microscopical specimens. This last case of Leopold, while interesting, is by no means convincing, for we must demand the production of a real carcinoma on the injection of blastomycetæ. Even though Leopold used the carcinomatous areas farthest from the points of ulceration, yet it is possible that the blastomycetæ are secondarily present, and are possibly the cause of the ulceration. The results obtained in animals by the introduction of bits of carcinoma and of pure cultures may be simply the reaction of these animals to the introduced irritation of the yeast. If these micro-organisms are the cause of malignant neoplasms, why do we find so rarely sarcomatous tumors of the ovary, of the mamma, etc.? If the blastomycetæ cause carcinoma of the cervix, why do we not find as metastases sarcomatous glands? Again, it is certain that metastases result from displaced cells, and even with no discoverable primary growths on the penis, scrotum, or lower limbs, squamous-celled carcinomata of the inguinal glands are found in chimney-sweeps.

Kossman, in discussing the origin of carcinoma, especially in the ovary, showed specimens of the latter in which both cylindrical and squamous epithelial carcinomata were found, and asks how it is possible, if parasites produce carcinoma, that squamous epithelium should appear in the ovary, and how they may produce, in the same ovary, at one point a cylindrical, and at another point a squamous, epithelial carcinoma. On the other hand, it may be stated that the introduction of carcinomatous tissue and blastomycetæ into the abdomen or into mesoderm tissue can naturally produce only mesodermal malignant growths (sarcomata). It is possible that for the production of carcinoma the action of the blastomycetæ, if they are the cause, must be exerted mainly and directly upon the epithelium, and not through the medium of the lymphatic or blood circulation, yet when injected in the testicle of animals abundant opportunity for the irritation of epithelium into carcinoma is present. It is in this connection that the experiments of Sanfelice are of interest, although he did not use blastomycetæ obtained from human beings. It is this very fact which, in spite of the results obtained, speaks against attaching a real etiological value to these micro-organisms. Besides, the large number of sarcomata and mesodermal tumors, dermoid growths, etc., especially mixed mesodermal tumors, prove an origin from displaced embryonal cells to be a fact. The occurrence of the epithelial growths from displaced cells is easily demonstrated in the female genital organs. The change of ovarian cystomata to forms histologically and clinically malignant can well be considered a continuation of the development of those displaced epithelial cells which produced the primary cystoma.

Fourth postulate of Koch: to recover the organism from a resulting like growth produced by inoculating it into another body. Cultures from the nodules of the last-mentioned case produced a white growth on gelatin which proved to be a pure culture of blastomycetæ, and from this on acid gelatin a pure culture was again obtained. It was injected into one testicle of five rats and the result is to be learned, we hope, at the gynæcological congress to be held shortly at Giessen.

The following chain has, then, been obtained by Leopold: 1. In the fresh ovarian carcinoma of a certain patient were found blastomycetæ. 2. From this fresh carcinomatous tissue a pure culture of blastomycetæ was obtained. 3. This pure culture, injected into the testicle of a rat, produced a large number of peritoneal nodules (but not carcinoma) causing the death of the rat, and in the fresh as well as in the hardened tissue were large numbers of blastomycetæ. 4. From these nodules a pure culture of blastomycetæ was obtained.

"If we are successful, on inoculation of this last pure culture into rats, in producing in them again neoplasms which are of such a character that they produce the death of the animal, then the ring is complete and no doubt can be well entertained that blastomycetæ are able to produce malignant neoplasms" (Leopold). The causal relation of blastomycetæ to the growths produced in animals by Leopold must be granted. The decision concerning the character of these neoplasms and their actual relation to carcinoma and sarcoma is to be the controversial point.

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THE REDUNDANCY OF THE PREINSULA IN THE BRAINS OF DISTINGUISHED EDUCATED MEN.

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The doctrine which assigns the seat of the highest cerebral functions to no special centre, but to the orderly yet complex union of several centres through tracts of association fibres, may be regarded as universally accepted, and as a presumption underlying inquiries directed to the establishment of a relation between such function and the development of the cerebral organ. On examining the records of useful cases whose collation furnishes the clinical tests and proofs in this field, one encounters much that is unsatisfactory in regard to topography and nomenclature. As has been often urged, the analytical study of brains of moral and intellectual persons should become as extended as the consideration of the defective and criminal classes has been heretofore. The anatomical features of the human insula are of fundamental importance in the interpretation of mental states, and as much attention should be paid to its appearances in the brains of individuals representing the various intellectual grades, as to the external cerebral configurations.

Exceptional opportunities are afforded the present writer in the study of the Seguin brains (father and son)[1] with particular reference to a region whose development is related to that of the regions to which the faculty of speech is referred. The peculiarities observed upon these brains, while corroborative of an interesting statement made in 1887 by Waldschmidt, serve also to correct a misapprehension hitherto prevailing.

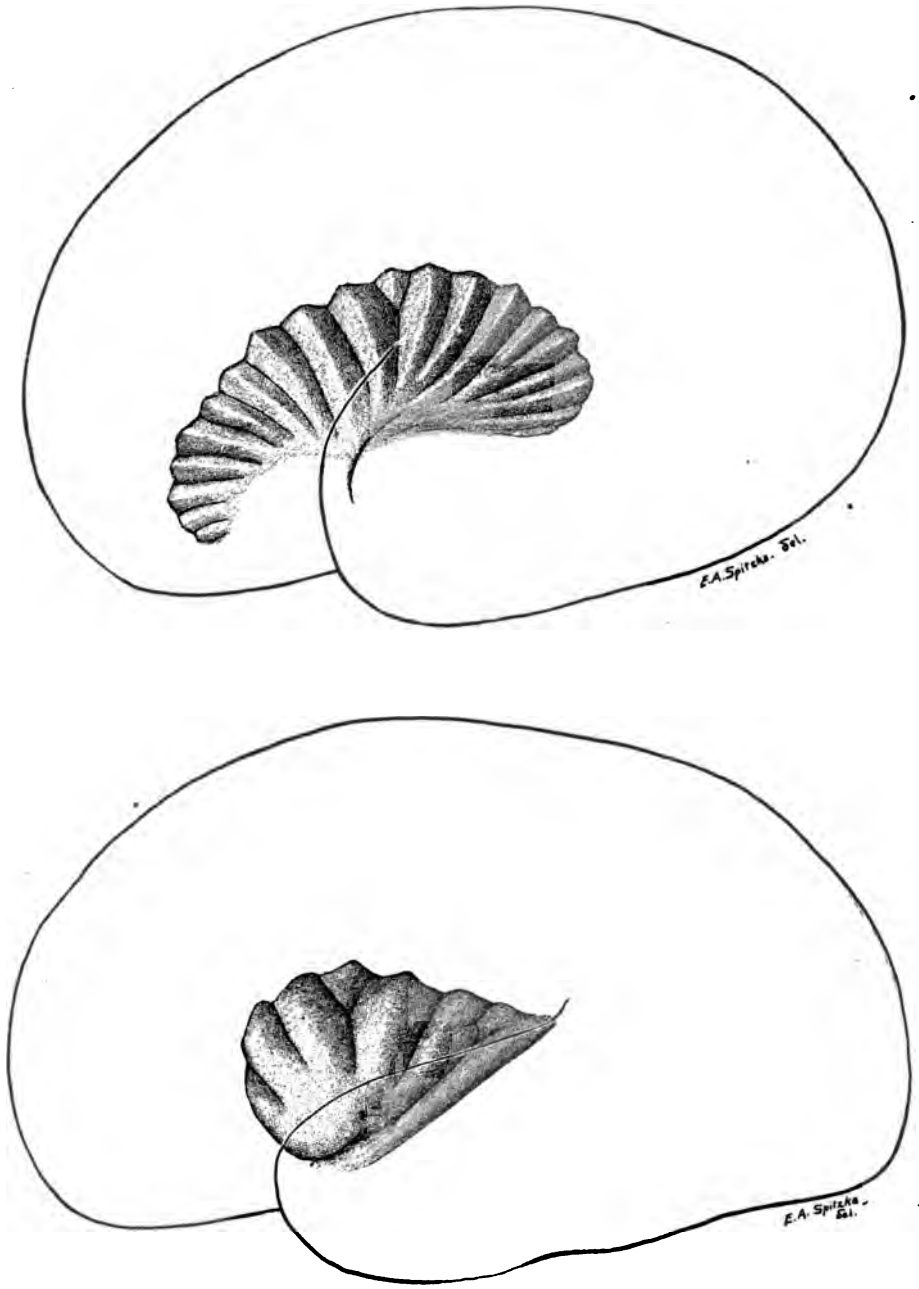
Most writers, such as Meynert, Cornillon, Lepine, Charcot, and others, regarded the insula as the corti-

cal centre of speech. Even at so late a period as 1883, Charcot[3] goes so far as to say that certain cases tend to show that exceptionally the insular cortex presides over this faculty, to the exclusion of "Broca's convolution," or subfrontal gyrus. Four years before, Clozel de Boyer[3] asserted that the speech centre was not limited to the subfrontal gyrus, but that it extended upon the insula over an indefinite area. Lepine[4] had already made the cautious suggestion that the various forms of aphasic manifestations arising from lesions in different portions of the lobe be carefully observed and studied, the surface of the insula being subdivided into smaller areas for this purpose. As late as 1885, Nothnagel was reluctant to decide for one or the other of the areas under discussion.

The location of these functions in the insula seemed further supported by the claim that this lobe exhibited the largest and most complex configuration in the human brain. E. C. Spitzka,[5] however, showed the fallacy of this argument in 1880, upon morphological grounds, since the porpoise possesses an even larger insula with nearly four times as many gyres as the average human brain exhibits. He made the tentative suggestion that the insular cortical field of the porpoise reached this high development because of the complex character of the innervations governing the muscles of the larynx and blow-hole of the cetaceans. It later occurred to the same author that the greater development of the caudal portion of the insula might find its explanation in the fact that "this is commensurate with the amplitude of the cortical field of the eight pair of cranial nerves, the functions transmitted by which—both equilibrium and audition—are highly developed in the cetacea."

The porpoise, while provided with clumsy flippers and a rudimentary dorsal fin, is capable of executing evolutions exceeding anything in the vertebrate domain, not excepting the blinded bats of Spallanzani, for they involve at once gross force and skill. The porpoise executes his remarkable evolutions around his own axis, while rushing along with the speed of a steamer. The auditory powers of this mammal are probably the most acute of which we know, for they can hear—it is said on good authority—the splash of nets falling into the water three miles distant.

The contrast afforded us by the study of the insula of the porpoise as compared with that of man is a most instructive and significant one. The insula of the porpoise, on the one hand, is narrow and pointed cephalad, while it is broad and well-developed caudad (see Fig. 1). On the other hand, the human insula shows the reversed condition. Putting these facts together, and in the light of Waldschmidt's observations discussed farther on, would it be rash to propose that the post-insula shares in its development that of the auditory sense centre, by virtue of association neurones with short axones, while the growth of the preinsula is more in consonance with that of the true "speech-centre" in the subfrontal operculum? After all, the development of the preinsula is only an intense expression of that feature by which the human brain excels all other animals, for in no lower form do we find the insula so fully developed in its cephalic region.



The upper figure represents the insula of *Tursiops Tursio*, or Bottle-nosed Dolphin. The lower figure represents a normal well-developed human insula. It is intended to show the remarkable contrast between the cetacean and the human insula. In the former the caudal (parieto-temporal) region is most redundant; in the latter it is the cephalic (frontal) region which is best developed. (Original drawings from specimens in the possession of the writer.)

At the present time, largely because of the observations of Wernicke, Raymond, von Monakow, and Flechsig, the insula is generally regarded as a "mid

dle association centre," for few if any projection fibres are demonstrable, and beneath its cortex lie the association tracts connecting the auditory perceptive and the emissary centres.* Why the left hemicerebrum should be the seat of the co-ordinating principle of spoken language, as well as of the graphic representation of ideas in right-handed people, is a matter which has been fruitful of ingenious conjecture not immediately related to the present theme.

Before proceeding to the description of the insulæ in the brains of the eminent pair referred to, it may be well briefly to present the related observations of Waldschmidt and Donaldson. The subject of congenital mutism or deaf-mutism is intimately related to the clinical side of the speaking faculty, and important facts can be deduced from observations upon the brains of those defective in this particular.

Waldschmidt[7] describes the insulæ in the brains of two congenital deaf-mutes, and compares them with those of a normal dissecting-room subject, and of a laborer whose brain weighed 1,860 gm. He further describes those of the brains of two highly intellectual members of the faculty of the University of Freiburg, one a theologian, the other a prominent jurist. This author demonstrated that the left insulæ of both deaf-mute brains were of inferior development as compared with the right side, and that this atrophy was most marked in the region of the insular pole. So remarkable was this difference that had he not known the life-history of these persons he might have thought that he was dealing with left-handed individuals, having a right-sided speech-centre. Waldschmidt[8] ventures to say that this atrophy of the preinsular region may have some significant bearing upon the question of the associations of the speech-centre with the auditory sense-area in the temporal lobe.

Donaldson[9] observed upon the brain of Laura Bridgman that the "left insula is less well-developed than the right in every way except the length of the sulci, in which it is slightly superior," and in spite of the fact that on the whole the cortical area of the left hemi-cerebrum was greater. In addition both insulæ were exposed, the left more than the right. Donaldson estimated the exposed area to be 128 sq. mm. on the left, and 46 sq. mm. on the right side. He agrees with Rüdinger and others that this exposure is characteristic of incomplete development.

Waldschmidt's brains of the normal individual, and of the laborer, showed the reverse condition; the left insula being the better developed, the right insula being flatter and the preinsular pole less prominent. His most important discoveries were in the brains of the theologian and the jurist, for in these he noted that the left insula was preponderatingly developed as compared with the right side; not only in the increased development of the lobe as a whole, but especially of the preinsula.

So far as a search of the literature determines, writers generally agree that exposure of the insula indicates defective brain-development. Rolleston[10] in describing the brain of a male Australian adult, in which the left insula was exposed on account of defectively developed opercula, points out that this may have some relation with the primitive language of these savages. Mickle[11] says: "Defective in form are healthy human adult brains in the prime of life, with the island of Reil partly uncovered, thus showing impaired development. . . . When the uncovering, dealt with here, exists, it is the anterior portion of the insula which is most liable to be unroofed. . . . This partial uncovering of the insula is observed in some brains of low form; as, for example, in some idiots, imbeciles, and criminals; and, it has been said, in lower races of mankind." T. E. Clark[12] holds similar views as to the significance of insular exposure.

To show that this general view needs modification the writer offers the consideration of the following features.

In the brains of Dr. Edouard Seguin and his son, Dr. Edward C. Seguin, the left preinsula is exposed. The brains under discussion are, however, far from being of low form or defective type. Indeed, their appearances are quite indicative of the high intellectual capacity of these two physicians. Nor are the opercular regions in the least defective; though they fail to come into typical apposition on the left side. The explanation of this anomaly is corroborative of Waldschmidt's findings upon the brains of the two professors, namely that the left preinsula is better developed than its fellow on the right side. So great is this development in the Seguin brains that in its struggle (if that term may be applied) to reach the general cerebral surface it has virtually thrust apart the opercular parts and made itself visible.

The evidence in favor of this hypertrophic development of the left preinsula is easily deduced from the soundings of the Sylvian cleft given in millimetres in the following table.

The terms "pre-, medi-, and post-insular depth" refer to the three points at which the sylvian cleft was sounded, the pre-insular point being the junction of the Sylvian with its presylvian ramus, the medi-insular point being at the middle of the course of the Sylvian, the post-insular being at the junction of the Sylvian with its episylvian ramus.

DEPTHS OF THE SYLVIAN FISSURE IN THE FOUR HEMICEREBRUMS OF THE TWO SEGUINS.

Edouard Seguin (father).

	Left.	Right.
Pre-insular depth	11 mm.	18 mm.
Medi- " "	22 "	22 "
Post- " "	24 "	22 "

Edward C. Seguin (son).

	Left.	Right.
Pre-insular depth	7 mm.	15 mm.
Medi- " "	20 "	23 "
Post- " "	25 "	25 "

The conclusions naturally to be drawn from the above are that the causes potential in insular exposure must be discriminated or classified as follows:

I. In the highly intellectual (for example, the two Seguins), owing to the excessive growth and development of the left preinsula causing a displacement of the opercula, thrusting them apart, as it were, and even though the latter be very well developed.

II. In the defective, exposure of the preinsula is due to deficient development of the opercula, and because these fail to approach each other. In such cases the insula itself is, without a single exception in the series studied by me, of inferior development, indicated not only by the soundings of the Sylvian cleft, but also by the flatness of configuration, and lesser area of the insular cortex.

A word or two in description of the Seguins' insulæ may not be amiss. Aside from the redundancy of the polar region of the left preinsula, these insulæ differ from those of ordinary brains in being marked by deeper fissures and by a complementary plumpness or fulness of the gyres. The left insula of the elder Seguin has four preinsular gyres (G. breves insulæ) and a postinsular gyrus (G. longus insulæ) which in its dorsal third is divided into two gyres by a short fissure. In this way are made up the six digitations into which all of these four insulæ divide. In the right insula of the father and in both insulæ of the son, we find five short insular gyres and a single long insular gyrus.

* "Centre des représentations verbales auditifs avec le centre des images motrices d'articulation." Raymond.[6]

It is possible that a similar exposure of the insula exists in the brain of another educated man, but as there are no detailed descriptions and measurements available, it is impossible at present to discuss the case. I refer to the brain of Chauncey Wright, a distinguished philosophical writer. The specimen is at present in the care of Prof. B. G. Wilder,[13] and is being described by him. Professor Wilder in a communication to me (January 9, 1910) calls attention to the fact that possibly pressure may have caused sufficient displacement during the process of hardening artificially to expose the insula. Dr. Dwight, who first prepared the specimen, does not recall the condition of the parts in the fresh state, and as Professor Wilder is at present at a great distance from his home, no conclusive statements can be made at this time. Upon the right side—Dr. Wilder writes—the insula is also exposed. The description of this half has not yet been published.

Sight must not be lost of a possible complicating factor. The deeper and the more numerous the anfractuosities of the insula, the more numerous and of greater calibre are likely to be the important branches of the medicerebral artery (A. fossæ Sylvii). That is, abundant ramification is found to accompany complicated insula development. Now as an abundant blood supply of the cortex in general is presumably a condition of higher potency of function, insular development *per se* is an expression of general development in this other respect as well as in the purely morphological one.

Among the reflections which occur in the course of such a study is the possibility of some paternal influence exerted on the brain of the offspring under circumstances such as the following: Dr. Edouard Seguin (the father) was most actively engaged in the teaching of the idiot children at the Hospice de Bicêtre, wrote many treatises, and delivered many lectures upon the subject, in the six years prior to the younger Seguin's birth. If physiological tendencies are transmitted from father to son, and if such transmission of function finds structural expression, one would expect it to be demonstrated when the circumstances are so favorable as here. Of course, all such statements are made tentatively; yet what would be a more natural conception, when we associate these circumstances with the visible evidences in the two brains, particularly corroborated by the soundings of the Sylvian fissure of both sides? Both men were of high intellectual capacity; both were facile writers and speakers—if anything, the son excelled the father; and both were polylinguists, speaking and writing three languages fluently. The teaching capacities of both men were remarkable, in the one case being especially devoted to the patient efforts required in training the feeble-minded, and in the other developed in the highest degree in didactic lecturing and clinical teaching. The pragmatical methodicity of the son has become traditional among his pupils and more intimate colleagues.

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Jam, Marmalade, and Glucose.—Commenting on a recent legal decision in England in a case in which a manufacturer was accused of adulterating marmalade with thirteen per cent. of glucose, William Murrell has undertaken a series of observations to see whether the amount of glucose sold in the ordinary jams and similar preparations is injurious or not. He comes to the conclusion that its alleged injurious properties are greatly overestimated. In fact he says that he often orders commercial glucose as a food in two-drachm doses three times daily. He has never known it to disagree with the patient. He declares that it may be safely affirmed that there is no valid objection to the use of glucose as a substitute for cane sugar or beet sugar in jams or marmalade, and that prosecutions for employing it for this purpose are vexatious, and serve no useful purpose, but, on the contrary, are prejudicial both to the consumer and the maker, inasmuch as they tend to restrict the production of the best and most palatable form of an article of every-day consumption.—*Medical Press and Circular.*

Latest Investigations on Uric-Acid Diathesis.—Otto S. Binswanger holds that recent investigations prove that not uric acid but the alloxuric bases are the cause of the so-called uric-acid symptoms. Treatment consists, first, in limiting the nuclein ingestion, avoiding meat, internal organs, eggs, coffee, or tea. Secondly, the oxygen supply must be raised. Iron, out-door exercise, excursions to mountains or sea-coast will oxygenate the blood. The excretion of the alloxuric bases is favored by sodium salicylate, which, according to J. W. Goodbody, causes an increase in the quantity of urine excreted and in the specific gravity, and causes an increased breaking up of the proteids of the body. The hepatic cells are stimulated to increased formation of urea, and there is an increase in the quantity of "nitrogen rest" excreted. Crafton has "cut" attacks of gout and relieved migraine by oxygen inhalations.—*The Medical Examiner and Practitioner.*

The Process of Healing in Fractures.—Baldo Rossi instituted a series of experiments on rabbits, in order to ascertain the effect of massage and early movement on the healing of fractures. One set of animals was treated by daily massage and movements, a second with immobilizing apparatus, and a third left to nature. In the first set, the callus was found resistant on the third day (fifth day in the second set), and on the eighth day could be freed from all apparatus between the massage treatments, a result obtained on the twelfth to fourteenth day in the second set. Return of function came on the eighteenth day as against the thirtieth in the second set. As to the third set, the phenomena of recovery appeared a little later than in the animals treated by massage, and a little sooner than in those treated by immobilization. The results of microscopic researches bore out the clinical results.—*Archivio di Ortopedia*, Anno xvii., Nos. 5, 6, 1901.

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A PLEA FOR A MORE RATIONAL TREATMENT OF INSANITY.

IT is generally admitted that the treatment of the insane, in every civilized country, is conducted upon far more humane and intelligent principles than it was in by-gone times. Those afflicted with mental disorders are now cared for in the kindest possible manner. They are splendidly lodged, well fed, and plenty of amusement and healthful recreation are provided for their behoof. So far as it goes their treatment is beyond reproach. But unfortunately, and especially in the United States and Great Britain, the conception of the disease itself would appear to be somewhat limited. Or if this be not so, the theories, undoubtedly right, which have been formulated within the past few years with regard to the cause of the malady, have not been acted upon.

Dr. Ford Robertson, writing in the *National Review* for May, asks the question, "Is insanity incurable?" and answering in the negative goes on to make an eloquent appeal in favor of a treatment tending toward curative rather than custodial measures alone. He says in part: "Very many years have now passed since men of science began to raise their voices in protest against the fatal popular error that insanity is something quite different in its nature from other diseases. For long their teaching was scarcely heeded, for it rested upon inductions which, to the general public, were unintelligible, but it is capable of so clear a demonstration that almost any one can appreciate its truth. Within the past five or six years our knowledge of insanity has undergone what is nothing short of a revolution.

"It can now be shown that the various forms of insanity differ in their nature from other diseases in no respect except that of the particular tissues of which the functional activity is perverted or abolished. They are bodily diseases just as truly as typhoid fever, rheumatism, or a fractured leg, and they have similar causes."

This being so, the great motive of investigation in the field of the neurologist and alienist is the prevention and relief of insanity, and of other etiologically related diseases of the nervous system.

As remarked before, and as is well known, these views are by no means novel; they are held by the most noted authorities on mental and nervous affections in all parts of the world, and treatment in accordance with this teaching has been carried on in many countries of Europe for a considerable time. Psychopathic hospitals have been established in Vienna, Strassburg, Heidelberg, Leipsic, and in other European cities, the latest of these and probably the most complete and best equipped being that of Giessen.

There are no such institutions in this country, while in Great Britain the situation is yet worse, there being only one laboratory completely equipped and set apart for the prosecution of researches upon the pathology of insanity—namely, that established by the London county council in connection with the large insane asylum at Claybury.

That the two richest and not the least intellectual or generous countries of the world should thus lag in the movement for the benefit of suffering humanity, does not seem altogether in keeping with the natural order of things. Perhaps this backwardness may be put down to the curious lack of initiative in matters purely scientific, which would appear to have characterized the investigators of the United States and of Great Britain, especially the latter, for the past few years, though the serious handicap under which they labor—as compared with some foreign countries—in that the State has not stepped forward to give a helping hand, is a more plausible reason for this stagnation in laboratory research.

It is full time, however, that this stigma should be removed from both countries, and that their prominent men in all branches of science should be given every facility to occupy that place in the vanguard of nations to which their talents entitle them. The MEDICAL RECORD has urged on many occasions the need of isolating cases presenting mental and nervous symptoms until a careful investigation into their causes has been made. Such a course is indicated not only in order that a correct diagnosis may be rendered, thereby giving the patient a fair fighting chance of regaining health, but also that means may be afforded for clinical teaching. If students do not have the facilities to examine closely mental diseases, how then can they be expected to know and treat properly cases of this nature when met with in practice? Reception or psychopathic hospitals might be established in every large city on this continent with advantage to all concerned.

THE HOSPITALS OF JAPAN.

JAPAN has come to the front in so surprising a manner within the past few years, and moreover is destined to be still more prominent in the affairs of the Far East, that any facts regarding the country and its people are read by the American people, and especially since they have become directly interested in Asian politics, with more than ordinary attention. In addition to this the Japanese in themselves are a remarkable race. Although like their Chinese brethren imitative to a degree, they are besides endowed with a strain of originality, which appears to be totally lacking in the inhabitants of the Celestial Empire. The way in which the Japanese have assimilated European and American ideas, and to a lesser extent habits and customs, and

put to practical use their inventions, is certainly one of the most wonderful features of the present age. In no branch has this assimilative and progressive faculty been more clearly evidenced than in that of medical science. In original research at one bound its investigators have leaped into a very respectable position in the realm of science.

An illustration of Japanese enterprise is given by Dr. Edward C. Register, president of the board of medical examiners of North Carolina, and one of the editors of the Charlotte *Medical Journal*, in an account he has published of a visit paid to Japan last year, in which some of the principal hospitals of the country are described.

Japan, it appears, has but ten hospitals in the whole country, and taking into consideration that it has a population of forty-five millions, a fair proportion of whom live in cities, the largest of which is the size of Philadelphia, with three others each containing five hundred thousand inhabitants, this paucity of hospitals is somewhat a matter for surprise.

But although few in number, its public institutions for the care of the sick are for the most part models of their kind, and equal in almost all respects to the best in America and Europe.

The Imperial University Hospital of Tokyo, by far the most complete and important in Japan, is an immense establishment maintained nearly entirely by the government. It has eight resident physicians and six hundred trained nurses. The average number of in-patients is twenty-two hundred. The main building, which is plain and unpretentious, is situated in the midst of a beautiful park, artistically laid out. This building is used only for offices, reception rooms, parlors, library, museum, billiard rooms, drug rooms, and the microscopical department. The microscopical laboratory, probably the largest and most complete in the world, is under the charge of the celebrated Dr. Kitasato.

With the exception of the operating-rooms all the other buildings of this institution are one story high, made of wood, and join the rear of the large stone building, leading off from it at right angles, and parallel with each other. They are four in number and extend back possibly four hundred feet. About every hundred feet they are connected with each other by covered bridges with glass sides.

Immediately adjoining these buildings is one for the physicians, one for the nurses, and one for the servants, a department for lying-in patients, one for contagious diseases, and one for the insane.

The surgical department is a large two-story stone structure, containing several operating-rooms and amphitheatres, and can care for about two hundred surgical cases at a time.

The foregoing description will convey a sufficiently clear impression that the Imperial Hospital at Tokyo is as regards construction and external architectural features up to date, and exceedingly well adapted for hospital purposes.

Dr. Register, in touching upon the internal arrangements and equipment of the institution, was greatly struck by the small size and overcrowding of the wards. The rooms for single patients are very small, not over ten feet square, and furnished with velvet carpets, rugs, curtains, and cloth-covered sofas.

A characteristic of the methods of Japanese surgeons, which is noticed by those who have visited their hospitals, is their extreme conservatism. Patients are slow to consent to an operation. This seeming idiosyncrasy, however, may be doubtless attributed to religious prejudices. One of the most strictly observed tenets of the Buddhist faith is, never to cause bloodshed except when favored by the god of war.

This renders the surgical work rather unimportant when compared with other departments; nevertheless the aseptic arrangements are quite upon a level with those in vogue in the most modern hospitals, as is likewise the equipment generally.

The surgeons, though conservative, are not timid, but are skilful and successful operators.

A point that particularly attracted the attention of Dr. Register was the prevalence of tuberculosis in Japan. The records of the Imperial Hospital for a period of five years showed that thirty-five per cent. of all cases admitted were tuberculous. Rheumatism was the next most widespread disease observed, while skin affections were very rare. An explanation of the rifeness of consumption and rheumatism among the Japanese is that their houses and manner of life favor the propagation and development of these maladies, and the absence of skin diseases is due to their extreme cleanliness.

The Imperial Hospital is the medical centre of Japan, to which all the best people resort when they have to submit to an important surgical operation or are suffering from a serious disease.

Several other Japanese infirmaries are described by Dr. Register, none of which is equal in any respect to the large institution at Tokyo, but all show the exceeding aptness or rather genius of the Japanese to adopt and even to improve upon the most advanced methods of scientific treatment practised by nations in the van of civilization.

With regard to the capabilities and limitations of the Japanese physician, he is, in the opinion of Dr. Register, peculiarly well suited to work requiring excessive care and patience, as for instance microscopical investigations. In surgery, the smaller and more delicate and difficult the operation is the more it interests him. He is perfectly oblivious to the flight of time, and will give the most painstaking attention to small details which to the bustling, restless, and impatient American would appear unnecessary and tiresome.

As the prediction has been made frequently within the past few years that Japan will be the deciding factor in the balance of power in the Far East, the course of her evolution and development must perforce be followed with intense curiosity by all nations concerned in that portion of the globe. She is even now no longer the unknown quantity. The Land of the Rising Sun is fast becoming, if she has not already become, the Land of the Risen Sun, and her progress in medical and scientific matters is fully keeping pace with her phenomenal advance in all things that go to

make up the material prosperity of a nation. The comments of intelligent, skilled observers, such as Dr. Register, are therefore welcome and well timed.

SANATORIUM AND HOTEL IN CHICAGO.

A NOVEL experiment—but one which would seem to be at least worthy of a trial—is about to be entered upon by a few Chicago physicians. Five of the foremost physicians and surgeons of that city are preparing to build a large private hotel and sanatorium at a cost of $400,000. In Europe and in Great Britain many eminent surgeons have their private hospitals, in which difficult operations are performed and serious cases treated, the fact being recognized that better care can be given a patient in an establishment of this kind under the eye of the medical man himself, than in the most luxurious homes.

The plan proposed for Chicago, however, is conceived upon a wholly new principle, for, so far as we are aware, in no place either in this country or in Europe is a hospital run in connection with a hotel. Nevertheless such a scheme, if successfully carried out, will have its undoubted advantages. Physicians always have a number of patients who come from a distance, and who, unless the particular man under whose care they place themselves possesses a hospital of his own, have no choice but to go to a public institution, to a hotel, or to hire rooms. All these plans have their drawbacks. Many object to a general hospital; the noises and disturbances constantly occurring in a large hotel render it unsuitable for most cases of sickness, and in both hotels and apartments there is frequently much difficulty in securing accommodation for the relatives and friends of the sufferer.

A combination of hotel and sanatorium would obviate these inconveniences, and should afford a solution of the problem of how to treat patients of means to the satisfaction of themselves and their medical attendants.

The projected establishment at Chicago is to be provided with an ample staff of attending physicians as well as with a corps of nurses.

THE TEACHING OF ANÆSTHESIA.

IT will scarcely be denied that in a large number of operations—perhaps the majority—less is to be feared from the surgical procedure itself than from the anæsthetic. It would therefore seem obvious that no less consideration should be given in the medical curriculum to one of these than to the other. This is, however, not the case, and as a result the medical graduate is compelled to acquire, in hospital or in private practice, after leaving the halls of his alma mater, the necessary experience for successful anæsthesia. That this method is attended with serious dangers and that it may lead to disastrous results are all too obvious. To overcome this defect in medical education Dr. Dudley W. Buxton (*British Medical Journal*, April 27, 1901, p. 1005) recommends the attendance by the student, during the last year before the final examination, on six or even twelve lectures devoted to instruction in the theory of anæsthesia, its physiology, pharmacology, and practice, including familiarity with the common agents and mixtures and apparatus; and the administration of anæsthetics on twelve occasions as a minimum, together with watching anæsthetizations during such a period as would give fifty attendances including the twelve administrations.

News of the Week.

Yellow Fever in Havana.—The reports of Major Gorgas, the health officer of Havana, are becoming monotonous in their repeated showing of the almost complete absence of yellow fever in that one-time menace to the health of our Southern States. Only last week we reproduced in abstract the April report, wherein it was added that there had been only two cases during the month. That was favorable enough, but it was before the rainy season had set in, and a notable increase in the amount of the disease was to be looked for in May and subsequent summer months. But on June 1st there was not a single case known to the authorities, and on the 8th there was but one case. During the three months of March, April, and May there was only one death from the disease in Havana. yet the city was probably never so full of non-immunes as it is this year. The average mortality from yellow fever for those three months during the last thirteen years has been thirty-six.

Mrs. McKinley's Illness.—The physicians in attendance on the President's wife issued on Saturday last the following statement of the character of the illness from which she has been suffering: Mrs. McKinley's illness has been a blood infection, resulting from periostitis of the index finger, which began in Los Angeles, and which was promptly treated by incision. The subsequent condition of exhaustion was due to the same blood infection, associated with a severe diarrhœa. She improved, however, and was brought home in comfort and without loss of strength. The principal cause of anxiety in her case since her arrival in Washington has been an acute endocarditis, involving the mitral valve, the result of the same blood infection. This does not appear to be progressive, and there has been an improvement in the diarrhœa and in her general condition. Mrs. McKinley's case at the present time presents a more hopeful aspect.

A Big Charge for a Placebo.—It is stated in *The Medical Times and Hospital Gazette* (which, we are bound to say, publishes a good many steep stories of physicians in New York and elsewhere) that a Moscow doctor was not long since asked by a lady patient, who professed to be tired of life, for a drug that would cause her death painlessly. He prescribed a mild laxative, but before handing it over he induced his patient to give him all her available money and jewels, valued at 2,000 roubles. He anticipated that when the lady did not die she would be too shamefaced to explain the matter to the police, but in this he was

wrong, for the lady no sooner found that she had been deceived than she denounced the doctor as a fraud. He was promptly arrested, and in spite of his defence that at the time of the offence he was hopelessly under the influence of drink, the court found him guilty, sentencing him to six months' imprisonment, with loss of all civil rights, including the right to practise his profession.

The Cleveland "Medical Gazette."—The current issue of this journal is replete with good things. It contains no less than fifteen interesting items scissored from the columns of the MEDICAL RECORD without a word indicating their source. This is worse than the organ of the Chicago Medical Society—an old and hardened offender.

Rewards for the Conviction of Medical Offenders.—The Massachusetts Society for the Prevention of Cruelty to Animals offers what its president calls a "prize" of $100 for evidence enabling the society to convict any man in Massachusetts of cruelty in the practice of vivisection, and another "prize" of $25 for evidence to convict of violating the recently enacted law of Massachusetts against vivisections and dissections in the public schools.

A Sanatorium for Consumptives in Hartford.—The directors of the Hartford Hospital have issued an appeal for $40,000, with which to build a sanatorium for the treatment of tuberculosis. The location selected is on Cedar Mountain, three miles southwest of the city. It is proposed to erect a building which will accommodate fifty patients and the necessary attendants. There are to be two large open-air wards, with glass roofs and ends, facing south. Here the patients will spend the days, receiving the benefit of both air and sun.—*Yale Medical Journal.*

The Illinois State Medical Society.—The fifty-first annual meeting of this society was held at Peoria, on May 21st, 22d, and 23d, under the presidency of Dr. George N. Kreider, of Springfield. The following were elected officers for the ensuing year: *President*, Dr. John T. McAnally, of Carbondale; *First Vice-President*, Dr. M. L. Harris, of Chicago; *Second Vice-President*, Dr. J. W. Hensley, of Peoria; *Permanent Secretary*, Dr. Edmund W. Weis, of Ottawa; *Assistant Secretary*, Dr. Charles D. Center, of Quincy; *Treasurer*, Dr. Everett J. Brown, of Decatur; *Editor*, Dr. George N. Kreider, of Springfield. The next annual meeting will be held at Quincy, on May 20, 21, and 22, 1902.

Complaint against the New York City Health Department.—Certain residents of Woodside, in Queen's County, have brought charges of neglect against the health officials of their borough, and the grand jury has been instructed to investigate the complaint, which is based upon the death of a man from black smallpox on May 4th. The complaint sets forth that, although suffering from a malignant form of the disease, the man was allowed to remain in a big tenement house. He died in the afternoon of May 4th, and it is charged that his body was allowed to lie without attention for a space of fifty-two hours; that it was then placed in a common pine box and carted through the streets; that the man's family was driven from its home after his death; that, in view of this action, proper precautions were not used; and that the family was not isolated, although in direct contact with the sick man.

Pasteur Institutes in the South.—A Pasteur Institute has recently been established by the University College of Medicine in Richmond, Va., and another, upon the recommendation of the Georgia State Medical Association, at Atlanta, Ga.

Board of Health an Undesirable Neighbor.—The Jersey City health board has been requested to remove its offices from the city hall, the frequent appearance at the board's rooms of smallpox patients having made the other city officials nervous. A building in Mercer Street was hired, but a resident of the adjoining house became alarmed and has paid the owner $600 on condition that the health department find other quarters.

An Army Hospital Burned.—Fire occurred in the general army hospital at the Presidio, San Francisco, on Monday. The entire building was threatened with destruction, but owing to a lucky change in the direction of the wind the greater part was saved, the damage being confined to the north end of the building, where were the kitchen and dining-rooms. One ward was burned out and another was badly damaged. All of the patients, many of them suffering from measles, were safely removed from the building. The hospital was built in 1899.

The Missouri State Medical Association.—At the recent annual meeting of this society at Jefferson City, the following officers were elected for the ensuing year: *President*, Dr. J. D. Griffith, of Kansas City; *First Vice-President*, Dr. R. E. Young, of Jefferson City; *Second Vice-President*, Dr. J. C. Whaley, of Osceola; *Third Vice-President*, Dr. R. M. Funkhouser, of St. Louis; *Fourth Vice-President*, Dr. J. F. Campbell, of Callao; *Fifth Vice-President*, Dr. G. W. Vineyard, of Jackson; *Recording Secretary*, Dr. B. C. Hyde, of Kansas City; *Assistant Recording Secretary*, Dr. F. W. Burke, of Sedalia; *Corresponding Secretary*, Dr. Charles W. Fassett, of St. Joseph; *Treasurer*, Dr. J. Franklin Welsh, of Salisbury. The next meeting will be held in St. Joseph.

Tuberculosis a Bar to Immigration.—On the strength of a declaration by the surgeon-general of the Marine-Hospital service that pulmonary tuberculosis is a dangerous contagious disease, the superintendent of immigration has issued an order that in future immigrants with tuberculosis of the lungs must be debarred from all ports of the United States regardless of boards of special inquiry, which heretofore have used their discretion in the matter. Formerly the board of special inquiry at this post, after receiving the report on a case of tuberculosis from the chief of the medical division of the immigration service at New York, could exercise discretion as to the admission of the person, and there have been instances in which a child ill of the disease has been permitted to

land with its parents; but henceforth no one with consumption will be admitted to the country. The rule will apply also to alien passengers in the first and second cabins as well as to those in the steerage.

The Mississippi State Medical Association.—The thirty-fourth annual meeting of this society was held at Jackson, on May 8th, under the presidency of Dr. H. A. Minor. The election of officers resulted in the following choice: *President*, Dr. J. M. Buchanan, of Meridian; *First Vice-President*, Dr. C. D. Mitchell, of Pontotoc; *Second Vice-President*, Dr. Anthony Miller, of Panther Burn; *Recording Secretary*, Dr. C. H. Trotter, of Winona; *Assistant Secretary*, Dr. B. L. Culley, of Jackson; *Corresponding Secretary*, Dr. D. S. Humphreys, of Greenwood; *Treasurer*, Dr. J. F. Hunter, of Jackson. The next meeting will be held at Jackson on April 16, 1902.

The Connecticut Medical Society.—The one hundred and ninth annual meeting of this society was held in Hartford, May 22d and 23d, under the presidency of Dr. Leonard B. Almy, of Norwich. The following were elected officers for the ensuing year: *President*, Dr. John H. Granniss, of Saybrook; *Vice-President*, Dr. J. A. Shelton, of Shelton; *Secretary*, Dr. N. E. Wordin, of Bridgeport; *Assistant Secretary*, Dr. J. H. Townsend, of New Haven; *Treasurer*, Dr. W. W. Knight, of Hartford; *Committee on Matters of Professional Interest*, Drs. N. R. Hotchkiss, of New Haven, E. K. Root, of Hartford, and E. P. Flint, of Rockville.

Women Graduates of Cornell.—At the commencement exercises of Cornell University Medical School on June 5th, twenty-six graduates received their diplomas. Fourteen of the graduates were women. One of them, Emily Dunning, took the second prize of $100 for the best work in the four years' course. Miss Dunning had already received the degree of master of arts from Cornell. She is reported in the papers to have beaten all candidates in a competitive examination for internes at Mount Sinai Hospital, but failed of appointment because of her sex. The first prize of $150 was awarded to Mark S. Fleming and the third of $50 to Edward Francis Kilbane. The prize given for the best work in otology, a set of instruments, was awarded to Ethel Mayer. The address to the graduating class was delivered by Gen. Stewart L. Woodford.

Special Insurance for Total Abstainers.—In answer to a numerously signed petition, the Equitable Life Insurance Society of this city has agreed to put in a special class any successful applicant for insurance who declares that he has been a total abstainer from the use as a beverage of alcoholic liquors, including wine, beer, and fermented cider, and as a condition of membership in this class agrees to remain a total abstainer as long as his policy is in force. Any surplus apportioned to the policy will be based on the experience of the society on policies belonging to the total-abstinence class. It is believed by the petitioners that the number of the total-abstinence class will receive the benefit of largely increased dividends. A number of British life insurance companies have for many years segregated their total-abstinent policy holders.

Medico-Chirurgical Association of Mississippi is the name of a society organized by fifteen colored physicians at Jackson, Miss., on May 17th.

The Ollier Monument Subscriptions.—The American committee for the erection of a monument to the late Professor Ollier, of Lyons, France, announces the receipt of $649 from one hundred and three subscribers.

Medical Society of New Jersey.—The annual meeting of this society will be held on June 25th, 26th, and 27th, under the presidency of Dr. William Pierson, of Orange, at the Hathaway Inn, Deal Beach, and not at Allenhurst as was at first intended. The secretary of the society is Dr. William J. Chandler, of South Orange.

Supposed Smallpox in Suffern.—Several cases of "Cuban itch" have been reported to the State department of health by a physician of Suffern. It is suspected that an epidemic of smallpox is being hidden under the term "Cuban itch," and an officer of the department has been sent to Suffern to investigate.

A Photographer Violates the Health Laws.—A photographer in Plainfield, N. J., was recently fined $50 for taking the picture of a child who had died of diphtheria. The charge was that he had broken a health-board ordinance in going to the house where there had been such a disease. He explained that he had taken the portrait at the request of the child's father, and declared that he had not been informed of the nature of the disease from which the child had died.

Storage Charges on a Leg.—Several years ago a wealthy resident of Concord, N. H., lost a leg, which he had preserved in alcohol and stored in a drug store. When he died, twelve years later, the leg was taken from its jar and interred with his body. Shortly after the druggist who had cared for the leg sent to the trustees of the estate a bill for $3,450 for services rendered in connection with the amputated limb. This bill the trustees refused to pay, and the druggist brought suit. The case was tried in the superior court, and a jury brought in a verdict for the plaintiff for $1,979.16.

Taxing Charitable Institutions.—It is stated in *Charities* that the question of the assessment of the Hartford Retreat for the Insane is now being considered in Connecticut. This institution, it appears, has heretofore been exempt from taxation, on the ground of its being a charitable institution. In opposition, it is charged that the institution is maintained for profit, and therefore should be taxed on a commercial basis. This is a question of very wide interest and applies to a number of institutions in this country, such as Bloomingdale Asylum in New York, the McLean Hospital at Waverley, and the Pennsylvania Hospital at Philadelphia, all of which enter into competition with the Hartford Retreat. In opposition, it

is maintained that these institutions all contribute to the care of the indigent by endowments for free beds, and, as a matter of fact, expend all the income in maintaining the institution. It seems there should be a distinction between hospitals making a profit and declaring a dividend, and those which spend their entire income in maintenance.

Dr. Joseph C. Beck has been elected pathologist and professor of otology at the Chicago Eye, Ear, Nose, and Throat College.

A Queer Verdict.—A despatch from St. Louis to *The New York Times* says that the head of a man, wrapped in an old coat, was found recently in East St. Louis, and when the coroner held an inquest over it a verdict of suicide was returned.

Free Rides for Bellevue Physicians.—During the trial of a suit for damages against the Metropolitan Street Railway Company recently, two former internes at Bellevue testified that all the members of the house staff of the hospital received books of passes on the lines of the company.

Opposition to a Hospital.—Residents and property-holders of Narbeth, a suburb of Philadelphia, have organized in protest against the erection of a pay hospital for contagious diseases within its limits, and an ordinance has been passed by the borough council forbidding the erection of any such hospital within one thousand feet of any street, residence, or building operation.

Leprosy in France.—Dr. Besnier recently presented a report to the Paris Academy of Medicine regarding the increase of leprosy in France. The report stated that the disease was becoming so prevalent in various parts of the country that stringent measures were urgently needed for its suppression. In Savoy and Brittany there were several distinct endemic centres, and at the Hospital St. Louis, in Paris, fourteen lepers were at present under treatment.

A Physician's Claim for $100,000.—Dr. Emma N. Warne, a woman physician of Chicago, has filed a claim for $100,000 against the estate of a Mr. Wheeler who died a year ago, leaving $3,000,000. The claim is based on a special contract for medical services and personal attention paid to Mr. Wheeler, the terms of the contract reading that Dr. Warne was to "take care of Mr. Wheeler as long as he lived." The physician's services are said to have extended over several years.

A Rival Claimant for a Yellow-Fever Serum.—Mr. A. Fontana Xavier, consul-general of Brazil in this city, has written to *The Sun* to say that a letter published in a New York newspaper recently from Dr. Angelo Bellinzaghi, now in Brazil, gives the erroneous impression that he and not Dr. Philippe Caldas is the discoverer of the yellow-fever serum. Señor Xavier says that it is true that Dr. Bellinzaghi was in Mexico making experiments with this serum, but that he was sent there as a paid assistant of Dr. Caldas, who, he declares, is its recognized discoverer. Last January, when Dr. Bellinzaghi was in this city, an effort was made to form a company for the manufacture and sale of his alleged specific. The intention was to charge $25 or $50 for giving the prophylactic injections to any one going to or resident in a yellow-fever district. Whether immunity would be assured under a pecuniary penalty had not been decided at the time the project fell through from lack of capitalistic faith.

Enlargement of St. Mary's Hospital.—Plans have been filed for the addition to St. Mary's Hospital for Children of a one-story brick building, twenty-five by forty-two feet, on West Thirty-fifth Street in the rear of the main structure.

The Medical Society of the State of West Virginia.—At the annual meeting of this society, held at Grafton on May 22d, 23d, and 24th, Dr. G. A. Aschman, of Wheeling, was elected president, and Dr. William G. Golden, of Elkins, secretary. The next meeting will be held at Parkersburg in May, 1902.

Vivisection in England.—A parliamentary report recently issued shows that during the year 1900, 247 licenses were issued for vivisection, but of this number 63 licensees performed no experiments. The total number of experiments was 10,839, an increase of 2,370 over the number for 1899. This increase is explained in part by the inoculations of bubonic plague made for diagnostic purposes.

The Roentgen Society of the United States.—The second annual meeting of this society will be held at Buffalo on September 10 and 11, 1901, in the University building. A copy of each paper to be read at this meeting must be in the hands of the secretary, Dr. J. Rudis-Jicinsky, of Cedar Rapids, Ia., on or before August 20th. The president of the society is Dr. Heber Robarts, of St. Louis, Mo.

The Collection of Tuberculosis Statistics.—The State department of health is about to take an enumeration of the people in this State afflicted with tuberculosis. The present purpose is not to obtain a personal registry of these cases, nor to institute a system of sanitary inspection or isolation of consumptives, but to obtain with such accuracy as is possible a record of the number of persons in each municipality who at this time are subjects of this disease; to learn the locality of the disease, its distribution, and surroundings. This accumulation of data will be fundamental to more exact plans for its control. It will likewise be of value in the discussion of the question of State care of consumptives. There are about thirteen thousand deaths from tuberculosis annually in this State.

Hospital Corps Instruction in Manila.—On Wednesday, March 27th, the graduating exercises of the third class of the Hospital Corps Company of Instruction were held at Hospital Number Three, Manila. There were nineteen graduates in a class of fifty-one, and of these three were honor men: For best general average, Clarence C. Yelton; for the best drilled man, Bernard L. Davenport; for the best examination in nursing, William T. Lambert. Addresses were made

by Lieutenant Lyster, commander of the class; Colonel Greenleaf, chief surgeon of the division, and General MacArthur. An exhibition was given of practical field work by the members of the class. The commanding officers, Major Kulp and Lieutenant Lyster, were warmly congratulated by the speakers upon the effective work which they had accomplished in organizing and perfecting the fourteen weeks' course of instruction for hospital corps in Manila.

Smallpox in Cleveland.—A report from Toledo, O., states that there was recently a secret meeting of the health authorities of five of the chief cities on the lakes, generally understood to be Toledo, Chicago, Toronto, Buffalo, and Detroit, at Cleveland, when a demand for better smallpox sanitation in Cleveland was made. Cleveland has had this year nearly one thousand cases, and is likely to have many more, as her wonderful mayor has entered the flock of anti-vaccinationists, and has been delivering himself of the usual protests against introducing poisonous material into the human body. It is suggested that the lake cities establish a quarantine against Cleveland.

The British Congress on Tuberculosis.—This congress, which has for its aim the prevention of consumption and other forms of tuberculosis, is to be held in the Queen's Hall, London, from July 22d to July 26th. The president is not yet appointed, but among those holding office are Sir William Broadbent, Professor T. Clifford Allbutt, Sir James Crichton Browne, Sir James Blyth, the Earl of Derby, and Lord Avebury. The sections are four in number: A state and municipal section, of which the president is Sir Herbert Maxwell; a medical section, president Sir R. Douglas Powell; a pathological and bacteriological section, president Professor G. Sims Woodhead; and a veterinary section, president Sir George Brown. The state and municipal section will be divided as follows: In Division I. will be considered statistical matters; in Division II., the notification of tuberculosis; in Division III., the influence of housing and aggregation (these two divisions will be taken together); in Division IV., the control of milk and meat supplies; and in Division V., the provision of sanatoria. Two distinguished foreigners are expected to take part in this section, namely, M. Henri Monod and Dr. A. J. Martin. In the medical section a discussion will be opened upon "Climatology," by Dr. C. Theodore Williams and Dr. J. Burney Yeo. On July 24th there will be a discussion upon the "Therapeutic and Diagnostic Value of Tuberculin in Human Tuberculosis," to be opened by Dr. Heron, in conjunction with the Pathological Section. On July 25th a discussion will be opened by Professor Allbutt upon "Sanatoria for Consumption." Demonstrations are announced upon cases of skin tuberculosis and their treatment, and of the use of Roentgen rays in diagnosis. The discussion in the pathological section will be as follows: On July 23d, "The Morphological and Physiological Variations of the Bacillus Tuberculosis and its Relations (*a*) to Other 'Acid-Fast' Bacilli, and (*b*) to the Ray Fungus and Other Streptothrices"; to be opened by Alfred Moeller, dirig. Arzt der Heilstätte Belzig, bei Berlin, and Dr. William Bullock, bacteriologist and lecturer on bacteriology and pathology to the London Hospital. On July 24th, "The Tissue Changes and Constitutional Effects Produced by the Various Constituents of Tuberculin." This will be a joint discussion in common with the medical section, to be opened by Professor Koch. On July 25th, "The Varieties of Tuberculosis (Morbid Anatomy and Histology)," to be opened by Professor Benda, Urban-Krankenhaus, Berlin, Professor Sheridan Delépine, professor of pathology Victoria University (Owen's College), Manchester, and Professor D. J. Hamilton, professor of pathology, University of Aberdeen. July 26th, "Mixed Infections in Tuberculosis." Among others who are expected to take part in this section are Dr. Roux and Professor Metchnikoff, of the Pasteur Institute, Paris. In addition to the work of the sections described above, the following public addresses will be given to the whole congress: On Tuesday afternoon (23d), by Professor Koch, Berlin; on Wednesday afternoon, by Professor Brouardel, of Paris; and on Thursday afternoon, by Professor McFadyean, of the Royal Veterinary College. The official languages at the congress will be French, English, and German. The honorary secretary-general is Mr. Malcolm Morris, 20 Hanover Square, London.

Philadelphia Hospital.—By a recent ruling of the Department of Charities and Correction, of the twenty-four resident physicians for the Philadelphia Hospital, elected annually after civil-service competitive examination, seven shall be graduates of the University of Pennsylvania, seven of Jefferson Medical College, seven of the Medico-Chirurgical College, and three of the Woman's Medical College. The application of such a rule would be, to say the least, unfortunate. In the first place, it destroys any value that may reside in competitive examination, and it opens dangerous opportunities for favoritism and pernicious political activity, and for this reason it will help to deter the better class of graduates from applying for the positions. In the next place, it will exclude from the competition all but graduates of local schools. This may be civic loyalty, but it is extremely provincial and narrow, and can only work harm. What provision would be made should there be fewer applicants from any school than those allotted to it can only be surmised. It is to be feared that the places might not go to the best equipped graduates, but rather to those with the greatest political influence. There can be only one fair apportionment of hospital positions, and that is to award them to those who exhibit the highest qualifications, irrespective of politics or college of graduation.

The Kentucky State Medical Society.—The annual meeting of this society was held in Louisville on May 22, 23, and 24, 1901, under the presidency of Dr. James H. Letcher, of Henderson. The election of officers resulted in the choice of the following: *President*, Dr. T. B. Greenley, of Meadow Lawn; *First Vice-President*, Dr. George M. Raddish, of Somerset; *Second Vice-President*, Dr. B. L. Coleman, of Lexing-

ton; *Secretary-Treasurer*, Dr. J. Steele Bailey, of Stanford, re-elected; *Librarian*, Dr. Frank Lapsey, of Paris. Paducah was chosen as the place of meeting for the third week of May, 1902. Dr. Frank Boyd, of that city, was appointed chairman of the committee of arrangements. The president-elect, Dr. Greenley, is the oldest member of the society.

A Case of Suspected Plague near London.—At Willesden, a suburb of London, a man supposed to be suffering from a mild attack of bubonic plague has been discovered. Persons with whom he had come in contact were detained, but have now been released. The patient himself is under observation.

Dr. Loir of the Pasteur Institute Shot.—A man entered the laboratory of the Pasteur Institute in Paris one day last week and fired four shots from a revolver into the body of Dr. Loir, a nephew of Pasteur. The bullets were extracted, and it is hoped the wounded physician will recover. The would-be assassin was arrested.

The Presidency of Johns Hopkins University.—Professor Ira Remsen has been elected president of the Johns Hopkins to succeed Dr. Daniel C. Gilman, who resigned recently. Professor Remsen was born in this city in 1846. He was graduated from the College of the City of New York in 1865, and later received the degree of M.D. from the College of Physicians and Surgeons, that of Ph.D. from the University of Göttingen, and LL.D. from Columbia and Princeton. From 1872 to 1876 he was professor of chemistry at Williams College, and then was called to the same chair at the Johns Hopkins.

A Congress of Life-Insurance Examiners.—The second international congress of medical officers of life assurance companies will be held in September next at Amsterdam. This meeting promises to be one of great interest, if one may judge by the list of titles published in the preliminary programme. We regret that the programme contains the names of no Americans. The congress will consider and if possible formulate the conditions on which it might be practicable to extend assurance to invalids and under-average lives. Each member will receive a copy of the transactions of the congress. The membership fee is fixed at ten guilders, equivalent to about four dollars.

Medical Students in Paris.—At the end of the academic year 1899–1900 the number of medical students in the Paris faculty was 4,315. At the opening of the present academic year on October 1st it was 4,166, a decrease of 149. This decrease is attributed to the new programme of studies and to the regulations as regards foreigners obtaining the State diploma. Up to the present foreigners have shown but little alacrity in endeavoring to obtain the university degree, which does not give the right to practise. It is noted, however, that sixty foreigners have obtained either complete exemption or equivalence of university titles required for inscription in the Faculty of Medicine. It is pointed out in the report presented to the University Council that this number is too large, and the responsibility for the excess of favor shown in such cases is laid on the minister of public instruction, who is said to yield too readily to the solicitations of foreign embassies instead of taking his stand solely on the university regulations. Of the 60 practitioners referred to, 14 are Russians, 9 subjects of the Ottoman Empire, 7 Roumanians, and 5 Greeks. The remaining 25 consist of single individuals of diverse nationalities. In the academic year 1899–1900 the faculty conferred the degree of doctor on 658 candidates. Of these, 572 were French, 7 of them being women, and 86 foreigners—59 men and 27 women.—*British Medical Journal.*

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy, for the week ended June 8, 1901. June 1st.—Doctors J. W. Backus, F. A. Asserson, J. F. Murphy, W. Seaman, and R. R. Richardson appointed assistant surgeons in the navy. June 4th.—Surgeon F. J. B. Corderio detached from the *Buffalo*, June 10th, and ordered home to wait orders. Surgeon L. W. Curtis ordered to the *Buffalo*, June 10th. Passed Assistant Surgeon E. S. Bogert, Jr., commissioned surgeon from December 15, 1900. June 6th.—Assistant Surgeon R. W. Plummer detached from the *Nashville* and ordered to the *Princeton*. Assistant Surgeon W. Seaman ordered to the *Independence* June 17th. Assistant Surgeon H. H. Haas detached from naval hospital, New York, June 10th, and ordered to the Norfolk navy yard. Assistant Surgeon R. R. Richardson ordered to naval hospital, New York, June 10th. Assistant Surgeon J. M. Brister detached from the *Independence*, June 17th, and ordered to the Asiatic station via transport *Hancock*.

Workmen's Insurance in Germany.—The system of workmen's insurance in Germany is a huge piece of state machinery. The magnitude of the system may be estimated by the fact that it pays out, in one way or another, about 1,000,000 marks ($250,000) a day. The sick workman has no longer to trouble himself as to how he shall obtain money to pay for medical treatment, and what will become of his family should he himself be rendered unfit for work. The workman whose earning power is reduced by an accident connected with his employment now obtains just compensation; and the aged poor have the satisfaction of knowing that, although they can no longer work, they can still, owing to the insurance system, contribute their share toward the expenses of the household, and are not obliged to depend on the earnings of their children or on ordinary public charity. The system of workmen's insurance has been gradually built up within the last seventeen years, but it is admitted that improvements are required and gaps have still to be filled in.—*British Medical Journal.*

Obituary Notes.—Dr. Seth B. Sprague died at his home in Jersey City, on the morning of June 5th. He was born at Dexter, Me., on January 12, 1840, and was graduated from the Medical School of Maine (Bowdoin College) in 1867. He practised medicine at Milo, Me., for twenty-four years before moving to

Jersey City. Dr. Sprague is survived by his wife and five children, one of whom, Dr. Ezra K. Sprague, is a passed assistant surgeon in the Marine-Hospital service.

Major Louis S. Tesson, surgeon U. S. A., died at Vancouver Barracks, Washington, on June 7th.

Dr. Maurice Lauren Healy, of 220 East Thirty-sixth street, this city, died at the home of his mother in Plattsburg, N. Y., on June 5th, of pneumonia. Dr. Healy was born in Plattsburg thirty-seven years ago. and was graduated from the New York University Medical College in the class of 1887. For three years he was a lecturer of the Post-Graduate College, and was assistant in Demilt Dispensary.

Obituary.

WILLIAM HUDSON DALY, M.D.,

PITTSBURG, PA.

Dr. William Hudson Daly, of Pittsburg, killed himself on June 9th by a pistol bullet in the head. He was born near Blairsville, Indiana County, Pa., on July 11, 1842. He studied for a time at the Jefferson Medical College, and in 1864 entered the United States army as a medical cadet, serving in various hospitals until the end of the Civil War. He then went to Ann Arbor and was graduated from the medical department of the University of Michigan in 1866. He went immediately to Pittsburg, where he practised up to the time of his death. He early turned his attention to laryngology, which he practised as a specialty, but was interested in many other branches of medical science. At one time he engaged in an animated discussion in the columns of the Medical Record and elsewhere on the etiology of malaria, being a firm believer in the water-borne theory of the disease. This was before the discovery of the mosquito's agency in the development and transmission of the plasmodium. During the Spanish war Dr. Daly was a surgeon of volunteers on General Miles' staff. It was he who started the "embalmed beef" controversy, the question being raised in a report which he made to General Miles. He said his attention was first called to the matter by seeing a quarter of beef hanging exposed to the sun at Tampa. He marvelled at this, and cut off a piece of the meat, boiled it, tasted it, and was sick for several days thereafter. The report was the one upon which General Miles relied mainly to substantiate his charges that the meat was not fit for consumption. Dr. Daly was an ex-president of the American Laryngological Association, of the American Laryngological, Rhinological, and Otological Society, and of the Section of Laryngology of the Ninth International Medical Congress. He was a member of the American Climatological Society, the Mississippi Valley Medical Association, the Association of Military Surgeons of the United States, the American Medical Association, the Medical Society of the State of Pennsylvania, of the Tri-State Medical Society, and of the Allegheny County Medical Society, and was an honorary or corresponding member of many European laryngological societies. Dr. Daly was a man of large physique, great vital energy, and a strong personality, and when engaged in any controversy was what is called "a good fighter," and it was mainly owing to his insistence that the beef question grew almost to the proportions of an army scandal. Dr. Daly lost his wife, whom he had married in 1869, two years ago.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 6, 1901.

Idiopathic Abscess of the Kidney.—A. J. Cabot mentions several sources of kidney abscess, dwelling especially upon infection through the blood. The streptococcus, the staphylococcus pyogenes aureus, the bacterium coli commune, the pneumococcus, and the typhoid bacillus, all circulate through the blood, and are probably eliminated in some degree by the kidneys, causing a so-called terminal infection, in which little capillary tufts are plugged by emboli containing the micro-organisms. It sometimes happens that an abscess occurs in but one kidney, and no source of infection is found; these abscesses used to be regarded as idiopathic, but the writer considers that small points of infection in the intestinal mucous membrane or elsewhere may have been overlooked. A case is reported in which the infection was due to a pure culture of colon bacillus. In cases of doubt, exploration by incision is justifiable. Should there be no abscess, but a tense, congested kidney, incision of the capsule along the convexity will usually afford great relief.

The Effects of Training.—Eugene A. Darling studied a number of students under training for football, rowing, etc. A considerable degree of cardiac hypertrophy was found, while the immediate effect of a severe effort like a race is an acute dilatation, which, however, is merely temporary, and becomes less marked with each succeeding effort if the man is in good condition. The hypertrophy is more or less permanent, but is not to be considered an undesirable thing, any more than a corresponding hypertrophy of the biceps. Albumin, casts, and red blood corpuscles were found to considerable amount in the urine passed immediately after hard playing; during training, in six cases out of sixteen albumin was present in small amount. No ill effects, which could reasonably be attributed to training, were to be discovered nine months after stopping the training.

Philadelphia Medical Journal, June 8, 1901.

The Knee Jerks in Chorea.—Augustus A. Eshner states that the two conditions most likely to be mistaken for chorea are spasmodic tic and the athetoid movements attending various cerebral lesions. The knee jerks are unchanged in cases of spasmodic tic and exaggerated in those of athetosis, while in cases of chorea they are extremely variable in different cases and even in the same case at different times, being sometimes increased and sometimes enfeebled or wholly wanting. Gordon has called attention to a peculiar modification of the knee jerk, which he believes to be common in cases of chorea. This does not seem to be constant, but when present is considered distinctive. The writer is able in part to verify Gordon's statements concerning this subject. With the patient recumbent and the knee raised, while the heel rests on the couch and the muscles of the extremities are relaxed, if the patellar tendon be struck the foot rises, but instead of falling back immediately, it remains suspended for a variable time, then sinking back slowly to its original position. Sometimes, it is said, there is merely a sluggish descent following an ordinary ascent. Sometimes there is the ordinary knee jerk, but as the foot is beginning to descend it is caught in mid-air and held for a time, or is even raised to a higher level than was reached in the first jerk. Sometimes the knee jerk passes at once into active, more or less persistent—even apparently voluntary—rigid extension of the extremity. This phenomenon is said to be best seen in mild cases, and in hemichorea only on the affected side. It is thought that the manifestations noted are due to an additional involuntary movement evoked by the knee jerk.

Heredity as a Factor in Mental Deficiency.—T. Alexander McNicholl declares that heredity prepares the soil and implants the tendencies; environment may modify them. If in one or in successive generations the system is devitalized, the result will be mental deficiency, loss of organic integrity, dipsomania, epilepsy, or other psychoses. Observation of 10,000 children show 8.8 per cent. to be more or less mentally deficient. The dulness of 40 is reported as due to environment and physical conditions such as poverty, defective sight, deafness, and general constitutional weakness; in 221 it is supposed to be due to heredity; 471 were children of drinking parents; of the remainder no definite information was obtained. Those conditions which impair the integrity of nerve tissues or profoundly affect nutrition are the active agents in the preparation for the transmission of hereditary ills. A most notable fact in the families of the children whose family histories were traced was the constant relation of alcoholism in the ancestry to abnormal physical conditions in the descendants. While eighty-seven per cent. of these children of

drinking and neurotic ancestry were mentally deficient, seventy-six per cent. suffered from some neurosis or organic disease. Of the children of abstaining households who were studied, less than three per cent. were dull, and but eighteen per cent. suffered from any neurosis or organic disease.

British Medical Journal, June 1, 1901.

The Position in which the Regurgitant Aortic Murmur is Most Clearly Audible at the Base of the Heart.—H. W. Syers calls attention to the fact that at least ninety-five per cent. of the cases in which aortic reflux occurs, the diastolic murmur is heard much more loudly at the second left interspace close to the sternum than in the position usually assigned to it—the second right interspace. The writer affirms, not that the second left interspace close to the sternum is the place where the aortic reflux murmur is most loudly heard, but only that it is much more distinct there than in the position ordinarily assigned to it. The point at which the murmur is loudest is almost invariably the middle of the sternum, and it is often loudly audible just above the xiphoid cartilage. The ordinary loud sound of a double aortic murmur is audible without the least difficulty, but the writer is referring to that low-pitched, soft, aortic murmur which often accompanies but does not replace the second sound, and which is of evil significance. Again, the writer states that he has just examined a case in which the reflux murmur was more loudly audible over the right than the left second interspace—an exception which proves the rule. The writer believes that aortic regurgitant disease, except in its unmistakable form, is the most likely to be overlooked of all valvular lesions, and this especially in the case of those soft murmurs, the prognosis of which is the worst possible, and in which it is therefore most necessary that a correct diagnosis be made. It must not be forgotten that the second is a double sound, and that it contains a pulmonary as well as an aortic element.

The Pulse Rate in Pulmonary Tuberculosis.—Thompson Campbell writes that an increase in the frequency of cardiac contraction, and a tendency to an evening rise of temperature, are well known as two of the earliest indications of a tuberculous process in the lungs. The results of study of tuberculous patients presenting themselves for treatment at sanatoria are as follows: There is an average decrease of 20 beats per minute from the count made when the patient presents himself for examination before admission, and that obtained during a week's confinement to bed. If, after a period of complete rest in bed, the pulse continues to run at or exceed 100, the outlook is not promising. Allowance must always be made for the possibility of overexertion, excitability under examination, and the presence of mitral stenosis. A pulse of 100 or more will usually be found to accompany an evening temperature reaching or exceeding 101°, and these two signs of grave import being persistently present in a case in which absolute rest has been enforced for some time, give little hope of treatment proving of any avail. As acceleration of the pulse is found at the onset of the pulmonary affection, so a gradual fall will be found to take place if a case is making progress toward recovery.

The Effect of Shock on Chronic Glaucoma.—H. Carter Mactier reports the case of a man aged sixty-one years, who for some time had been suffering from chronic glaucoma, but could see enough to do his work. One day he was accidentally thrown into a canal basin, injuring his knee; when removed from the water he was quite unable to see. For a few weeks vision improved, but never attained the sharpness present before the accident. Except for the slight improvement mentioned, he has grown steadily worse. This injury to vision was undoubtedly caused by the shock he sustained.

The Development of Filaria Nocturna in Different Species of Mosquitos.—George C. Low sums up the facts of this subject as follows: Some mosquitos are inefficient hosts, the embryos never migrating from the stomach; some are partially efficient, the embryos reaching the muscles, where they undergo a partial development and then become absorbed; while others are properly efficient, the time taken for complete metamorphosis varying with the temperature and other climatic influences of the place in which the experiments are conducted.

The Lancet, June 1, 1901.

Acroparæsthesia, Erythromelalgia, Sclerodactylia, and Other Angio-Neurotic Disturbances.—T. D. Savill reports a series of clinical cases and makes the following general clinical classification of vasomotor disorders of the extremities: A. Vaso-dilatation.—(*a*) Early stage (chronic).—Attacks of redness (congestion) and tingling, burning, etc. (congestive acroparæsthesia). (*b*) Late stage (chronic).—The symptoms are attended by swelling which gradually becomes permanent (erythromelalgia). (*c*) If the process takes an acute course the symptoms go on to gangrene, usually moist gangrene (Raynaud's disease—congestive or asphyxial type).

B. Vaso-constriction.—(*a*) Early stage (chronic).—Attacks of pallor and bloodlessness (ischæmia) attended by numbness, tingling, "pins and needles," "dead fingers," etc. (ischæmic acroparæsthesia). (*b*) Late stage (chronic).—The symptoms may be attended with thickening (sclerosis) of the skin and subcutaneous tissue (sclerodactylia). (*c*) If the process takes an acute course, dry gangrene probably results (Raynaud's disease—syncopal type).

It will be seen that these varieties correspond to the different varieties and phases of Raynaud's disease, which begins in one or other of the above ways and may go on to gangrene. These cases are also probably related to the condition described by Meige and others under the name of "chronic hereditary atrophœdema."

Arterial Hypertonus and Arteriosclerosis; their Relation and Significance.—W. Russell believes the following to be the relationship between the two conditions: Recurring or continued hypertonus leads to hypertrophy of the muscular media of the arteries under the physiological law that increased action in muscle leads to its hypertrophy. This accounts for the thickening media. The thickening intima is to be explained by the circulation in the blood of deleterious substances of various kinds; these substances act on the subendothelial connective tissue, irritate it, and lead to its hyperplasia. We thus get the completed picture of arteriosclerosis. The evolution of the changes occupies a varying time in different persons; in some the hypertonus comes early in life, and in early middle age sclerosis is established. In some there is little physiological error, hypertonus is but an occasional occurrence, and sclerosis appears late in life. The capability of the arteries to contract when an excess of toxin is present is in his experience seldom lost, and that is the reason why the recognition of it in sclerosed vessels is a matter of such great practical importance. While for the present he does not deal with the behavior of the capillaries, it is not to be understood that he ignores their presence, their reactions, or their influence in some of the conditions touched upon in this paper.

The Bacteriology of Sporadic Cerebro-Spinal Meningitis.—W. Hunter concludes by stating (1) that in all the cases of meningitis examined by him a diplococcus has been isolated from the cerebro-spinal fluid. In nine of these the fluid was obtained by lumbar puncture during life. (2) That this diplococcus has the same morphological and biological characteristics as Weichselbaum's diplococcus intracellularis meningitidis. (3) That in some cases the diplococcus was present in pure culture, in others associated with other micro-organisms—*e.g.*, bacillus influenzæ and bacillus tuberculosis. (4) That the clinical picture and the pathological changes found in these cases are those met with in so-called "posterior basal meningitis." (5) That in all probability "posterior basal meningitis" is simply a sporadic manifestation of cerebro-spinal meningitis and is produced by the same micro-organism—namely, the diplococcus intracellularis meningitidis.

Blue Urine.—By J. Good. The patient was a man aged forty-three years, who presented a train of symptoms which the author referred to duodenal indigestion. The urine was of a peacock-blue color with a specific gravity of 1.010, contained no albumin or sugar, but turned a rose color when boiled with hydrochloric acid. Under saline aperients, bitter tonics, and sodium salicylate the patient made a good recovery. The author thus explains the color found in this particular specimen: Trypsin in the small intestine breaks up proteid into peptone, peptone into leucin and tyrosin, and further into indol, phenol, and other bodies. Indol by the putrefactive action of bacillus coli in the intestine forms indican—*i.e.*, potassium indoxyl sulphate. When urine boiled with hydrochloric acid gives a pink color it indicates that indican is present in excess. Indican turns indigo blue by oxidation.

French Journals.

Ought the Starches to be Eliminated from the Nourishment of Very Young Children?—Borde, although admitting that mother's milk ought normally to form the nourishment of the infant, still, when this is impossible to procure, believes that aqueous solutions of starches should be combined with cow's milk for feeding. These decoctions are soothing to the intestine. They are also nutritious. In the starches he includes the starch of the potato, tapioca, starch of wheat, arrow-root, etc., also the decoctions of rice, barley, oatmeal, etc. He emphasizes the advisability of making these decoctions with water, not believing in their efficacy when cooked with milk. But milk can be mixed with the prepared decoctions with benefit. He concludes that: Aqueous decoctions of starch are digested by very young infants; they do not irritate the

intestines, but exert a soothing influence, preventing the acute infectious gastro-enteritis of summer; they also aid in curing these affections by replacing advantageously cow's milk and even mother's milk during the acute stage of these maladies. These foods are very nutritious, preventing rachitis and chronic digestive troubles in the babe brought up on cow's milk; the best of these is oats coarsely ground, which contain, besides the starches, albumens and assimilable vegetable phosphates, very useful in the dietary of the child. These starches should first be cooked in water and the resulting product mixed with milk.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, April 28, 1901.

Anal Fissure and its Treatment.—Tillaux states that anal fissure is very common, extremely painful, and calls for intervention. The three classical symptoms are: The wound; contraction of the external and internal sphincter; pain. The writer adds that it has been demonstrated that forcible dilatation of the anus gives absolutely the same clinical results as incision, *i.e.*, it is followed by a complete cure, and this is immediate. It is probable that this comes about from an elongation of the nervous filaments, which is to-day considered a curative measure for neuralgias in general. The muscular fibres are not torn. The writer uses the index finger of each hand introduced successively into the anal orifice, and drawn back till they touch the ischium. This transverse dilatation is sufficient. All possible precautions should be taken to avoid untoward accidents. The patient lies on the side with one leg flexed, the other stretched out, so that the anus is exposed. When anæsthesia develops, the dilatation is accomplished at the first trial and not by successive slight dilatations. Chloroform overcomes the resistance of the sphincter.—*Le Bulletin Médical*, May 25, 1901.

Strangulation of Pelvic Tumors by Torsion of the Pedicle.—Léon Bérard concludes that strangulation of pelvic tumors by torsion of the pedicle demands operation in like manner with strangulated hernia. The abdominal method is preferable to the vaginal, for this alone permits the observation of the lesions above and their appropriate treatment. The third or fourth day is generally soon enough for operation. If a second tumor be discovered, it may also be removed or it may be left for a future operation, according to the gravity of the troubles it is causing, and according to the general conditions of resistance of the patient.—*Gazette des Hôpitaux Civils et Militaires*, May 11, 1901.

Lateral and Circular Suture of Veins.—G. Clermont declares that venous suture absolutely arrests hemorrhage, is not dangerous, and preserves the integrity of the vessel. The lateral and even the circular suture is not difficult for a surgeon accustomed to the delicate operations on the biliary channels, on the ureter, etc. The operation does not take much time: a few minutes for the lateral suture, a half-hour for the circular suture. Of course it is necessary to observe the principles of asepsis.—*La Presse Médicale*, May 18, 1901.

Sarcoma of the Vagina, of the Uterus, and of the Pelvis.—Piéchaud and Guyot report the case of a child aged twenty months, who two months previously had had an abundant metrorrhagia, after which there appeared at the vulva a red, smooth tumor, part of which became gangrenous and sloughed off. The tumor disappeared for a few days, then reappeared. On examination the child was found to have a tumor filling up the pelvic cavity. The child died without treatment.—*Journal de Médecine*, May 19, 1901.

Berliner klinische Wochenschrift, May 13 and 20, 1901.

Nervous Tachypnœa.—Reckzeh, in investigating eleven hundred and fifty-five cases of functional neuroses, found forty instances of tachypnœa and gives their histories in brief. In all of these the respiration rate exceeded forty to the minute, and all organic lesions that might have been responsible for the condition could be excluded. Fourteen of the patients were men and twenty-six women, the former being the victims of neurasthenia or traumatic neuroses and the latter, almost without exception, hysterical. As etiological factors, in general, the usual conditions causing the allied disorders were found. Heredity is important; in one case both parents and five brothers were affected in the same way as the patient. Other factors were fright, alcohol, psychic depression, and severe bodily injury, while disorders of the sexual sphere were recent in a large number of the cases. The nature of the dyspnœa, as well as the manner of its appearance, was very variable, occurring in some cases only rarely and under excitement, while in others it persisted almost constantly. The mechanism of the affection is not very apparent, though the theory of Landgraf ascribing it to hysterical contraction of the bronchi is hardly tenable, and the trouble seems to fall most naturally into the same group with the tachycardia and diarrhœa often found allied with it and representing external manifestations of the underlying hysteria or other neurosis. There is probably some central stimulation of the vagi, though whether peripheral agencies, such as impulses from the skin and genitals, are also concerned is impossible to say, and it is not unlikely that several factors come into play. The diagnosis is easy when organic lesions can be excluded and other evidences of neurosis are present; the prognosis in general is good. The treatment is partly symptomatic (morphine, bromides, sulfonal, cardiac sedatives, ice, antipyretics) and partly directed to the neurasthenia (valerian, hydrotherapy, electricity); oxygen inhalations are valueless.

The Oxalic Acid of the Organism.—Cipollina says that authorities are now agreed that the oxalic acid of the urine has a double source, originating both in the metabolic processes of the organism itself, and being absorbed and excreted from already existing amounts taken in with the food. In order to determine the relative importance of these two factors, as well as what particular organ is most concerned in the formation of the substance within the animal body, the author made a series of analyses of the more important viscera, and of a considerable number of the vegetable food products in common use. The figures obtained show that oxalic acid is present in small amounts in the organs of man and animals, the largest amount being found in the thymus gland, and of the organs of adult life in the spleen. The total amount in the whole body, although small, is still about ten times as large as the maximum quantity excreted by the kidneys. Vegetables containing appreciable amounts of the acid are, in order of strength: carrots, a variety of mushrooms, cauliflower, cabbage, cucumbers, green beans, turnip-cabbage, sorrel, and spinach. While attempts at accurately locating the source of the acid in the body are not very satisfactory, it is highly probable that the spleen, and perhaps also the liver and muscles, can elaborate this substance from uric acid by oxidation.

The Detection of Small Amounts of Free Fluid in the Abdominal Cavity through the Inguinal Canal.—Criegern describes a simple manœuvre which, he says, enables him to make out fluid in the abdomen in quantities too small to be distinctly palpable by the usual method. The patient stands while the examiner, seated before him, introduces the index finger as far as possible into the inguinal canal. Tapping the abdomen with the other hand in the presence of fluid produces a distinct fluid wave, which is easily distinguished from the vibration of distended gut or subcutaneous fat.

Münchener med. Wochenschrift, May 14 and 21, 1901.

The Different Forms of "Hereditary Degeneration" from Clinical and Biological Points of View.—Adler takes up various of the neuroses, such as periodical depression, agoraphobia, claustrophobia, folie du doute, delire du toucher, etc., and ascribes them to a diminished power of resistance to emotional stimuli. Degenerative disturbances of the association organ and projection system may give rise to functional, nutritive, and formative manifestations, all depending on insufficient reproductive power of the nervous system of the ancestry, which was incapable of fully equipping the association and projection systems with the necessary amount of nutritive, formative, and functional energy. If there is deficiency of the formative function, we have inadequate development of nerve parenchyma with structural defects ranging from complete absence of the cerebro-spinal axis or the entire nervous system to anomalies in separate nerve fibres, asymmetry, heterotopy of the gray matter, agenesia of portions of the brain or spinal tracts, etc. If it is the nutritive power that is at fault, there appear temporary or permanent losses of nutrition, such as relapsing psychoses or hebephrenia respectively. The premature decay of certain parts is also dependent on this defect, and results in such lesions as progressive muscular atrophy, hereditary ataxia, amyotrophic lateral sclerosis, progressive bulbar palsy, etc. Functional deficiencies show themselves in the neuroses, sexual perversion, ethical defects, migraine, epilepsy, hysteria, myasthenia, etc. The degenerative lesions of the association and projection systems may manifest themselves in the most varied combinations, which may affect the formative, functional, or nutritive qualities singly or in combination, and in one or both provinces, so that it seems that the nervous system as a whole derives its forces from one and the same source, and therefore represents an ontogenetic entity.

Reflection on the Prophylaxis of Venereal Diseases.—T. Marschalko, while himself an advocate of the system, believes that none of the methods of legalized control now in use greatly restricts the spread of venereal disease, while, on the other hand, the partisans of "abolition" are too sanguine in their expectations. The plan of systematic registry of fallen women is bound to be ineffectual, because, while the inmates of licensed establishments are

readily kept under observation and can be subjected to regular medical supervision, it is the clandestine prostitutes, who are ostensibly engaged in other occupations, and are therefore entirely out of reach of surveillance, who are the most prolific sources of infection. Owing to this and many other difficulties in the practical carrying out of such systems, the results which so far have been reached in this way in the case of syphilis are almost negligible, and for gonorrhœa are entirely so. The recent congress at Brussels has shown that there is at present no hope for improvement or radical change in the systems of legalized control, and in view of the prevalent tendencies it does not seem far-fetched to hazard the opinion that the abolitionists will soon succeed in entirely doing away with those already existing, and which as a matter of fact are more or less dead letters at the best. The most effectual method of meeting the problem seems to lie in the education of the public in the individual precautions to be taken to avoid infection, such, for example, as the instillations devised by Credé to be practised immediately after coitus, and which have been shown to be a reliable prophylactic against gonorrhœa.

The Inhalation of Atomized Liquids.—M. Saenger has made a series of experiments intended to show the behavior of solutions brought into contact with the respiratory organs by atomization. The author believes that the mere fact that larger or smaller quantities of such liquids are to be found in the lower air passages after inhalation is not proof of their penetration to those areas while still in the nebulous state, for a considerable portion of the inhaled cloud condenses on the posterior pharyngeal wall, whence it may reach the larynx and even deeper parts by dripping down, diffusion through the coating of mucous secretion, and by imperfect attempts at swallowing made during the course of the inhalation, as well as through the force of the inspired air, which is able to carry the condensed vapor into even the deepest regions of the respiratory tree. While it is not to be denied that small amounts of the inhalation may penetrate to the larynx, trachea, and perhaps the coarser bronchi in an unaltered state, such quantities are too minute to have any therapeutic value, and that any of the medicament should still be in atomized form when it reaches the smaller and smallest bronchi seems wholly impossible.

An Observation on the Virulence of the Contagium of Scarlatina.—F. Schmidt emphasizes the necessity for prolonged isolation after this disease, and illustrates his theme by the citation of a case in which the infection was transmitted after a lapse of eleven weeks. The patient was a primipara, who passed through an uncomplicated labor and then was placed in a bed which had previously been slept in by her husband. A day later she developed prodromata, which speedily revealed themselves as the forerunners of a scarlatinal infection of unusual severity with delirium, weak heart (pulse 160), and Cheyne-Stokes respiration. As soon as the nature of the case was evident, inquiry revealed the fact that the husband nearly three months previously had been treated for a light infection of the same nature while on military service, and that his skin was still actively desquamating. Other sources of infection could be excluded, and the patient made a good recovery in spite of the gravity of the case.

A Case of Noma with Extensive Thrush Infection in Advanced Age.—Zusch describes this case, which was that of a man aged sixty-six years, suffering from senile dementia with increasing cachexia. The first sign of trouble was a moderate swelling of the cheek, soon followed by the beginning of the thrush formation. A necrotic area developed in the centre of the fungous patch, and in spite of active antiseptic treatment the breaking down advanced rapidly, perforated the cheek, and caused the whole side of the mouth to slough away. At the autopsy very advanced arteriosclerosis was found with multiple aneurisms, while the muguet growth was seen to have invaded pharynx, œsophagus, epiglottis, larynx, and trachea.

How Should the Stump be Shaped that is Left Behind after Thyroid Operations?—E. Mensel refers to the poor cosmetic results often following goitre operations, which, while they may relieve the important symptoms, still frequently leave the patient dissatisfied with the appearance of her neck. In trimming the stump into shape it is better to do so by horizontal cuts, to leave the anterior surface uncovered by capsule, and to make it broad and flat. By the use of these precautions and with Kocher's skin incision the results are always satisfactory, and secondary plastic operations are not needed.

Deutsche med. Wochenschrift, May 23, 1901.

Pulsating Pleurisy.—J. Kullman says that in most instances when pleuritic exudate has given rise to diffuse pulsation the fluid has been purulent, and then describes a case in which clear serum was found. The patient was a man aged forty years, from whose left chest over three pints of fluid had been removed two weeks before he came under observation. At this time there was slight dyspnœa; the lower portion of the thorax on the left side was very prominent, and the intercostal spaces were obliterated. The left chest was the seat of a vigorous pulsation synchronous with the apex beat, but exceeding it in force, while in the third right intercostal space there was a much weaker impulse. The pulsation extended from the second interspace anteriorly, and the angle of the scapula behind to three fingers' breadths below the free costal margin; percussion and auscultation gave typical signs of fluid. On aspiration more than three quarts of serum were obtained, after which the signs disappeared and the patient made a rapid recovery. The phenomenon appears to have depended on great tension of the fluid with strong heart action, with the result that there was relaxation of the intercostal spaces either depending on the overdistention or due to inflammatory changes. The compressed lung acted as a favorable medium for the transmission of the heart's impulse, while the pulsation of the right of the sternum was probably due to the displacement of the whole mediastinum.

Further Contributions on the Germ of Vaccinia and Variola.—M. Funck, in a preliminary report, says that the organism of variola is more easily studied than that of vaccinia, and that it seems to multiply *in vitro* more readily than the allied form. The same three types have been found in, and the spores cultivated from, variola pustules as in vaccinia. These are (1) spores, consisting of rounded bodies 2 to 4 μ in diameter, which do not stain either with osmic acid or Soudan. (2) Intracellular forms which are more or less elongated, egg-shaped cells, easily distinguished from those of the sebaceous glands by the Soudan reaction, and which probably represent epithelial cells that have been invaded by the parasite. (3) The third form is a rounded cyst found in most of the lymphs examined, its diameter is from 15 to 20 μ; it does not stain with Soudan or osmic acid and contains a variable number of spores.

Therapeutic Monthly, May, 1901.

Atropine as a Physiological Antidote in Morphine Poisoning.—Edward T. Reichert, from a long series of experiments, concludes that atropine may be of value as antidote in morphine poisoning, but only before the third stage, and then only when given in small or moderate doses. Even here its usefulness is practically limited to a possible excitation of the respiratory movements and a stimulation of the circulation, both of which, however, may be fully compensated for in its pernicious effects, chiefly upon general metabolism. Given in large doses, during the second stage, or in moderate to large doses during the third stage, it almost without exception does harm by intensifying the morphine condition, prolonging or shortening but intensifying the second stage, or shortening the third stage and hastening the fatal issue. If the second stage is shortened, it is owing to the earlier development of the third stage of the poisoning. A dose of morphine that is not lethal may be made so by the synergistic action of a sublethal dose of atropine.

Carbolic Acid as an Internal Remedy.—S. Henry Dessau considers this an entirely safe remedy when used judiciously, in free dilution, the dose graduated to the age of the patient. It is the rational remedy for the treatment of germ diseases. Its internal administration in solution by way of the stomach is safer than in the form of enema or as a local application. There are no reactionary manifestations nor cumulative effects. It gives good, speedy, and permanent results even under the most unfavorable conditions, and is a remedy which has been too long neglected.

Archives of Pediatrics, June, 1901.

A Report of Two Cases of Cancrum Oris.—William Seaman Bainbridge reports the case of two patients at Randall's Island. In the first, half of the body of the upper jaw on either side was removed, the under surface of the lip was curetted and the denuded areas were cauterized with pure nitric acid. The after-treatment consisted of douching with peroxide of hydrogen followed by a saturated solution of boric acid. Fluid diet, strychnine, and whiskey were given. A second operation was necessary, but in spite of it the gangrene spread and the child died. In the second case the disease was treated at an earlier period; the intermaxillary bone with its teeth was removed and the superior maxilla on both sides gnawed away by a rongeur. The child is seemingly perfectly well. The upper jaw is largely filled in, the only evidence of any previous trouble being the absence of upper teeth.

Duhring's Disease in Childhood.—William S. Gottheil reports two cases of this disease, which looks like an eczema

at first, in the itching, multiformity, and primary lesions. But the pruritus is excessive, the malady very chronic and obstinate. The usual treatment for eczema is entirely unavailing to prevent recurrence of attacks. All treatment, indeed, is unsatisfactory, and the author now restricts himself to general tonic and hygienic measures, and believes that change of air and scene is more efficacious than any drug. Locally, any of the bland or cooling salves, or ichthyol in five- or ten-per-cent. solution or ointment may be employed.

Abscess of the Ethmoid and Antrum of Highmore.—J. Morrison Ray reports a case. He operated, taking away a large portion of the front wall of the superior maxilla, and entering a cavity which involved both the ethmoid and the antrum of Highmore. The child has improved rapidly.

The Practitioner, May, 1901.

The Ovary as an Organ of Internal Secretion.—By W. E. Dixon. From a study of the anatomy of girls in savage tribes, where double ovariotomy is often done before the arrival of the age of puberty, the effects of ovarian growth and development are at once suggested. The girl takes on the masculine rather than the feminine adult type. The ovaries appear to have a distinct relation to the mammæ. Lactation may occur at full-term gestation after ovariotomy; so, also, gestation may occur after removal of the mammæ. There appears to be no doubt that metabolic changes do not occur in an animal unless the ovaries have been completely removed, or, in other words, there is no difference (physiologically) between an animal with only half an ovary and one with two ovaries; and if one is removed the other undergoes a compensatory hypertrophy, as in the case of certain other organs, such as the kidney. From the clinical evidence three points seem to be clearly demonstrated: first, that the presence in the body of ovarian tissue, however small in amount, is sufficient to prevent the distressing symptoms which frequently arise after complete double ovariotomy. It does not appear to matter in what position in the body the portion of ovary remains, and even a transplanted ovary is sufficient to prevent the untoward consequences. Secondly, the administration of ovarian tissue by the mouth exerts a beneficial effect in patients in whom menstruation has ceased in consequence of disease or complete ovariotomy, and many physicians advocate its use during the menopause. Thirdly, ovariotomy has a distinct effect on metabolism, as shown by the diminution in gaseous metabolism, the increase in body weight due to deposition of subcutaneous fat, and the diminished excretion of P_2O_5 in the urine. In conclusion, it may be asserted that the ovaries exert a decided influence over the organism as a whole, and all evidence is strongly in favor of the theory that this influence is the result of an internal secretion which favors katabolic changes.

Composition and Action of Orchitic Extract.—By W. E. Dixon. Extract of testis made with distilled water is alkaline; it contains a large percentage of proteid, which is almost entirely nucleo-proteid. This may be precipitated by acetic acid, and if the precipitate is filtered and dissolved in a solution of Na_2CO_3 its action can be separately determined. Frequent precipitation and solution, however, alter its chemical composition and render it inactive, while even a single precipitation and solution profoundly modify its action. After precipitation with acetic acid only a trace of proteid remains. Orchitic extract also contains a number of extractives, among which is spermin; but others in equal quantity, and probably at least as important, are present. Other substances which can be readily detected are lecithin and cholesterin. Inorganic salts are found in the ash in considerable quantity—about 7.5 per cent. of dried ram's testis; they consist of chlorides, sulphates, and phosphates of sodium and potassium; a little calcium is also present. Alcoholic extracts of the testis, watery extracts which have been boiled and filtered, and spermin produce identical results when injected into animals. All these bodies when injected into the circulation produce a fall of blood pressure with slight cardiac slowing, followed by a rapid recovery. This effect is largely cardiac, due to stimulation of the peripheral ends of the vagus in the heart, and if these have been previously paralyzed by an injection of atropine the fall of pressure is not produced. Another and very important effect of these substances is the vasodilatation to which they give rise: This is especially well seen in the splanchnic vessels, but the limb and other vessels also show the effect. The action is still produced when administration is by the stomach, and in this case an increase in the "volume pulse" is usually recorded in about ten minutes. All this group of bodies stimulate involuntary muscles and slightly increase peristalsis.

The Therapeutic Value of Suprarenal Preparation in Addison's Disease.—By C. R. Box. Six cases were treated. Results were, on the whole, disappointing. The diagnosis of the malady in question is generally made late in the disease, and it has sometimes proved impossible, on account of constant vomiting, to administer the suprarenal substance by the mouth, and rectal feeding or subcutaneous injection has been resorted to. The results of the author's experience in the group of cases lead him to conclude that: (1) The active substance has not been properly administered; or, (2) the requisite material is not present in the suprarenal bodies as at present prepared for administration; or, (3) the lack of a certain internal secretion is not the sole or predominant factor in Addison's disease.

Bull. of Johns Hopkins Hosp., April, May, June, 1901.

A Composite Study of the Axillary Artery in Man.—J. M. Hitzrot concludes that, while the origin of the subdivisions of the axillary artery varies, the distribution is practically constant. The type most constantly found differs from the text-book descriptions by the absence of the long thoracic artery. The branches in this type can be conveniently arranged as follows:

- Part I.
  - 1. Superior thoracic.
    - 1. Thoracic branch.
    - 2. Acromic-humeral branch.
    - 3. Clavicular.
  - 2. Acromic-thoracic.
- Part II.—No branches.
- Part III.
  - 1. Subscapular.
    - 1. Dorsal scapular,
    - 2. Muscular branches.
    - 3. Anterior.
    - 4. Posterior.
  - 2. Anterior circumflex.
    - Ascending branch.
    - Anastomatic.
  - 3. Posterior circumflex.
    - Muscular.
    - Anastomatic.
  - 4. Muscular branches.
    - Coraco-brachialis.
    - Biceps.

The long thoracic artery and alar thoracic arteries are most frequently absent, and their areas of distribution are supplied by the adjacent branches from the main artery.

Retrojection of Bile into the Pancreas, a Cause of Acute Hemorrhagic Pancreatitis.—W. S. Halsted reports the case of a man aged forty-eight years, who had been subject to attacks of "indigestion," attended by pain in the epigastrium and a feeling of distention, for several years. At the time the writer saw him he was walking about the room excited and nervous and his teeth chattering; he seemed to be in great pain. His pulse was full and regular—92 the first count and 87 the second. He could not keep quiet. He was sensitive to pressure over the epigastrium, the point of greatest tenderness being a little above and to the right of the umbilicus. He was somewhat cyanosed. The print of the examinating fingers could be seen on the abdominal wall. He was thought to be suffering from gall stones. He was operated on the next morning and died within twenty-three hours. When the abdomen was opened through the middle line blood-stained fluid escaped and the omentum showed many fat necroses. The omental bursa was opened; the entire region of the pancreas could be palpated. The tissues over this organ were slightly infiltrated with blood-stained serum, but no tumor mass was made out. The common bile duct was distended to the thickness of an index finger, but no stone in the diverticulum could be felt. At autopsy, after careful search and probing of the papilla, the presence of a minute stone was determined.

Remarkable Cases of Hereditary Ankylosee, or Absence of Various Phalangeal Joints, with Defects of the Little and Ring Fingers.—George Walker speaks of several of these cases. The first was that of a child in whom there was a lateral fusion of the first and second metacarpal bones of the feet. This was not supposed to be hereditary until the grandmother, upon examining her own foot, to show where the defect had occurred in the child, found her own bones in exactly the same condition. She was seventy years old. The second case was in a young girl who had a partial stiffening in the metacarpo-phalangeal articulation of the thumb; this was ligamentous and not bony, and permitted a certain amount of motion, probably about one-half that of normal. The defect had occurred in one brother, one uncle, her father, and her grandfather. All of them were defective in the same joint, and had about the same amount of motion. In another case, that of a man aged fifty-two years, the thumb and index finger were normal, but there was entire bony ankylosis of the second metacarpal joints of the ring and middle fingers. The little finger presented only two phalanges. This defect occurred in various members of his family.

Note on the Basement Membranes of the Tubules of the Kidney.—Franklin P. Mall macerated frozen sections of the rabbit's kidney in a cold saturated solution of bicarbonate of sodium for a number of days, after which most of the cells were converted into a slimy mass. Shaking the section vigorously in water cleared the framework, which was spread upon a slide and examined. If most of the cell remnants had been removed, the section was dried upon

the slide, stained with acid fuchsin, differentiated with picric acid, and mounted in balsam. The basement membranes were partly filled with the remnants of epithelial cells, the interstitial reticulated connective tissue, and the blood-vessels. The membranes are not elastic, as they do not take on Weigert's elastic-tissue stain, while the elastic-tissue fibres do. Mallory's connective-tissue stain stains the reticulum but not the membranes. So far, the basement membranes have given reactions much like the membranes of elastic fibres, but whether they are identical the writer has been unable to determine.

The Etiology of Acute Hemorrhagic Pancreatitis.—Eugene L. Opie concludes that: (1) A small gall stone impacted in the diverticulum of Vater may occlude the common orifice of the bile duct and duct of Wirsung and convert them into a continuous closed channel. Bile enters the pancreas by way of the pancreatic duct, and the pancreas becomes the seat of inflammatory changes characterized by necrosis of the parenchymatous cells, hemorrhage, and the accumulation of inflammatory products. Anatomical peculiarities of the diverticulum of Vater do not permit this sequence of events in all individuals. (2) Injection of bile into the pancreatic duct of dogs causes a necrotizing hemorrhagic inflammation of the pancreas resembling the human lesion, and like it accompanied by fat necrosis. Necrosis of the parenchymatous cells and hemorrhage represent the primary action of the bile; an inflammatory reaction rapidly follows. (3) The frequent association of cholelithiasis with hemorrhagic and gangrenous pancreatitis is the result of impaction of gall stones in the orifice of the diverticulum of Vater and penetration of bile into the pancreas.

Normal Menstruation and Some of the Factors Modifying it.—Clelia Duel Mosher states that a rhythmical variation of blood pressure, at definite intervals, occurs in both men and women. The fall in pressure in women occurs near or at the menstrual period. In every case that has been observed the fall of blood-pressure was gradual from the mean average pressure. The variations in blood pressure are not peculiar to either sex. The sense of maximum efficiency of the individual corresponds to the time when the pressure is high and *vice versa*. Much of the so-called menstrual suffering is not dysmenorrhœa but simply coincident functional disturbances in other organs, induced, possibly, by the favoring conditions of a lowered general blood pressure occurring near or at the time of menstruation.

On the Occurrence of Tails in Man, with a Description of the Case Reported by Dr. Watson.—Ross Granville Harrison reports Watson's case. The patient was a healthy, well-developed male, the third child. The tail appendage was attached in the mid-line about 1 cm. below the tip of the coccyx. There was a well-marked foveola coccygea. The appendage was firm, though it contained no bone. It was covered with normal skin, containing fine hairs, and was apparently well vascularized. There were three distinct segments. Two weeks after birth, the tail was 4.4 cm. long. At six months, when it was removed, it measured 7 cm. It was very movable. When the child was irritated and cried or coughed, the tail would contract markedly.

Annals of Surgery, June, 1901.

A Loop Around the Hyoid Bone as an Aid in Narcosis during Certain Operations on the Lower Jaw and in the Mouth and in After-Treatment.—After resection of one-half of the lower jaw, C. Fenger allows a loop of silver wire or silk, passed through the anterior portion of the divided bone, to remain, the ends being brought out through the dressing, so that the nurse or patient might pull on it if dyspnœa should arise. This precaution is sufficient only when the muscles extending from the hyoid bone to the maxilla are intact on one side, and if it can be seen during the operation that the entrance to the larynx is made free by traction on the end of the bone left. In case of removal of the floor of the mouth for malignant tumors, when all the muscles from the body of the inferior maxilla backward to the tongue and hyoid bone are removed, the tongue and larynx with the epiglottis have necessarily lost their attachment to the maxilla, and will sink backward against the posterior wall of the pharynx, causing occlusion of the entrance to the larynx and strangulation, especially during sleep. During narcosis, this difficulty is obviated to a great extent if the tongue can be pulled out of the mouth in a longitudinal direction. This cannot be accomplished when the jaws are closed and fixed, so that the mouth cannot be opened nor access gained to the tongue, as in operations for osseous ankylosis of the jaw. It is impossible for the assistant who gives the anæsthetic to hold a sharp hook around the hyoid bone for a long time, possibly for hours, while he can manage a loop of silk passed around the hyoid bone just as easily as a loop passed through the tongue. Moreover, it is impossible to keep the pharynx perfectly free from frothy mucus. If one-half of the entrance to the larynx be obstructed, the inferior half lying against the wall of the pharynx, there is no space for the mucus, and therefore it must be aspirated down into the larynx, and the air must pass through it and tend to bring it down. On the other hand, if the larynx is perfectly free, and if there is more room behind it than is actually necessary, there will be less aspiration of mucus, and possibly less bronchitis or broncho-pneumonia, following the operation.

The Operative Treatment of Cirrhosis of the Liver.—C. H. Frazier reports one successful case, making the fourteenth thus far recorded. Excluding those in which there was some error of technique, those in which there was an error in diagnosis, and those in which the operation was contraindicated, but eight cases remain. Of these patients none died (mortality, 0 per cent.), one was living and unimproved (12.5 per cent.), one living and improved (12.5 per cent.), and six were living and free from ascites at periods of three, four, six, twenty-four, and twenty-six months respectively (75 per cent.). Frazier believes that the operation has a future under the following conditions: (1) Cases in which the liver is cirrhotic; (2) those in which there is reason to believe the liver-cells are not devoid of function; (3) those in which internal medication (particularly iodide of potassium) and paracentesis fail to afford relief, or, in other words, in utterly hopeless cases, and (4) those in which there is no reasonable contraindication.

Angina Ludovici.—G. C. Ross reports two cases, both of which resulted in recovery. He believes that some cases of Ludwig's angina are essentially erysipelatous in character, and that in the wards of a general hospital they should be isolated.

American Journal of the Medical Sciences, June, 1901.

Chronic Myocarditis and Fatty Degeneration of the Heart.—Beverley Robinson states that clinically these two expressions of cardiac degeneration are frequently most difficult to differentiate accurately. It is almost impossible prior to death and direct examination of the heart to state positively just what shall be found, so far as the precise changes or the limitations of the morbid involvement of the coronary arteries and heart muscle are concerned. In old valvular troubles of the heart, whether they be of the nature of stenosis or regurgitation, in chronic pericarditis in which the adhesions are tough and fibrous, in an advanced condition of hypertrophy of the heart, with probably much cardiac dilatation, fatty degeneration is almost surely going to occur at a given time, provided the patient's life is sufficiently prolonged. If there be chronic myocarditis present, which occasionally occurs, the heart muscle is hard and resistant in spots and very often diminished in thickness where this exists, owing to the deposit of fibrous tissue which has practically caused many muscular fibres to atrophy, degenerate, or almost or completely to disappear. In those corpulent people who have accumulated flesh continuously, slowly, and in large amount, the heart is no exception to the great number of viscera which become more or less involved. All acute diseases in these obese persons are of moment, and what would be a relatively simple affair with a thin person or one with only moderate or healthful embonpoint is apt to take on a certain degree of gravity. In the young, the results are not apt to compare in gravity with those occurring in older patients. In women near the climacteric, especially, and in men near or past middle life, too much care cannot be taken, and the most judicious medical counsel must be given. In young girls, particularly, obesity is apt to follow acute disease like scarlet fever or typhoid, and to be allied with chlorosis. In no condition is the development of fatty degeneration more dreaded than in that of chronic alcoholism. Many cases of sudden death are attributed to so-called heart failure, which means nothing tangible or obvious, but which should mean fatty cardiac degeneration. In the senile heart, especially among those persons who have led a moderately careful and regular life, we are more inclined to diagnose fibrous changes than fatty ones if the heart begins to show decided weakness, irregularity, and intermittences. The writer has occasionally observed syphilitic gummata of the liver, and in connection therewith there have been fatty and fibroid changes. There is a natural growth and natural decay, and these fibroid changes in the heart and vascular circulation are to be wisely regarded as nature's showing in due season. Symptoms should be treated as they arise. Whenever the heart is notably affected with fibroid changes the muscle there becomes tougher and more resistant, besides showing thinning of the heart wall in places. In chronic fatty degeneration, especially if advanced, the color of the muscle is notably pale and yellow in places. There may be an overgrowth of pigment granules.

Cancer Distribution and Statistics in Buffalo for the Period 1880–1899, with Special Reference to the Parasitic Theory.—Irving Phillips Lyon summarizes the principal facts and

results of his study as follows: (1) The house distribution of cancer on the map shows an area of marked concentration in the German wards. No other relation than that of race can be determined to exist between this area of concentration and local conditions. (2) The race table shows that cancer is many times more frequent among the foreign-born, and particularly the Germans, than the native-born. The latter fact is also verified by the United States census for twenty-eight large cities. (3) The Germans (and Poles) were further specially distinguished from other classes by the high rate (43.8 per cent.) of involvement of the stomach, 2.08 times the rate (twenty-one per cent.) shown by the native-born. Such high figures seem hard to explain on the embryonic theory, and tend to support the parasitic theory of cancer by supposing that the peculiar diet of the Germans is more liable to contamination with the parasite of cancer than the more ordinary diet of other classes. Cancer of the uterus and breast in Germans (and Poles) was correspondingly low. (4) The ratio of males to females, the latter taken as 100, was 93 for Germans (and Poles) and from 51 (native-born) to 61 (all Europeans except Germans and Poles) for all other races and classes. The high German male rate is probably directly dependent upon the high rate of cancer of the stomach (especially in males), and the low rate of cancer of the uterus and breast (females) found to characterize the German as opposed to other races. For all classes the ratio of males to females was found to have risen during the twenty years covered by the investigation. This rise was very slight for the native-born. (5) An increase in the general cancer rate from thirty-two to fifty-three per one hundred thousand of population (sixty-five per cent.) took place from 1880 to 1899. A similar increase has been shown in all countries. This increase is partly real and not entirely apparent. The rate of increase is shown to depend, in part at least, upon changes in the proportion of the foreign-born, because the cancer rate in the foreign-born is so much higher than in the native-born.

Heart and Circulation in the Feeble-Minded.—John Madison Taylor and F. Savary Pearce, from a detailed study of the circulation of seventy-two cases of feeble-minded children at the Elwyn School, have found a great number of varied cardio-vascular signs, and these out of proportion to the mental defect—so much so as to warrant assuming organic vascular heart disease to be a large etiological factor in continuing the downward course of imbeciles. They urge careful anthropometric studies and observations in detail of somatic disease other than that of the nervous system in cases of mental enfeeblement. There is no doubt that many of the high-grade cases can be bettered much more by attention being paid to therapeusis of the cardiovascular disorders of imbeciles, also of the insane. The laboratory studies of the blood and excreta will also furnish valuable data. The proper use of especially directed regulated movements will greatly help these afflicted beings. The mentality will be improved with the uplifting of the physical being. Overexercise should be carefully avoided. America undoubtedly leads in the practical application of these scientific truths which are being formulated for the proper care of the dependent classes.

Dublin Journal of Medical Sciences, April, 1901.

Stenosis of the Tricuspid, Mitral, and Aortic Orifices.—By Sir G. Duffey. One case is reported, the patient being a man aged thirty-two years. Autopsy findings are recorded in full. The special interest in the case centres about the tricuspid narrowing, the condition being diagnosticated during life. From a study of the various reported cases of this condition Duffey shows (1) that tricuspid stenosis is almost invariably associated with mitral stenosis; and that the constriction of the latter orifice is generally greater than that of the tricuspid opening. (2) That in the larger proportion of these cases (say twenty-five per cent.) of tricuspid and mitral stenosis there is also marked contraction of the aortic orifice. (3) That in at least fifty per cent. of the collected cases of tricuspid and mitral stenosis there is an antecedent history of rheumatism of some form or other; and that the stenosis is most frequently the result of an endocarditis of rheumatic origin, and probably never congenital. He also alludes to the fact that the autopsy records of Guy's Hospital show eighty-seven fatal cases of tricuspid stenosis out of twelve thousand autopsies during a period of twenty-six years.

The Edinburgh Medical Journal, May, 1901.

Medicine and Surgery in the Arctic Circle—James Laing says that although there are no diseases peculiar to the Arctic circle, scurvy, snow-blindness, snow-shoe sickness, and frost-bite are usually associated with Arctic explorations and hunting expeditions. In 1898 there were twenty-two cases of scurvy with six deaths on the Rat River, due probably to lack of exercise, imperfect cooking, and lack of cleanliness with cooking-utensils. Snow-shoe sickness consists of a teno-synovitis of the tendo Achillis, and more rarely of the tendons on the front of the leg. Rest, elevation, hot fomentations, and massage are the only remedies of any use. Snow-blindness is seen in the spring. Smoked glasses are useful. There were many cases of frost-bite, mostly superficial, but in some cases necessitating amputation of fingers and toes. The healing of wounds among the whites in the north is very unsatisfactory. Among the Indians the results are better. Tuberculous disease is prevalent among the Loucheux Indians, and even more among the half-breeds.

Note on the Cremasteric Reflex in Sciatica.—G. A. Gibson states that a remarkable exaggeration of the cremasteric reflex has shown itself in every case of sciatica that has recently been under his notice. It can be elicited in the ordinary way by gently stroking the skin on the inner side of the thigh, but is much more easily produced by firm pressure over the lower and inner portion of Scarpa's triangle, whose sensory nerve supply is derived from the internal cutaneous branch of the anterior crural nerve. The extent of the cremasteric reflex is greatest when the knee jerk is most exaggerated, yet it is found in cases which do not manifest much increase in the knee jerk. Anatomically, the cremasteric centre and the knee centre are situated above the connections of the sciatic nerve; it therefore seems probable that in sciatica the segments of the cord at and below these sciatic connections have but little tendency to exaggeration, while those above are in a condition of exaltation.

A New Treatment for Inoperable Cancer of the Breast.—By Cecil H. Leaf. In cases of ulcerating scirrhus adherent to the pectoral muscle, with enlarged axillary glands, and in cases of recurrent cancer after operation, his principle is to prevent dissemination, if it can be done. After much thought on the subject, he has concluded that suction action would best accomplish the purpose. He has had constructed a large vulcanite shield, which is made to fit accurately on the skin round the scirrhus, or the "recurrent nodules," as the case may be. As large a surface as possible is enclosed within its area. He describes the apparatus, which as long as it is in action it is hoped will constantly restrain the noxious agent from passing to the deeper lymphatics. Very little pain is caused. Absolute rest for the arm of the affected side must be insisted on. Four cases are reported in which the apparatus has been very successfully applied.

The Scottish Medical and Surgical Journal, May, 1901.

Myasthenia Gravis.—Edwin Bramwell describes a case of this disease, the most prominent symptom of which is the facility with which the muscles become fatigued by voluntary effort. A voluntary movement, which is at first perfectly carried out, becomes rapidly feebler each time it is repeated; finally, if persisted in, all power of performing the movement may be temporarily lost. A variable degree of persistent paresis is often present in the affected muscles. The rapidity with which the muscles become fatigued by the faradic current is especially characteristic of this disease; the term myasthenic reaction has been given to this condition. The disease is probably due to a toxin of endogenous origin, and the seat of the lesion in the motor nervous system, probably in the lower motor neuron. Some cases improve, but the disease is often fatal. No specific treatment is known, but the author suggests a number of palliative measures.

Diseases of the Nails Recurring with Each Pregnancy.—W. E. Foggie reports the case of a woman who in each of her seven pregnancies, except the first, has had a nail affection. It begins in about the fifth month with a sudden aching, hot, and painful feeling at the ends of the fingers and thumbs. The nails then begin to separate at their free margins and sides, and to be raised up from their beds by a scaly accumulation. Later the brittle nails were almost entirely broken off, leaving the nail beds completely exposed except for a small margin of healthy nail beginning to emerge from the nail fold. Treatment consisted in local use of tar ointment, and later of resorcin in rectified spirit, with the internal administration of arsenic and strychnine. The author considers the case to be an example of psoriasis of the nail bed.

The Sphygmographic Appearances of the Pulse in Infancy.—H. Oliphant Nicholson holds that the sphygmogram of the new-born infant's pulse is not the simple type of curve described by Ozanam, Keating, and Edwards. It shows a distinct percussion wave which forms a pointed summit to the curve, and the usual secondary waves are quite recognizable. It reveals all the characters of a relatively high-tension pulse. Dicrotism is as fully represented at birth as it is in any high-tension pulse. The summit of the pulse curves becomes more pointed, and the secondary waves are accentuated during the first year of life, but the pulse still remains of moderately high tension. Pyrexia in children under a year old rarely produces dicrotism or hyperdicrotism of the pulse.

The Food Requirement of Varying Labor.—James Cranford Dunlop concludes that an average man at light labor requires a diet of 3,100 calories; that if the labor is more than light he requires more food; that the increments to meet the wants of moderate labor may amount to about twenty per cent., and those for severe labor perhaps to fifty per cent. of the light-labor diet. Accepting these figures as correct, we are still unable to adjust a diet to meet the requirements of moderate or severe labor from standards, because we are unable to estimate with even approximate accuracy the severity of labor tasks.

Zeitschrift für klinische Medicin, vol. xlii., Nos. 5 and 6.

The Effect of Variations in Diet on the Secretion of Hydrochloric Acid and the Osmotic Tension of the Normal Human Stomach.—T. Justesen gives the following picture of gastric digestion. A meal whose insoluble carbohydrates have already undergone considerable change through the agency of the salivary ferments reaches the stomach, and immediately a solution of many readily soluble substances takes place and the gastric contents are converted into a more or less "gastro-hypertonic" mass. At once water and hydrochloric acid are secreted, and through osmotic currents various dissolved bodies, such as peptone, sugar, and alcohol, are absorbed. The hydrochloric acid, leaving the ferments out of account, is at once taken up in combination by those organic substances, particularly the albumens, which act as free organic bases. Later on the hydrochloric acid attacks the salts of the weaker organic acids and the carbonates, combines with their bases and converts them into hydrochlorates, and not until then does any of it become manifest, and together with the sodium chloride diffused from the blood begin to equalize the chloride tension. At the same time the molecular concentration of the stomach contents is reduced considerably below that of the blood by the "vital dilution secretions" of the epithelial cells. Meanwhile, at stated intervals portions of the food mass are being carried out through the pylorus, and Hirsch has shown that it is principally the more fluid elements that pass out first, the solid matters remaining behind longest, while Verhaegen has demonstrated, by means of a special tube, that the stomach contents are always more liquid at the pylorus than at the fundus.

Contributions to Hippuric-Acid Metabolism in Man.—C. Lewin finds that on an ordinary light diet consisting of milk, meat, bread, and fresh vegetables the healthy adult excretes from 0.10 to 0.30 gm. of hippuric acid daily, the amount being markedly increased when grape sugar is added to the food. Augmenting the amount of albumin increases intestinal putrefaction with a consequent rise in hippuric-acid excretion. The administration of quinic acid raises the quantity excreted, while in many instances the uric acid undergoes a corresponding drop, a fact that tends to corroborate the theory of Weiss that a parallelism exists between the two. Under a nuclein diet, such as is afforded by thymus gland, a considerable rise in the hippuric-acid elimination takes place, which is probably to be explained on the ground of the increased intestinal putrefaction, for the administration of nucleinic acid is not accompanied by a similar change. Gout and diabetes are without effect in modifying the excretion of the substance, while in perityphlitis it is much increased. In febrile states, as well as in kidney affections, the hippuric acid excreted is never diminished, but rather is markedly increased.

The Bactericidal Power of the Bile.—S. Talma, as the result of a series of experiments conducted mainly by injecting various forms of bacteria into the gall bladders of rabbits, concludes that bile contains some constituent having a distinctly inhibiting effect on the growth of most colon, typhoid, and diphtheria bacilli. The susceptibility of various types of organisms to these substances is very variable, and the degree of virulence in the generally used sense is not a measure of infectiousness for the gall passages. The resisting-power of the bile is also an uncertain quantity, and at different times and in different animals varying grades of bactericidal power are exhibited. The number of the invading organisms is of great importance in determining their fate, and the epithelium of the gall passages and the liver cells themselves oppose powerful resistance to their penetration, especially in the case of the diphtheria bacillus.

The Steatolytic Ferment of the Stomach.—F. Volhard finds that the gastric juice contains a steatolytic ferment which possesses the property of splitting off fatty acids from emulsified fats. Like the pepsin, this ferment is produced principally in the fundus, and may also be extracted from the mucous membrane of this portion of the stomach by means of glycerin. It furthermore has the property of passing through clay filters, and is modified and finally destroyed in the presence of pepsin and hydrochloric acid. The well-known fact that fats cause the secretion of a gastric juice poor in pepsin and hydrochloric acid may perhaps find its explanation in this susceptibility of the new ferment, and a further argument is furnished in support of Pflüger's theory that all fats must be split up before absorption can take place.

The Etiology of Diabetes Mellitus.—A. Pollatschek doubts the prevailing impression that ascribes a racial predisposition to diabetes to the Jews, and in evidence cites the figures gained from his own experience. In a period of ten years in all 4,719 patients were treated, and of this number 2,381 were Christians, 2,333 Jews, and 5 Mohammedans. The diabetics numbered 653, and of these 289 were Christians and 364 of Semitic race, corresponding to 124 Christian diabetics per 1,000 and 155 Jews, a difference that hardly justifies the exaggerated ideas usually entertained.

Revue de Chirurgie, April 10, 1901.

Hæmothorax, Physiologically and Cytologically Considered.—Th. Tuffier and G. Milian hold that the increase in the exudation, which occurs about the fifteenth day, is not a continuation of the hemorrhage, but an exudation of serum, which can easily be proved by exploratory puncture. It does not therefore constitute an indication for operation. The accompanying fever is purely dynamic and not of microbial origin. The persistence of polynuclears in the exudate after the twenty-fifth day should cause suspicion of suppuration. The correct treatment of traumatic hæmothorax consists in capillary puncture toward the fifteenth day, at a time when dilution of the blood is appropriate, and when the pulmonary wound has so far healed that there is no danger of a fresh hemorrhage from the sudden relief of pressure on the lungs.

Primary Tuberculosis of the Parotid Gland.—P. Lecène reports the case of a tumor of the parotid gland, which was operated on and removed. The clinical symptoms and the macroscopic examination appeared to justify a diagnosis of mixed tumor, but a histological and bacteriological examination proved it to be a case of primary tuberculosis of the gland. Tuberculous affection of the salivary glands is very rare, but the author knows of nine cases. Total extirpation is unfortunately impossible, on account of injury to the facial nerve. Should the tumor be isolated, encapsulated, it can be enucleated, and its capsule cauterized or curetted.

Upsala Läkareförenings Förhandlingar, April, 1901.

Acute Peritonitis.—K. G. Lennander reiterates statements that he has already made concerning the sensibility of the peritoneum, viz., that it is the parietal layer only that contains pain-conducting fibres, while the visceral membrane may be handled with impunity. The abdominal organs also are not susceptible to painful stimuli, while even slight irritation of the parietal surface, such as that attending the introduction of laparotomy pads, is sufficient to produce severe suffering when operation is attempted under local anæsthesia. Even circulatory disturbances or a slight enteritis are sufficient to permit the escape of intestinal germs into the peritoneal lymphatics with a subsequent lymphangitis and possible peritonitis. The peritoneal inflammation is to be regarded as the reaction of the body to the infection. The greater the amount of fluid exudate the less the absorption and the greater the dilution of the toxins, but of greater importance is the early localization of the infected area by adhesions. In his operative technique the author introduces the innovation of making the incision through skin and aponeurosis under local anæsthesia aided by a hypodermic dose of morphine; the peritoneum is then opened under chloroform or ether and the necessary exploration performed, the anæsthetic being removed while a resection, intestinal suture, etc., is being done, and then resumed for the insertion of drainage and termination of the operation.

The Iodipin Reaction in Gastric Disease.—O. V. Peterson, in using this agent to test gastric motility, found that fuming nitric acid with chloroform gave the best reaction. Out of thirty-one persons, ranging in age from eleven to eighty-one years, and giving no gastric symptoms, it was found that in twenty-five the reaction appeared in twenty-five minutes, in eight in fifteen minutes, and in six between thirty and forty-five minutes. In a case of achylia gastrica the reaction appeared in fifteen minutes, in one of atony of the stomach in forty-five minutes, in the gastric crises of tabes in forty-five minutes, and in a case of ulcer only after one and a half hours. In eight cases of carcinoma the reaction was much delayed, not appearing till intervals of forty-five minutes to four and a half hours had elapsed. Control experiments with the stomach tube gave parallel results, the length of time required for the reaction to be obtainable corresponding closely to the degree of stenosis and retention.

Glioma of the Retina.—A. Petterson, on the basis of a histological examination of the tissues removed in three cases of this new growth, concludes that the theory of

Wintersteiner, that the tumor cells originate in the neuro-epithelial layer of the retina, is unnecessary, since it seems possible for the new cells to develop from the glia cells normally found in the ganglion cell and nerve-fibre layers in the manner formerly accepted as true.

Norsk Magazin for Laegevidenskaben, May, 1901.

A Case of Rupture of the Bladder.—J. Roll reports the case of a man who, while drunk, was pushed by a companion and fell heavily in the sitting position. Violent spasmodic abdominal pains followed, and he was brought to the hospital. Examination by palpation and by catheter failed to reveal a cause for the pains, the dysuria, etc., but a cystoscopic examination showed that there was a rupture about 3 cm. in length at the summit of the bladder. Laparotomy was performed and the wound sutured, and complete recovery followed.

Congenital Ichthyosis.—George A. Haus describes two cases of this affection. He believes it to be due to hereditary predisposition, and mentions its frequency in children of consanguineous marriages. He lays much stress on nervous taint, because of the close embryological relationship between the epidermis and the central nervous system.

Russki Arkhiv Patologii, etc., March and April, 1901.

Primary Epithelial Cancer of the Calices of the Kidney and Metaplasia of the Epithelium of the Mucosa of Calices, Pelvis, and Ureter.—D. P. Kichensky observed a rare case of cancer of the calices with a tendency to cornification and calcification. The right kidney and the liver were the seat of cancerous degeneration, and the diaphragm, peritoneum, and lymphatic ganglia were invaded. There was metastatic invasion of the lower part of the femur and of the knee joint. There was a rare form of degeneration of the mucosa of the urinary passages, consisting in a corneous degeneration of the epithelium of the mucosa, which appeared like epidermis, the subjacent layer having a singular growth of papillæ. In places the lumen of the urinary passages was blocked by cornefied masses. The walls of the calices, pelvis, and ureters beneath the mucosa were inflamed and infiltrated with round cells.

The Changes in the Cardiac Ganglia, the Heart Muscle, the Kidneys, and the Liver in Poisoning by Digitalis.—N. Klopotovski, from the result of experimentation on dogs, concludes that the changes in the cardiac ganglia consist in vacuolization and thinning of the protoplasm of the nerve cell, with shrinking of the cell body. At the same time there is chromatolysis of Nissl's corpuscles, with an accumulation of fat droplets in the protoplasm and retraction of the nucleus. In the heart muscle there is simply intense hyperæmia with beginning fragmentation of the myocardium, and the disappearance of transverse striation in many of the fibrillæ. The liver and kidneys are even less affected, but in cases of intense poisoning there is albuminous and fatty degeneration, with pronounced pigmentation in the liver.

Intra-uterine Injections in the Treatment of Diseases of the Uterus and Appendages.—F. Bukoemsky is decidedly in favor of this form of treatment, and uses a solution composed of equal parts of tincture of iodine and alcohol with five per cent of alumnol, 1 to 2 gm. of the fluid being injected daily. Forty treatments usually bring about a cure. The best results are obtained in cases of acute gonorrhœal endometritis, in parenchymatous salpingo-oöphoritis, and in acute perimetritis. Small uterine myomata have been reduced in size, and the pains and metrorrhagia overcome. Salpingo-oöphoritis with cystic degeneration is not benefited by this treatment.

Analysis of the Blood in a Patient Suffering from Hæmophilia.—W. Zavialoff found that the erythrocytes contained cytoglobin, a body which, according to M. A. Schmidt, is not found in the red cells of normal blood. This substance possesses the property of preventing coagulation. Now, during the destruction of erythrocytes, which occurs when there is bleeding, the cytoglobin dissolves in the plasma and prevents coagulation. The blood flows from the vessel unchecked by coagulation. This is the explanation of the difficulty experienced in stopping the hemorrhages in cases of hæmophilia.

Iron in the Liver of Normal Man.—P. Bielfeld concludes that the amount of iron contained in the hepatic cells of healthy man is variable, the average being 0.169 per cent. of the pure, dried, hepatic cells. In women the amount is even less. In old age it is apparently increased. From the age of twenty to twenty-five years the amount is the least.

A Case of Pseudoleukæmia of the Skin.—S. K. Kirkaroff describes the histological lesions in a somewhat rare case of pseudoleukæmia with cutaneous localization.

Revue de Médecine, May 10, 1901.

Intermittent Nervous Disorders due to Malaria.—M. Busquet reports the case of a soldier in the Military Hospital of Marseilles, who suffered from intermittent paralysis of both anal and vesical sphincters, and of the right leg, these symptoms appearing only with febrile attacks, disappearing when the attack was over, and finally yielding to quinine. Hysteria, syphilis, and other infectious diseases were excluded. Malaria was present, as shown by the clinical symptoms and by blood examinations. It was, therefore, natural to infer that the paralysis was of malarial origin.

An Epidemic of Zona.—Charles Dopter reports an epidemic of this affection, a study of which leads him to the conclusion that its epidemic character is the expression of an elective affinity, either natural or acquired, of a special virus toward some one metamen of the central nervous axis, whose nourishment it interferes with. This may occur simultaneously or successively in several organisms. The infection alone, and not the eruption, is epidemic. Zona is merely a symptom, and as such can be neither contagious nor epidemic.

Polymyositis.—R. Lépine reports the case of a man whose symptoms were: (1) Pains and inflammation limited to certain muscles (left temporal and muscles of the forearm); (2) increase in size of the spleen. These are the chief symptoms of a disease known since 1887, to which Unverricht gave the name of dermatomyositis. The author prefers the name hemorrhagic polymyositis, or, if a distinction be necessary from the suppurative form, suggests angiomyositis as being correct and descriptive.

Archives Générales de Médecine, May, 1901.

Cerebro-Spinal Meningitis due to Influenza.—E. Sacquépée and E. Peltier report nine cases observed in Rennes in 1900. The diagnosis was supported by the result of lumbar puncture. Four of the patients are living and in perfect health, one is still subject to cephalalgia and neuralgia, one has given no report. Three died. These results show that purely exudative meningitis may be completely cured; the purulent forms may be recovered from, or may leave some trace behind them. There is no specific treatment. The hypertoxic form defies all remedies. In the slower, more common cases, we may try injections of artificial serum, and administer antipyrin, sodium salicylate, or calomel internally. Lumbar puncture appears to be the most valuable form of intervention, and it is very probable that it acts by diminishing the pressure of the exudate, or by reducing the number of infectious microbes.

Il Policlinico, May, 1901.

A Contribution to the Study of the Dysarthria and the Myasthenia due to Malaria.—L. Panichi reports the cases of two men suffering from dysarthria. The first had great difficulty in enunciating the letters R, S, Z, Y, and pronounced words very slowly, separating syllables by pauses. The second could scarcely enunciate certain linguals and dentals, especially N, R, and S. In both cases the cause of the trouble was found to be malarial infection. A third case was one of myasthenia; the voluntary movements of the arms were very slowly performed, and in certain positions there was tremulousness of the fingers. The muscles of the legs were flaccid, and the left foot was the seat of a rhythmical shaking every now and then. Active motions were slow. If the patient was put in a standing position, he very soon bent his knees and then fell. Quinine treatment cured all three cases.

Variations in the Figured Elements of the Blood in Malarial Fevers.—A. Dionisi, from the result of researches, concludes that during the febrile attacks of æstivo-autumnal fever and for some hours thereafter there is a marked oscillation in the number of red corpuscles and in the amount of hæmoglobin. In the ordinary tertian and quartan fevers there is very little change. The alteration in number of the figured elements in the small blood-vessels of the skin and in the veins during the fever is in relation not only to the variations in the calibre of the vessels and to the concentration of the blood, but also to disturbances of the capillary circulation in the internal organs which are characteristic of grave fevers.

The Discoveries of Professor Grassi in Malaria.—Ronald Ross absolutely contradicts the following assertions of Grassi: (1) That he exhibited one of Grassi's preparations at a London medical meeting. (2) That he asserted that he had succeeded in infecting people by the drinking of water. (3) That he asserted that his gray mosquitos transmitted tertian fever. (4) That he did not complete the cultivation of the human parasites in India because he was not able to do it. B. Grassi replies at length and still holds to his former conviction.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT—MR. BALFOUR ON RESEARCH AND ENGLAND'S LACK OF IMAGINATION—THE COLLEGES AND THE COUNCIL—PATHOLOGICAL SOCIETY—INTESTINAL INTOXICATION—PHARYNGEAL POUCHES—POSTERIOR VAGINAL CŒLIOTOMY.

LONDON, May 24, 1901.

THE War Secretary has stated his intention to appoint a committee of experts to report on the Royal Army Medical Corps in accordance with the recommendation of the South African hospitals commission. He appears to intend submitting his own proposals to that committee and to be taking time to prepare them. He declined to promise to obtain the report of that committee before the army medical vote comes on for discussion, on the plea that he could not fix the time such a committee would give to the duty imposed on it. The fact is the committee has not yet been formed.

The habitual drunkards bill gave rise to some unusually animated remarks in the House of Lords. The amendments made by the government in the committee stage have so transformed the bill that less than five lines of the original remain. This unusual course was pronounced inconvenient by Lords Spencer and Cross, but was defended by Lord Salisbury, who said he found it quite a convenient plan of dealing with the subject. He promised to make it a government measure in the lower House—so there is a prospect of some part of it passing into law. But with such extensive changes depending it may be premature to consider any part of it as secure, particularly as the cabinet is known to be very half-hearted in regard to all temperance reform.

Uncertified deaths, lead poisoning, and the manipulation of butter were also the subjects of questions in Parliament.

The Medical Graduates College and Polyclinic secured the leader of the House of Commons to preside at its dinner on Wednesday. Mr. Balfour was supported by a duke, a bishop, and a lord or two, so that the institution may be said to have established its position before the public, and certainly a considerable portion of the profession support it. Mr. Balfour spoke of it in three aspects—its consultations, as a charitable one, its educational work and research. The last subject is the one which attracts most attention, for while the need of more clinical or educational establishments is disputed, few are disposed to deny there is plenty of room for research. Mr. Balfour, with his turn for metaphysics, is yet a many-sided man, and often surprises us with his interest in subjects which seem outside his usual mental occupation. On the present occasion he startled some of his audience—not by mentioning some of the most striking developments of medical science in recent times, but by asking them, "in all solemnity and seriousness," whether this country had taken the lead which it should have done in that work? He told them he grieved to think that the richest country in Europe lagged behind Germany, France, and even Italy in equipping universities and colleges for research. He asked whether the country was too poor or too stupid, or did it lack only the imagination required to show what abstract studies might do for the happiness of mankind? He feared this country did lack somewhat of the higher form of imagination which recognized in studies showing no immediate direct results the foundation of knowledge far more conducive to happiness than material industrial advancement. Every discovery in a laboratory was the possession of the world, and they ought not to be backward in the great international competition which might help to balance to some extent the rivalry in producing destructive armaments. England would fail shamefully in duty if it allowed itself to be surpassed by every civilized nation in the competition.

The two Royal Colleges have taken another step in their defiance of the general medical council. Henceforth they will not require students to register. But suppose the council refuse to register qualifications granted on these terms. That would be the appropriate countermove. The mere announcement of such a determination would drive many students to other corporations, as they would not be prepared to enter on a lawsuit to compel the council to register them. The profession would support the council, knowing full well that the colleges in this, as throughout their history, are actuated only by selfish considerations. They want to attract candidates for their diplomas, and have always put the profits of the privilege of licensing before the welfare of the profession. The present trouble arises from this motive, and is a sort of competition with the other corporations for the fees charged for diplomas.

The annual meeting of the Pathological Society was held on Tuesday, when the officers, as proposed by the council, were elected for the ensuing year. Mr. Watson Cheyne is president again. The alterations in rules I have already mentioned were adopted, and the division into four sections is therefore established. The treasurer's report showed a satisfactory state of the funds.

A paper by Mr. Foulerton and Dr. Price Jones on "The Genus Streptothrix" was read. Cultures of twenty-five species were shown, of which ten were pathogenic. These included four new species, viz., streptothrix luteola, streptothrix lucea, streptothrix lucea saprophytica, and streptothrix erythrea. These species belonged to the higher fungi, as first stated by Hartz. Some other points were stated.

Dr. Sidney Martin communicated to the Medico-Chirurgical Society at the last meeting a case of intestinal intoxication which he thought due to appendicitis. The patient was a man aged fifty years, who had emaciated while troubled with loose, offensive evacuations from the bowels for some two months. Some lumps of apricots were passed which had been eaten eight weeks previously. The colon was flushed with boric solution without effect, and the man continued to waste, losing eleven pounds in fifteen days. The deep inguinal glands on the right side enlarged. A mass was felt in the right loin. Abdominal exploration showed this mass to be the kidney, made palpable by the extreme emaciation. The cæcum was thickened, the appendix thickened and elongated, and there were some calcareous glands between the ileum and cæcum. These, with one other enlarged gland, were removed, as well as the appendix, the contents of which were so extremely fetid that it had to be removed from the room at once. Two small erosions of the mucous membrane and enormous thickening of all the coats of the appendix were the chief changes, and to these was attributed the origin of the disease. The patient slowly recovered. In this case it is noteworthy that the main symptom was decomposition of the intestinal contents, causing profound general intoxication, such as is seen in dysentery or colitis. No bacteria were found in the walls of the appendix or in the thickened gland. The enlarged glands on the right side disappeared after the operation.

Mr. Godlee said enlargement of the inguinal glands in association with appendicitis was new to him. Mr. Symonds suggested that the case was really one of colitis involving the appendix, and would have recovered without operation. The four symptoms—looseness, fetid fæces, irregular temperature, and deep emaciation—formed the clinical picture of ulcerative colitis. He had had a patient who had recovered from five successive attacks, these four symptoms being present in all. He doubted if any form of appendicitis would explain the case. Mr. Morgan, who knew the patient well, said that shortly before the illness there was no looseness. The cause of the enlarged glands was uncertain—perhaps it was due to the decomposing matter in the appendix, which also gave rise to the general infection. Dr. Martin replied, after which a detailed account of a case of a large pharyngeal pouch, removed by operation, was given by Mr. Godlee and T. R. H. Bucknall. When first seen, the swelling looked like an enlarged gland on the left side of the neck, at the level of the hyoid bone in front of the sterno-mastoid, but it was soft, and on percussion gave a tympanitic note. It was attached to the top of the larynx, following its movements. A squeaking sound was produced by squeezing it, and an unpleasant sensation which lasted for days. The pressure caused an obvious diminution in size. The operation, which was not without some difficulties, was fully described. Reference was made to the literature of pharyngeal pouches and fistulæ, of which some two hundred cases have been recorded. It seems probable they all arise in connection with one of the visceral clefts, the varieties depending on the position of the obliteration of the cleft. The relation of the nerves and vessels is of the greatest importance, but is not so perfectly ascertained as is desirable. The relation, for instance, of the carotids has been differently described. The necessity for careful dissection is accordingly obvious.

Dr. William Alexander, of Liverpool, has communicated to the Gynæcological Society an interesting account of his experience in posterior vaginal cœliotomy in operations for pelvic disease. In the last two years he resorted to this procedure in ninety-four cases. These did not include hysterectomies for cancer or for removal of fibroids or other diseases when Douglas' pouch was opened as a small part of an extensive operation—nor abscesses pointing into the vagina and sinuses opening into it, but only cases in which the pouch was opened as the route for the removal of disease. Among the cases were two of hydrosalpinx, four of pelvic cellulitis, fourteen of pyosalpinx, twenty-two of ovarian cysts, seven of pelvic hæmatocele, and other serious conditions. But he lost only two of the cases. One patient was carried off by pleuro-pneumonia, which set in on the evening of the day of operation; the abdomen was not affected. The other case was one of a small abscess in the

ovary, and he was tempted to try and save the organ, but streptococcus infection set in the same evening and rapidly spread to the general peritoneal cavity. In all similar cases he had previously removed the suppurating movable structure, and said he would take good care to do so in future.

With this success, Dr. Alexander disclaimed being an advocate of the vaginal in preference to the abdominal route. In fact, he said he had performed two hundred and four abdominal operations in the same two years out of a total of fifteen hundred and sixty-seven operations of all kinds. Nevertheless, he admitted being much impressed with the ease, safety, and short duration of the vaginal operation, as well as the comfortable and rapid convalescence of the patients.

Lieutenant-Colonel Babtie, V.C., has been appointed temporary assistant director of the army medical department.

Surgeon-General Jameson, C.B., will retire from the director-generalship of the army medical department on June 1st. In future this office will be held for a term of only five years.

Deputy Surgeon-General Fyffe, M.D., died on the 17th inst., aged seventy-five years, and Deputy Inspector-General Finucane on the 15th, aged seventy-three.

ASEPSIS AND AMBULANCE SURGERY.

To the Editor of the Medical Record.

Sir: It is a recognized principle in surgical practice, that a wound should be treated by clean hands and clean instruments in a clean place.

This principle is known and followed quite generally from great cities to rustic hamlets. In the war with Spain, our hospital corps and our soldiers were instructed to put on a clean dressing at once, and bring the wounded as soon as possible where they could be treated in a clean place by clean instruments in clean hands. The result of this immediate dressing of wounds with subsequent "clean" treatment was eminently satisfactory—many a seemingly mortal wound healed kindly because of that first dressing. Now that this surgical axiom has reached the uttermost parts of the earth, is it not about time for it to reach our New York ambulance surgeons?

To-day the ambulance surgeon, intent on his "diagnosis," primarily ignores the first principle of surgery—cleanliness.

Every wound, especially if it involve brain, joint, or peritoneum, must be carefully and thoroughly explored by "that dirty finger"—explored until that ambulance surgeon, with his "totus in illis" expression, is sure that the wound does or does not involve the deeper structures—then his case, made septic by his careful examination, is aseptically bandaged and rushed to the hospital, where the "diagnosis-crazy" surgeon reports "incised wound, involving the right knee joint."

It is time to stop at once and forever such treatment. To-day a physician receives a hurry call to an injured man. He finds a clean cut wound, evidently involving the knee joint; he quickly applies an aseptic dressing, while the policeman orders the ambulance, which brings that "diagnosis-crazy" surgeon.

At once that dressing must be cut off, and that dirty finger must at once explore every nook and corner, while the patient looks on in agony, and the medical men with disgust. It is time to cry a halt to such treatment in this city of surgical progress—it is time for New York hospitals to instruct their ambulance surgeons to keep their unclean fingers out of severe wounds.

R. Ellis, M.D.
211 West Thirty-fourth Street, New York.

The Value of Aluminum Bronze Wire in Surgery.—R. Pichler ascribes to this material greater usefulness and adaptability for surgical purposes than has silver. By actual experiment it was found that it possessed greater inhibiting powers on the growth of bacteria than the latter metal, and it seems especially adapted for use in situations where infection of the suture wounds is to be feared, as in the perineum, inguinal region, and the mouth, as well as where the sutured tissues are under great tension, and the stitches are to remain in place for a considerable length of time.—*Centralblatt für Chirurgie*, April 20, 1901.

Surgical Suggestions.

Salt Solutions.—

Sodium sulphat	10
Sodium chlorid	5
Aq. destil	1,000

—Hayem.

Sod. hyposulphit	gr. xlv.
Sod. carbonat.,	
Sod. chlorid	āā 3 i.
Aq.	Oij.

—W. W. Johnson.

Sod. chlorid	5.
Sod. hydrat	1.
Sod. sulphat	2.5
Aq.	1,000.

—Durantz.

In pneumonia:

Sod. chlorid	1.
Sod. bicarb	0.5
Aq. destil	100.

—Pellegrene.

Salt solution, even when given by subcutaneous infusion, is only secondarily a cardiac stimulant. If used hot, the direct cardiac stimulation of the heart will often be more than offset by the depression resulting from increased excretion. Heat beyond body temperature is of doubtful value, and may actually oppose the action of the saline solution. In most cases the physiological salt solution, to secure the best results, should be used conjointly with an approved heart stimulant. The heart stimulant may be supplied by adding alcohol to the solution to be infused.

Thousands of experiments upon human beings and upon animals by hundreds of experimenters have proven most conclusively that for efficiency, freedom from danger, and ease of administration the subcutaneous injection of decinormal salt solution (hypodermoclysis), six drachms of sterilized salt to one gallon sterilized water, at a temperature of from 100° to 120° F., excels any and all things that have ever been used to relieve those suffering from shock from the effects of hemorrhage, and as an eliminant in septic and toxic conditions.—J. K. Eastman, in *The Medical and Surgical Monitor*, March 15th.

Interrupted Ether Narcosis.—Kronacher believes that most of the unpleasant after-effects of ether anæsthesia are due to the amount of drug employed and the length of time the patient is kept unconscious. Major anæsthesia is usually employed for many small operations which do not really demand it, and the author describes a method which makes painless operating possible with a minimum amount of the anæsthetic. One or two drachms of ether are poured into the inhaler and several deep breaths taken. The same quantity of ether is again added and the anæsthetization continued till the stage of excitement begins. The operation in most cases can now be done without any further administration of anæsthetic, though rarely a third addition of 3 ii.–iii. is necessary. The duration of such a narcosis is about ten minutes, and while the patients are not unconscious and often cry out, all memory of pain is effaced on awaking. This method obviates ether pneumonias and does away with the usual headache and nausea.

Preparations and After-Care.—The patient should be prepared at least four days before operation. Prolonged preparations on the table, exposure of large areas, and prolonged anæsthesia are condemned. Handling the intestines unnecessarily, introduction of dry gauze into the abdominal cavity, increase the chance for complication, especially flatulency. Special

attention should be paid to the temperature of the operating-room at the time of the operation, and the body temperature should be carefully looked after by the application of heat during the operation. Saline solution for hypodermoclysis should always be ready and employed freely when there is any considerable loss of blood or shock. Every operation should be performed as rapidly as is compatible with careful surgery. Rubber gloves should be worn by operator, assistants, and nurses in every operation. Morphine and atropine should be given whenever the pain is intense. Reaction when delayed should be hastened by saline injections, heat, and strychnine. Sepsis and exhaustion are to be combated by strychnine, saline solution, and whiskey. Preliminary administration of nitrous oxide gas followed by ether is recommended. —ROGERS, *St. Paul Medical Journal*, March.

Curetting the Urethra.—Irrigate with 1:40,000 bichloride solution. Instil a four-per-cent. cocaine solution. Introduce a large endoscopic tube and localize the diseased area (posterior urethritis). Curette, removing all diseased tissue; apply a ten-per-cent. nitrate-of-silver solution.—GEORGE WALKER, *Maryland Medical Journal*, March.

Gloves or No Gloves.—I cannot imagine a young operator becoming very expert if he uses gloves. I believe that more bacteria drop into the long exposed wound of the glove operator than are carried in by well-prepared bare hands.—ROBERT T. MORRIS.

I believe that if a man cannot keep his hands clean, he cannot keep gloves clean.—JOHN B. MURPHY.

I have never had a pair on; I do not recommend them.—JOSEPH PRICE.

In Europe, where experiments were first made with different materials for covering the hands in operating, gloves are employed less than formerly. The Berlin surgeons rarely use them, and Tuffier is said to be the only glove operator in Paris.—H. A. ROYSTER.

Ethyl-Chloride Anæsthesia.—The advantages of ethyl chloride are the rapidity with which anæsthesia is produced and recovered from, the lessened vomiting, and the absence of injurious renal irritation. Even prolonged anæsthesia in many cases in which there were cardiac or pulmonary complications was not followed by bad results. A death which occurred about three minutes after the beginning of the anæsthesia is reported. The man was an alcoholic; great excitement occurred, whereupon more ethyl chloride was poured into the mask. Cyanosis appeared, and was followed by death. The latter was attributed to asphyxia.—LOTHEISSEN.

Therapeutic Hints.

Influenza in Infants.—We have no drug that affects the course in the least, and much harm is done by trying to do too much with drugs, especially with the coal-tar antipyretics. Quinine in full doses is alone of definite value.—ZOHORSKY, *St. Louis Courier of Medicine*, February.

Useful Items.—Calomel in doses of gr. $\frac{1}{10}$, combined with a little white sugar, is a very valuable remedy in chronic diarrhœa. Calomel is one of the best of gastro-intestinal sedatives.—The bisulphide of carbon poured on cotton in an open-mouthed bottle and held against the forehead will, it is said, promptly relieve nervous headache.—The addition of a small amount of white sugar greatly increases the solubility of borax.—Wine of colchicum in doses of ♏ v.–x. is useful in obstinate sciatica.—Slippery elm, infused in hot water, is excellent in throat diseases. It is especially valuable in obstinate cases of ptyalism, met with sometimes in the pregnant condition.—Obstinate epistaxis is often benefited by having the patient soak the hands and feet in water as hot as can be borne.—Ergotol for hypodermic injections is preferable to ergotin. In a recent case of hemorrhage from the bowels in typhoid fever it acted promptly and well. Two injections were given of ♏ xx.—F. W. CAMPBELL.

The Treatment of Anthrax.—In man, says Salvatore Gugliuzzo, the most common manifestation of anthrax is malignant pustule, introduced into some small cutaneous lesion, or taken in with the flesh of some animal that has died of the disease. Treatment is usually efficacious, whether it be cauterization with the Paquelin cautery, the use of Sclavo's serum, or injections of phenic acid and bichloride of mercury, so that the prognosis is good.—*La Riforma Medica*, May 7th.

The Treatment of Malignant Growths by Coley's Fluid.—Robert B. Wild summarizes the effects of this treatment in eight cases as follows: Pain was severe in two cases only. Local reaction, in the form and redness and swelling, occurred in three cases. General reaction, in the form of a rise of temperature with or without rigors, was absent in two cases, slight in three cases, and marked in three cases. The dose required to produce a general reaction varied widely with different patients; in one case ♏ i. was followed by a temperature of 103° F., while in another case ♏ xvi. failed to cause any marked rise. In several cases the effects appeared to be cumulative. In one case little effect was produced by a dose of ♏ v., until fourteen injections had been given, when a rigor and rise of temperature suddenly occurred. The patients' appetite and nutrition were not impaired, and the patients did not lose weight more rapidly than usual in similar cases. One patient gained weight. In four cases there was no effect upon the disease, which steadily progressed, and ended fatally in about the usual time for similar cases in the hospital; certainly no harm resulted from the treatment. In two cases the effects of the injections appeared to be unfavorable, and in feeble patients the writer thinks it is not advisable to employ this method of treatment at all. In two cases, the patients themselves considered the treatment to have been beneficial, and certainly lived longer than ordinary, considering the extent of the disease. Both, however, died within twelve months, and any benefit from the treatment must have been only of a very temporary nature. The writer does not consider that the results so far justify the trial of Coley's method in any operable cases of malignant disease, whether carcinomatous or sarcomatous. A recourse to it only wastes valuable time, and may render subsequent successful operation impossible. In cases of inoperable carcinoma and epithelioma, there is no evidence of any permanent benefit, and the treatment is by no means free from danger. In the absence of any other means of effective treatment, a careful trial of Coley's fluid is justifiable in cases of inoperable sarcoma, especially the more rapidly growing forms. A limited number of successful cases have been reported in which the disease was of this type, and other cases in which there was a temporary improvement. It appears by no means certain that the effects produced by the toxins are identical with those which result from an attack of genuine erysipelas, and further researches upon the after-effects produced by erysipelas are desirable.—*The Medical Chronicle*, March, 1901.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-second Annual Meeting, Held in St. Paul, Minn., on June 4, 5, 6, and 7, 1901.

(Concluded from page 930.)

SECTION ON PRACTICE OF MEDICINE.

Third Day—Thursday, June 6th.

Modified Treatment of Typhoid Fever.—Dr. T. B. Greenley, of Meadow Lawn, Tenn., advocated the use of acetanilid with quinine, which, he claimed, had a soothing and quieting effect, and prevented the possibly irritating effects of the latter. He had never observed any depressing effects of the drug upon the heart. The dose was increased or diminished according to the rise or fall of the temperature.

Medical Shock.—Dr. O. T. Osborne, of New Haven, did not wish to advocate the use of the term medical shock for conditions of failing heart due to distinct pathological conditions, or due to a gradual break-up in the system by very acute or prolonged intense processes; he thought the term was justifiable when a badly acting and gradually weakening heart was the most urgent cause for anxiety, and its weakness was out of proportion to the pathological conditions or symptoms present. He believed that we were justified in using the term medical shock as we were in using the term surgical shock. The symptoms of this were a more or less rapid heart; irregular, perhaps dicrotic, or intermittent pulse; incomplete inspirations without much actual dyspnœa, interspersed with frequent sighs; and the subjective symptoms of precordial oppression. The temperature was generally low, the flesh cool and clammy, and if quick relief was not obtained death would soon take place by heart failure or medical shock. He believed that medical shock was just as certainly a vasomotor paralysis as was surgical shock, and, as a consequence, the major part of the blood was to be found in the abdominal veins. The blood flowed slowly into the dilated and therefore non-elastic arterioles, hence slowly into the capillaries, and returning slowly in the veins imperfectly filled the heart cavities. The heart contracted irregularly, incompletely, and arrhythmically. The aorta had not the pressure ahead or the forcible quota of blood from behind, and consequently did not give enough elastic rebound to force the blood properly into the coronary arteries, and the heart muscle was improperly nourished. By the lowered blood pressure all the functions of the body began to fail, all digestive processes were impaired, and molecular death began to take place; at last almost unaccountably gradual failure of body and mind occurred until death closed the scene. Severe acute nerve pain would, if continued, give a lowered vasomotor tension, and if too long continued or too severe, vasomotor paralysis or shock, perfectly similar to that due to profound injuries of these nerves, or surgical shock. In acute feverish processes our aim should be to make the elimination at least equal to the production of decomposing and fermenting products and to prevent the absorption of these products if possible. In all diseases or conditions in which absorbed poisons existed, as in typhoid fever, dysenteric ulcers, pus collections, malarial plasmodia, hæmoglobin débris, cancerous disintegration, unhealthy mucous membranes, etc., any treatment which hastened the evacuation of the excreted bile impregnated with toxins would prevent systemic and nervous poisoning and ultimately vasomotor disturbances and medical shock.

Coughing a Means of Disseminating Tubercle Bacilli; a Study of Fifty Cases.—Dr. L. Napoleon Boston, of Philadelphia, said the conditions which prompted him to investigate the degree with which tubercle bacilli were disseminated by coughing were, first, that he noticed that fine droplets of sputum were ejected with each act of coughing, and second, that coughing was often excited by eating. He thought that this was a potent factor in the dissemination of tuberculosis, and possibly explained why patients in the early stages of tuberculosis did badly in institutions where every attention was given to ventilation, light, and the disinfection of sputa. The spray was collected by a mask, the essential features of which were that it was made from German-silver wire, one piece of which was moulded to fit the face. Suspended from this was a second oblong portion provided with two lateral grooves, which served to receive two microscopic slides. When the mask was in position the slides were held directly in front of the mouth and nose at a point three inches from the lips. Patients wore the mask with clean slides from one to one and a half hours, and were instructed to remove it during paroxysms of coughing. Of the fifty specimens obtained from fifty patients, thirty-eight were found to contain tubercle bacilli in variable numbers, four to six being the smallest found in any specimen. Of the twelve negative cases explanations were given. In three of these the patients were so very weak they did not talk while wearing the mask. It was shown that the secretions of the mouth and respiratory tract were atomized and given off in the form of spray, in both health and disease, and that this spray contained bacteria and other cellular elements known to be common to such secretions, and therefore it was reasonable to suppose that many other diseases were conveyed by this medium, and that the work accomplished through the study of consumptives was but a step in a direction which bade fair to modify the hygiene of infection. Conditions affecting these organs and consequently their secretions must of necessity be spread in this way; especially was this true of diphtheria, tonsillitis, and possibly smallpox, measles, scarlet fever, whooping-cough, mumps, etc. Droplets alighting on clothing must serve as a favorable means to convey the disease from house to house; and that men might become infected by the spray projected by horses, cows, and other domestic animals suffering from glanders, tuberculosis, and similar affections, appeared to be highly probable.

The Value of Throat Cultures in Diphtheria.—Dr. M. H. Fussell, of Philadelphia, said that the following statements could be proven: (1) True cases of diphtheria might have few or no clinical symptoms. (1) Cases of tonsillitis or pharyngitis might have severe symptoms and be serious, but true diphtheria not being present, the disease not being due to the Klebs-Loeffler bacilli, they were consequently not able to transmit diphtheria. (3) A diphtheritic exudate might be easily detached and leave no bleeding surface. (4) An exudate due to some other organism might be a true membrane impossible to detach from the mucous membrane. He said that cultures could most surely and with less risk of mistake be made in the laboratories, but they could be made at home and should be made there if we intended to keep pace with the rapid strides of recent medicine.

Genito-Urinary Examination by the General Practitioner; with Demonstrations on Patient.—Dr. Ferd. C. Valentine, of New York, made practical demonstrations upon patients to show that (1) all genito-urinary examinations should be painless; (2) the operator should conduct no examinations unless his arms were bared to above the elbows and his clothing protected by a gown and apron; (3) during every gen-

ito-urinary examination, the physician should protect his eyes with spectacles (not eye-glasses) even if he had no visual defect; (4) ideal examinations were made in the morning, before the patient had passed his urine; (5) the amount and character of a urethral discharge could be estimated only by correct technique in expressing the urethral contents; (6) the color of the urethral discharge changed when it dried upon the patient's garments; (7) the meatus should be cleaned before urine was passed for examination; (8) the manner of urinating was often pathognomonic; (9) the epithelium found in the urine was indicative of the locality of the lesion; (10) examination of the urethral adnexa was a necessary part of the steps for complete diagnosis; (11) no instrumental ingression of the urethra should be attempted without most thorough efforts at rendering it aseptic; (12) the technique of urethral asepsis was neither complicated nor difficult; (13) the soft bougie-à-boule was the only instrument that could be used for tactile exploration of the urethra; it was a purely diagnostic instrument; the rigid sound was wholly a therapeutic instrument; (14) urethroscopy with a modern instrument was not difficult; (15) the general practitioner was perfectly competent to examine the vast majority of genito-urinary cases; (16) such examinations only exceptionally required extraordinary skill or a large armamentarium; (17) the pathology of genito-urinary diseases in no wise differed from that of other affections.

Clinical Observations on Pericarditis.—Dr. Frank Billings, of Chicago, stated that pericarditis was essentially a secondary process occurring in the course of some general infection. The local manifestations might be so slight as to escape observation, and the general symptoms to which the local disease might give rise might be obscured by the constitutional disturbance of the primary general infections. Therefore it often happened that the diagnosis of pericarditis was more often made at autopsy than clinically. The histories of several cases were given which illustrated pericarditis of several varieties etiologically considered, which presented clinically, as far as the heart and pericardium were concerned, practically the same signs and symptoms. The cases further illustrated the importance of the three cardinal signs of pericarditis; namely, the pericardial friction rub, the form or outline of precordial dulness, and the position of the apex beat, especially in relation to the left border of precordial dulness. The pericardial friction rub was doubtless present in every case of pericarditis in some period of its course. It was practically the sole local sign in plastic pericarditis. It might not be recognized in pericarditis with effusion, although it was probably present in every case at an early stage of the disease and in cases of recovery after the disappearance of the effusion; it might be present too during the stage of effusion. The form of this outline of dulness in pericardial effusion was also characteristic. The pear-shaped outline with the base downward; the dulness, even in the early stage of effusion, in the fifth right interspace close to the sternum, obliterating the resonant angle formed by the lung, heart, and liver; the dulness over the sternum extending to or above the second rib, together with the outline of the left border dulness, were easily recognized and were almost pathognomonic. It was also true that a greatly enlarged heart with all the chambers dilated from myocarditis and a weak, diffusible apex beat might present an outline of dulness which so nearly resembled that of pericarditis with effusion that it might be impossible to differentiate between them without puncture. The location of the apex beat in pericarditis with effusion was characteristic. When it was perceptible it would always be found that the left border of dulness was relatively far removed from it as it was not in any other cardiac disease. In large effusions it might be obscured, and at other times the right ventricle might strike the chest wall in the region of the nipple, or undulatory waves might be seen as the only evidence of the heart beat against the chest wall. However, it did not matter how the apex beat or the impulse of some other part of the heart against the chest wall be ascertained; it would be found that the point of contact of the heart against the chest wall was always relatively far removed from the left border of precordial dulness as compared with the relations of the apex beat to the left border dulness in all other conditions. The relatively rapid respiration and dyspnœa, the signs of compression of the left lung evinced by the left subscapular dulness and bronchial breathing, the rapid heart action, the pulsus paradoxus, and the asymmetry in size of the pulse of the radials, the irregular type of temperature, the paralysis of the left recurrent laryngeal nerve, the unequal pupils, the disturbed mental state of the patient, and still other phenomena were signs and symptoms not so characteristic as the three cardinal signs first named, but were important and significant when present. Pericarditis was an easily recognized condition. Frequent careful systematic examination of the precordium should be made in all infectious diseases, and if this was done pericarditis would not escape the examiner.

Pathology and Pathogenesis of Pericarditis.—Dr. Joseph McFarland, of Philadelphia, had found pericarditis more frequent in men than in women, probably because the former were more exposed to its causes. Concerning the relative frequency authors varied. It was customary to divide the cases into those which were primary or idiopathic and those which were secondary or metastatic. Traumatism as a cause of pericarditis was of importance only as it afforded an avenue of entrance for micro-organisms, or produced conditions favorable to their colonization in the tissues. Lymphogenous metastasis might occur in many of the local affections in which no actual traumatic lesions existed. In this manner disease of the mediastinum, pleura, etc., might occasion pericarditis. Hæmatogenous metastasis was seen in nearly all of the infectious diseases, but especially in rheumatism, pyæmia, septicæmia, pneumonia, chorea, scarlatina, etc. There was no specific micro-organism of pericarditis. Breitung collected 324 cases of pericarditis among the autopsies of the Berlin Charité during ten years, and found them distributed as follows: Pericarditis serofibrinosa, 108; hæmorrhagica, 30; purulenta, 24; tuberculosa deuteropathica, 24; tuberculosa idiopathica, 2; adhæsiva partialis, 111; adhæsiva totalis, 23; ossificans, 2. It was an error to think of these names as referring to distinct forms of the disease; they were for the most part stages of the same process. In 39 cases studied by Louis the exudates were serous 9 times; purulent, 7; serosanguinolent, 10; seropurulent, 13.

The effect of pericarditis upon the heart was of great importance; no considerable disease of the epicardium was possible without involvement of the heart. The superficial layers of muscular fibres usually showed cloudy swelling, later hyaline or fatty degeneration. In purulent exudate the pus might also gradually work its way between the muscular bundles. The changes that thus took place during the height of the disease predisposed to acute dilatation of the heart, and a fatal termination of the disease might thus be brought about. If this did not occur, and if the patient recovered from the pericarditis, the regenerative cicatricial processes that went on led to fibroid interstitial changes in the wall of the heart.

The General Etiology of Pericarditis.—By Dr. Robert B. Preble, of Chicago. He drew the follow-

ing conclusions: "1. Cases of acute pericarditis, which are clinically primary, may occur, but are rare. 2. Diseases in which pericarditis appears as a complication are: Pneumonia, 34; rheumatism, 23.36; chronic diffuse nephritis, 11.2; tuberculosis, 10; sepsis, 4.7; aneurism, 2.6; typhoid, 1.7 per cent. 3. The more extensive a pneumonia, the greater the danger of this complication. 4. The danger is somewhat greater in left than in right-sided pneumonia. 5. When only one lobe is involved, the danger is least in pneumonia of the right upper lobe and greatest in a right middle or left upper lobe. 6. The chances of pericarditis in unilobar pneumonia are one in forty; in bilobar or trilobar, one in ten; in quadrilobar, one in five; and in pneumonia of the entire left lung, one in eight. 7. The mortality of pneumonia with pericarditis is 92.4 per cent. 8. Rheumatic pericarditis is complicated by endocarditis in 60 per cent. of the cases, *i.e.*, three to four times the normal rate of cases of endocarditis. 9. The danger of pericarditis complicating rheumatism is the greater, the younger the individual, and is somewhat greater in males than in females. 10. In acute pericarditis the site and extent of the endocarditis is apparently of no importance. 11. Pericarditis appears as a complication of all forms of nephritis, but particularly chronic diffuse nephritis with contraction. 12. It is extremely ominous: 84.6 per cent. of the patients died. 13. It is still uncertain whether the pericarditis is toxic or infectious. 14. Tuberculosis excites only one-tenth of the cases, and when one considers the extreme frequency of tuberculosis, pericarditis must be regarded as a rare complication. 15. Pericarditis may be a part of a generalized acute tuberculosis, but is more often the result of a chronic tuberculosis of the lungs or mediastinal glands. 16. Septicæmia and pyæmia contribute a very considerable number of cases of pericarditis. The primary focus may be remote or close to the pericardium. 17. Aneurism of the aorta causes 2.6 per cent. of all the cases, a very high figure when one recalls the comparative infrequency of aneurism. 18. Typhoid fever, which is rarely complicated by inflammation of the serous membranes, other than the peritoneum, contributed 1.7 per cent. 19. Obliteration of the pericardium is due to endocarditis, tuberculosis, chronic nephritis, aneurism. 20. Relatively six times as many cases of obliteration of the pericardium occur with aortic and mitral endocarditis than with either lesion singly. 21. Tuberculosis causes but few cases of obliterative pericarditis. 22. Pericarditis, accompanying nephritis, is not always fatal, but may apparently end in the formation of adhesions."

Adherent Pericardium.—Dr. Robert H. Babcock, of Chicago, stated that adherent pericardium was encountered in two forms—first, that in which adhesions between the two layers of the sac occurred, but not of the pericardium to the surrounding parts, pericarditis interna; and second, the pericardium adherent to the epicardium and also to the neighboring structures, pericarditis interna et externa. He then considered the effects on the heart and general circulation, with special consideration of its effect on the liver, leading to the so-called pseudo-atrophic cirrhoses of the liver. Diagnosis, in the first form mentioned, was usually very difficult and often impossible. If the adhesions were limited to the two layers of the sac, and if they were unassociated with valvular disease, the result might be only hypertrophy of the heart, and the circulation would be carried on adequately and no subjective symptoms were produced. If pericarditis led to adhesions while the heart was in dilatation from endocarditis, then the heart was prevented from ultimately returning to its previous size and the symptoms were likely to occur, viz., those due to stasis. In the second form mentioned the diagnosis was often easy in consequence of the signs resulting from the pulling of the adhesions upon the surrounding soft parts.

Tuberculous Pericarditis.—Dr. C. F. McGahan, of Aiken, S. C., stated that this form was much more prevalent than had heretofore been generally accepted. He believed that a great many obscure heart troubles in the anæmic, in which we could find no valvular disease, occurring without marked symptoms of pericarditis, but in which we had certain marked symptoms of the disease, were due to tuberculous pericarditis, particularly if the patient subsequently began to lose weight and to assume a cachectic appearance. This condition usually progressed insidiously. The symptoms were those of enlarged heart, or of adherent heart, together with the general symptoms of malaise and more disturbance of the entire system than would be found in simple pericarditis, or that secondary to rheumatism, or one of the exanthemata.

Cardiac Lesions as Observed in the Negro; with Special Reference to Pericarditis.—Dr. Frank A. Jones, of Memphis, Tenn., stated that aortic regurgitation in the negro was the most frequent and most dangerous of all valvular lesions. The next most frequent was aortic stenosis, and then mitral regurgitation. Mitral stenosis had not been diagnosticated, in the cases he reported, from the physical signs and symptoms. Tuberculosis and syphilis acted both as exciting and predisposing causes in the production of muscular and valvular lesions. A syphilitic history was more frequently found in mitral regurgitation than was one of rheumatism. The murmur of aortic regurgitation was most frequently musical.

Some Points on the Treatment of Pericarditis.—Dr. Frank Parsons Norbury, of Jacksonville, Ill., said that it behooved us, in the treatment of rheumatism, acute infectious fevers, and septic processes, to keep ever in mind the possibility of pericarditis as an aftermath, and govern ourselves accordingly by insisting upon absolute rest until this danger was past. Milk should be given in small quantities every two or three hours. Most cases of rheumatic pericarditis got well, if left alone. For the relief of pain, a blister over the pericardium would often be sufficient, or cold applications, or an ice-bag. When other means failed, morphine should be given, being guarded with proper cardiac support; for the restlessness, bromide of sodium, usually about noon, again at four or six, and at bedtime. For the cardiac distress, strychnine might be given, or, if necessary, digitalis with strophanthus. If the effusion was moderate and not septic, it would be absorbed, and even if large the chances were that, with cautious use of diuretics and purgatives, it would disappear. The indications for surgical interference were, according to Osler, "dyspnœa, small, rapid pulse, dusky, anxious countenance," and, the writer added, "physical signs of extensive effusion."

SECTION ON SURGERY AND ANATOMY.

Third Day—Thursday, June 6th.

Hæmostasis and Amputation at the Hip-Joint: A Résumé of Two Hundred and Six Cases by the Author's Method.—Dr. John E. Wyeth, of New York, read this paper. It was not generally known, he stated, that his method of hip amputation was suggested to him by a series of experiments which he made on the shoulder joint. In 1890 his technique was published. At that time the mortality was sixty-four per cent. The two hundred and sixty-seven cases reported, he had divided into three groups: (1) Neoplasms; (2) septic infections; (3) injuries. In the last, the mortality was 63.9 per cent., but this was to be explained by the fact that the trauma and the shock sustained by these cases rather than any operative intervention

were the cause of death. If in every case of grave injury calling for hip amputation a preliminary venous infusion was practised, this mortality would probably be much reduced. In 1881 the death rate was sixty-four per cent.; it was now but 19.8 per cent.

Dr. Walker, of Detroit, reported four new successful cases.

Dr. Wyeth, in closing, said that the pins gave the surgeon a sense of security afforded by no other technique, and there was no case on record in which they had been baneful.

Autoplastic Suture in Hernia and Other Ventral Wounds.—Dr. L. L. McArthur, of Chicago, read this paper. Ribbons of tissue six inches long were cut from each margin of the wound of the external oblique, and were left attached below. They did not remain flat; they possessed a tensile strength of from seventeen to twenty pounds. The technique of their introduction was to tie a fine bit of silk threaded on a needle to the end of the ribbon and sew the wound in continuous suture. In the seventeen cases in which this had been done, the results had been perfect; there had been no post-operative pyrexia, and while as yet enough time had not elapsed to make a definite statement, it appeared that the method had merit.

A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery.—Dr. L. E. Schmidt and Dr. G. K. Olischer, of Chicago, presented this paper. Their technique had been perfected through the use of a lead-antimony wire, which they introduced into the ureters. This alloy was extremely soft and flexible and cast a very dense shadow. Some of its advantages were: (1) Freedom from danger. (2) Diagnosis of dilated pelves, calculi, and other obstructions. (3) Differentiation of hepatic from renal stones. (4) Differentiation of non-renal neoplasms from dislocated kidney. (5) It gave the course of the ureters.

Prostatotomy vs. Prostatectomy for Prostatic Hypertrophy.—Dr. Ramon Guitéras, of New York, read this paper. It consisted largely of a classical presentation of the development of these operations. He outlined the method which had given him the greatest satisfaction. By placing two fingers high in the rectum, he was enabled to steady the gland and rapidly enucleate it with the other hand. This condition, until recently so neglected, was too grave a one to allow of dogmatism. Of the younger patients, from sixty to seventy years of age, most should undergo the radical operation. Physiologically old cases often must be given Bottini's treatment. A third class existed which could tolerate no surgical intervention. So far the mortality of prostatectomy exceeded that of prostatotomy threefold.

Prostatotomy 793 Cases.			Prostatectomy 152 Cases.		
Cures.	Deaths.	Failures.	Cures (successes, recoveries).	Deaths.	Failures.
622 86 per cent.	44 5⅝ per cent.	87 11 per cent.	121 79 per cent.	25 16⅜ per cent.	6 3 per cent.

Prostatectomy the Method of Choice in the Management of Prostatic Obstructions.—Dr. Eugene Fuller, of New York, presented this paper. He began with a plea for the radical operation. The general practitioner knew as little about the indications for operation in these cases as he knew of appendicitis twelve years ago. The question of age, which was usually brought forward as the main argument against the radical operation, was shown to have but little significance. Under proper surgical conditions the mortality of prostatectomy in average cases was not over eight per cent. or ten per cent; not over twenty-five per cent. even in the most desperate conditions. A strong argument in favor of the radical operation was that patients who died were at rest; those who recovered were cured. The Bottini method was at best applicable to but a minority of cases; it was doubtless but palliative. Any surgeon who was prepared only to do a Bottini was an extremely dangerous consultant. Sooner or later he would either operate and fail, or else allow his patient, whose only relief lay in prostatectomy, to die a miserable death.

A Further Report on Permanent Catheterization.—Dr. J. R. Eastman, of Indianopolis, made this report. The catheters in fifteen cases had been retained from two days to two months. No urethritis followed this treatment, and if the catheters were large, soft-rubber instruments, the results were gratifying. The advantages of the treatment were as follows: (1) The urine drained by the natural route; (2) the urethral lumen was enlarged; (3) pain and temperature were slight or negative if the catheter was not passed too far into the bladder; (4) it was free from danger.

Fallacies in the Treatment of Urethral Diseases.—Dr. Robert H. Greene, of New York, read this paper. Stimulated by a masterful Polish report, he and Dr. Harlow Brooks had conducted a series of pathological investigations of thirty enlarged prostates which in every respect proved corroborative. Prostatic hypertrophy was inflammatory rather than cysto-adenomatous, as usually taught. There was good evidence to show that many of the prostates which enlarged were stimulated to this by the adjacent hyperplasia in the posterior urethra, which had resulted from chronic urethritis.

Perineal Prostatectomy.—Dr. Parker Syms, of New York, read this paper. He felt sure it was the operation of the future. He modestly affirmed that good fortune rather than skill had granted him in his considerable number of cases a freedom from mortality. There was no object in making a suprapubic incision if all the work could be done from below. He showed his contrivance for pulling the prostate into view. It consisted of a simple rubber tube with a bulb at one end. Into this bulb, after its insertion into the bladder through the perineal wound, a quantity of water sufficient to dilate it three inches was forced in. An assistant pulling upon the tube easily dragged the prostate into view. It was then enucleated from left to right. The death rate, as yet lamentably high, would lower as soon as these cases were operated on at an earlier date.

Dr. R. H. M. Dawbarn, of New York, said that he would demonstrate his method of intermittent bladder drainage rather than discuss the papers. The apparatus requisite for his technique consisted of some rubber tubing, a douche bag, and a hard-rubber T-tube. It was the principle of intermittent siphonage devised twenty-five years ago by a dentist named Snow for draining the saliva from the mouth. Simplest of all known methods, this application of Snow's principle by Dr. Dawbarn to the drainage of bladder and other cavities was the most serviceable to the general practitioner as well as to the surgeon. It kept the bed as dry as the De Pezzer tubes, or the Kader method, or the plan of Blasucci, and in addition to its cheapness and simplicity had the advantage over these methods that one could easily wash out the thick, stringy mucopus, slime, clots, and calcareous material, so regularly present, which made trouble for the tight-fitting tubes of other methods.

Dr. Rokey, of Oregon, declared emphatically that as yet not enough attention had been given to the prostate. The best method was the one which removed the obstruction with minimum injury to the tissues. He believed the recto-vesical technique the best, but differed from Guitéras and Fuller in advocating as small perineal incisions as possible. There was no age limit.

Dr. Warner, of Ohio, stated that prostatectomy should not be an operation of last resort. A realization of this was more important even than the elaboration of new techniques.

Dr. Andrews, of Chicago, cordially indorsed the auto-suture. He had done the Bottini operation seventeen times, with thirteen failures, one death, and three cures.

Dr. McGowan, of Los Angeles, always advised prostatectomy if possible. He had operated on fifty patients, varying in age from sixty-three to eighty-one. The results could not be expected to be perfect because the bladders were invariably diseased. Fuller's was the best technique. The least particle of prostate left behind invited relapse. He advised the Bottini method if the radical procedure was refused.

Dr. Guitéras, in closing, said that the bladder should never be emptied too quickly; even in cases of extreme dilatation not more than one pint should be removed. A few ounces more than this had caused hæmaturia from the bladder walls or even uræmia. It was important to improve the bladder conditions prior to operation. Dr. McGowan was right in saying that old diverticulated bladders could not be made good, but they did remarkably well. Prostatectomy was where hysterectomy was ten years ago. With so many working, we should soon have a good technique.

Dr. Fuller, in closing, said that every good surgeon would naturally have his own special technique. He could not agree with Dr. Greene that urethritis was the causative factor of enlarged prostate. One argument against this was that the Chinese and Asiatics in general were almost exempt, but they probably had more venereal disease than all the rest of the world. The French view of hopelessness was fallacious. The bladder did regain tone; there was use. He believed that all scars caused by electricity contracted.

Dr. Greene, in closing, said that he did not expect to have his theory accepted. It would naturally not be a popular one. If, however, it be shown to be true, it would affect the treatment as follows: (1) the chronic urethritis would be treated long and persistently; (2) early operation would be done, thus avoiding either a Bottini or the radical operation by a partial removal of the gland.

Pneumectomy and Pneumotomy.—Dr. J. B. Murphy, of Chicago, read this paper. By chest surgery, he said, we understood the immediate opening of the mediastinal or pleural cavities. Because of the danger of immediate death, but little progress had been made in the surgery of the bony basket of the chest. The dangers had been classified as follows: (1) Primary pneumothorax; (*a*) shock, (*b*) collapse, (*c*) dyspnœa. (2) Primary hemorrhage; (3) secondary pneumothorax; (4) sepsis. The conditions arising in (1) were these: (*a*) one lung was thrown out of action, (*b*) the right heart circulated into the left, (*c*) the vagus was squeezed by the lung, (*d*) deflection of the mediastinal septum and pinching of the cava at the diaphragm occurred. Such had been the various condition brought forward to explain the appalling state into which a patient fell when his pleura was open. Dr. Murphy, however, held them all to be fallacious. The causes were purely mechanical. They arose, as he had frequently shown in dogs, solely from a deflection of the septum, which was not a solid body and which, being forced by atmospheric pressure far into the uninjured side, practically prevented the action of the unimpaired lung. How could we overcome the effects of pneumothorax? There were two ways: (1) by immobilization of the mediastinum by a clamp on the hilum on the lung; or (2) by insufflation. The Parham-Matas instrument in possessing a gauge was of particular value. The hemorrhage he divided into external and internal. When the chest was entered far more danger occurred from hemorrhage of the mammary than from injury to the intercostals. The mediastinal septum was a little to the left of the mid-line, so that there was danger of injury to the pleura in operating on the right side. There were three great dangers from internal hemorrhage of the lung: (1) Azygos vein; air embolus was very probable from this accident. (2) Subclavian; but this occurred only in some form of tuberculous contraction. (3) Right auricle; which also in tuberculosis might be adherent and displaced. This visceral hemorrhage was positive or negative according to the area involved. The pulmonary artery was of enormous size, but because of the vast number of branches given off in the earliest part of its course, the twigs soon became small. In these, there was only one-fourth the pressure found in other parts of the body, and here beyond the so-called "hemorrhagic area" this factor was of the utmost value to the surgeon. In lung surgery the angiotribe was destined to be of the very greatest value. By it not only was all hemorrhage evenly controlled, but the third great danger of which he spoke—secondary pneumothorax—was absolutely prevented. Whether in the large bronchi, purulent and diseased, the angiotribe would make as perfect a union as it did in the normal tubes was not yet known. But in dogs he had repeatedly closed the first and second bronchi with absolute success. Sepsis arose from three sources: (1) it might be primarily induced at the operation; (2) it might come at the time of operation from the breaking of a focus; (3) it might be secondary, from an infected bronchus. He felt that chest surgery had a wonderful future, and that, armed with the invaluable Matas instrument; with the angiotribe; with the innumerable electrical devices of the day, the surgeon would be as able to explore this almost unknown region as freely as he did the abdomen to-day.

Removal of Foreign Bodies from the Trachea and Bronchi.—Dr. DeForest Willard, of Philadelphia, presented this paper. Particularly in children the number of foreign bodies which were apt to be sucked into the trachea were almost without number. The immediate effects were most alarming. In the majority of cases the first paroxysm of coughing usually dislodged the body if it had not reached the larynx. but it was unfortunate that there were a great many cases not so happily terminated, in which the seed or the toy passed on to become impacted in the right bronchus. This it might partially or totally close. In the latter case gangrene of the lung would usually supervene. In the absence of apparatus to do a tracheotomy, inversion of the child was dangerous, since the body dislodged from the bronchus might become fixed in the larynx and cause immediate death. Before any operative procedure was undertaken for the relief of this condition, a physical examination of the lung was absolutely necessary, as numerous patients suffering from pneumonia had been operated on for supposed foreign body in the bronchus. In the event of operating, one expected the offender to be discharged through the tracheotomy opening as soon as it was made. This, however, while the rule, was not by any means invariable. The next step was to practise bronchoscopy. For this there was nothing better than an ordinary cystoscope, which, introduced through the opening, gave a beautiful view of the whole area. A Bigelow evacuator attached to a large rubber tube would sometimes afford a means of securing the object, if it be small, by suction. The tracheal forceps, so constantly used, should be handled with the utmost caution, because without doubt in many instances it had wrought great harm. If the object cast a shadow with the *x*-ray, a skiagraph might prove of great value.

provided fixed angles of illumination were employed. If the object could not be secured through the trachea, pneumotomy might be practised, but as yet it must be considered one of the gravest of surgical operations. One technique was to saw the sternum longitudinally and reach the lung through the mediastinum. The bronchus might also be reached through a large trap door, either anterior or posterior. If gangrene of the lung had occurred, a free incision should be made into the diseased lung substance and thorough drainage employed. The Parham-Matas instrument had removed many of these dangers, and was a great step forward in thoracic surgery. His conclusions were as follows: (1) Since the foreign body had entered by the larynx it could escape from it; hence the attendant should invert the patient, being prepared to do instant tracheotomy. (2) The *x*-ray was often of value. (3) Tracheotomy was the first operative step. (4) The next was bronchoscopy. (5) Suction; magnets. (6) Prolonged instrumentation was contraindicated. (7) Careful physical examination of the lungs should be made. (8) The chest walls should be opened only with all apparatus at hand.

Treatment of Empyema.—Dr. James H. Dunn, of Minneapolis, presented this paper. Pulmonary sclerosis, he stated, was one of the great factors in prolonging this condition. No fluid should be removed from any chest without being subjected to most thorough bacteriological examination. Few cases yielded to expectant treatment or to paracentesis; the proper course was immediate resection of a rib, of which at least 6 cm. should be removed. Irrigation of the cavity was probably of little value at any time, and immediate washing out was extremely dangerous. As to draining the cavity, gauze was infinitely better than were tubes. There was very great danger of post-operative infection, which should be most strenuously guarded against. Opiates should be avoided; for an active cough, expanding the lung, was greatly to be desired. Estlander's operation was being superseded by Shadey's, in which all the chest wall but the skin was removed. This then fell upon the lung and obliterated the cavity. His conclusions were as follows: (1) In pneumococcus infection aspiration should be done at least twice before resection. (2) In pure tuberculous effusions waiting was necessary until the infection be mixed. (3) Double resections should not be done. (4) Local anæsthesia could be used if necessary. Ether was contraindicated. (5) The position of the patient was important. (6) The rib was best cut by a wire saw. (7) The opening should be made at the lower and posterior site of the collection. If too low the diaphragm would often overlap and close it.

Dr. A. C. Bernays, of St. Louis, opened the discussion. The time was approaching, he said, when the chest surgeon should have the care of those cases of tuberculosis with mixed infection that were now sent to the mountains of the West. It was unfortunate that as yet it was practically impossible to obtain the consent of a patient for operation—or, indeed, that of his attending physician—until he was practically moribund. He related his experiments on a series of eight cases in which he had removed the upper part of the lung in cadavers dead of pulmonary tuberculosis, in ninety per cent. of which he was able to accomplish this without entering the pleura. He advised an incision over the second rib. This was cut anteriorly, seized, and broken off. This exposed the apex of the lung and enabled one to search for cavities with the utmost freedom.

Dr. Frank, of Chicago, said that lung surgery was not so easy as some of the speakers might have led us to suppose. It was now in just about the condition that the surgery of tuberculous joints was twenty years ago.

Dr. Wills, of Los Angeles, said that he was glad so much attention was being accorded this very important problem by the Eastern surgeons. It was a question of vital import to the dwellers on the Pacific Coast, where countless numbers of hopeless tuberculous patients were sent to die and to infect those almost sterile regions. He related a case of a patient on whom three years ago he had performed an extensive pneumotomy, and who, snatched from the grave, was now enjoying excellent health.

Dr. W. W. Keen, of Philadelphia, spoke first of the need and mode of causing adhesions between the lung and pleura before opening a pulmonary abscess which would otherwise drain into the chest; second, of his mode of suturing a large area of the lung around the margin of a thoracic wound as a means of averting primary pneumothorax.

Dr. Willard said, in closing, that secondary emphysema, which came sooner or later in the event of our not closing the bronchus, was one of the gravest sequelæ of pulmonic surgery. It was progressive and would cause death. All abscesses should be opened and drained. Adhesions should always be provoked, unless already present, before cavities were opened.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Third Day—Thursday, June 6th.

A New Operation for Retro-displacement of the Uterus.—Dr. Emil Ries, of Chicago, presented this paper. The advantages of the vaginal route, he stated, were: (1) It exposed only a limited area; (2) shock and the danger of sepsis were minimized; (3) it required less handling of the intestines and less adhesion as a consequence; (4) it did away with a visible scar; (5) there was no ventral hernia; (6) there was but a short detention in bed, and the after-treatment was very simple. Vaginal fixation as ordinarily employed was a failure; because, if the uterus was fixed too close to the anterior vaginal wall, there would be trouble should pregnancy occur; if loosely attached, there would be a return of the displacement. With other methods of shortening of the round ligaments, the uterus was held by unstable adhesions, and kinking of the Fallopian tube was common. By the new method the ordinary vaginal incision was made, and the uterus and appendages were brought out. The round ligament was detached from its peritoneal covering by a blunt dissection, and a catgut ligature was passed through each ligament. On the anterior surface of the uterus, on a level with the tubes, a tunnel one inch long was made through the uterine tissue by means of an artery forceps. The round ligament on one side was drawn through the tunnel by means of its attached catgut ligature. The same thing was done with the round ligament on the other side, and each was anchored at its point of exit from the tunnel. The raw surface at each end of the tunnel was now covered with a few sutures. By this means there was a very slight loss of blood, only a few stitches were placed in the uterus, and the patient left the hospital within a week. In all the cases examined, one year after the operation, good results had been found. In all, twenty cases had been subjected to this method.

The Surgical Treatment of Retroversion of the Uterus.—Dr. Franklin B. Martin, of Chicago, stated that there had been more than fifteen modifications of the ordinary Alexander operation, yet none of them had been perfect. The following operation had afforded him the best results in simple retroversion free from adhesions. The ordinary Alexander incision was made on both sides. A pair of forceps was passed from one side under the skin and superficial fascia, and after grasping the ligament of the other

side it was drawn through to the opposite side. The two ligaments were then tied in a knot, the uterus having previously been brought forward. Sixty-one cases had been subjected to this method in five years, with uniform success. There had been six pregnancies among these patients, without any evil results. By this operation we secured: (1) Uniform shortening of the ligaments; (2) a permanent and strong fixation of the ligaments; (3) an accomplishment of this result without the necessity for placing sutures of any kind, temporary or permanent, for the purposes of fixation and shortening; (4) the elimination of the possibility of fistulous tracts being established, because of the infected deep, permanent suture, and obviation of any separation due to buried absorbable suture; (5) this method of fixation seldom gave rise to any pain at the point of attachment of the ligaments, like that frequently complained of when the ligaments were attached separately by the permanent suture. For cases of extensive adhesions the author had devised the following method: The ordinary incision was made through the abdominal wall as for ventro-suspension; a strip of peritoneum one-half inch long, extending along one side of the incision for about two inches, was dissected off, leaving the lower end attached to the abdominal wall. A Cleveland ligature carrier was passed through the structure of the uterus behind the fundus, from behind forward; the strip of peritoneum was grasped by the ligature carrier and drawn through the muscular issue, and then brought up and attached to the abdominal wall at the place from which it was detached. A small fixation catgut suture was now passed through the uterus, as in the operation for ventro-suspension, and the incision closed. In some cases the urachus might be used instead of the peritoneal strip. By this method there was no form of permanent buried suture. It secured permanent fixation with free mobility, and did not interfere with pregnancy. The writer presented a tabulated report, covering a period of four years, and including one hundred and seventy-three cases, with a mortality of three and a half per cent. There were three failures. There were two cases in which pregnancy subsequently occurred. Serious mental disturbance existed previous to the operation, and was the paramount symptom for which relief was sought in nine cases. All of these patients were absolutely well now.

Dr. J. Riddle Goffe, of New York, said that the uterus was not supported by the perineum. The utero-sacral and utero-vesical ligaments were the main supports of the uterus. If we could keep the cervix well up in the hollow of the sacrum by the shortening of the utero-sacral ligaments, we would have the ideal method. Thus far, it had been impracticable. Simple retroversion was not a very serious condition. He made a loop in the round ligaments and fastened the loop to the anterior surface of the uterus. Since he began to use silk as a suture material six years ago he had had no failure.

Dr. W. H. Humiston, of Cleveland, Ohio, believed that in simple retroversion a thorough curettage and the use of a suitable pessary for three months would cure most of these cases.

Dr. A. Goldspohn, of Chicago, stated that in all operations having the production of adhesions as a basis, recurrence was extremely common after pregnancy.

Dr. Howard Kelly, of Baltimore, had done more than six hundred abdominal fixations by his method with two per cent. of relapses. Out of a series of two hundred and fourteen cases, forty-three patients became pregnant, and in no case was there any trouble during labor. Recently he had devised a new modification of the round-ligament operation. A hole was made in the broad ligament, and the round ligament was pulled through and anchored behind.

Dr. McDermott, of Chicago, related the history of a case of pregnancy interfered with by adhesions, due to operation for retroversion, in which he opened the abdomen, freed the adhesions, and the case went on with successful termination.

Dr. E. E. Ries, of Chicago, stated that the small cysts found in the ovary were normal, caused no symptoms, and need not be disturbed.

Dr. Martin, in closing, stated that in his experience, simple retroversion could be cured by local treatment and the use of the pessary in but one out of four cases. By the methods he had described, there were no hernia and no mortality.

Position of the Patient during Delivery.—This paper was presented by Dr. W. D. Porter, of Cincinnati, Ohio, who held that puerperal infection was most likely to occur during the later part of labor from fecal matter. To obviate this, the patient should be put across the bed with her hips well down to the edge and the legs extended. They were held by assistants or placed on the backs of chairs. This position was not tiresome. The operator sat in front between the legs and cleansed the external genitals with an antiseptic solution. This position insured control of the head and perineum because the patient could not change her position. After the delivery of the child there was less danger of infection of the cord than by ordinary methods. This position should be maintained through the entire second stage of labor.

Prophylaxis and Treatment of Puerperal Sepsis.—This paper was read by Dr. J. F. Moran, of Washington, D. C. In the pre-antiseptic days from 1786 to 1826, the total death rate from sepsis in the several great maternity hospitals in Vienna and Dublin did not exceed six-tenths of one per cent. We could show scarcely any better results at the present day. The commonest cause of severe sepsis was the streptococcus. Infection by staphylococcus and colon bacillus was much milder as a rule. The vulva was scarcely ever free from pathogenic germs. The acids produced in the vagina generally prevented the growth of virulent organisms there. Recent observations upon four thousand cases, in which one-half were given antiseptic douches, showed that the morbidity was much less in cases that were not douched. Rubber gloves were essential for clean obstetrics. In the treatment of puerperal sepsis great care must be used in curetting and in the use of strong antiseptic solutions. In differentiating between sepsis due to the streptococcus and other organisms, it might be mentioned that the pulse rate was found higher, altogether out of relative proportion to the rise of temperature, and the constitutional symptoms were more severe in streptococcus infection than in sepsis from other causes. In staphylococcus or colon bacillus infection, the temperature might be high but the pulse was lower. The author had employed antistreptococcic serum in several cases of pure streptococcus infection, with the happiest results. Hysterectomy should never be done for puerperal sepsis.

Indications and Contraindications for the Use of the Curette in Obstetric Practice.—Dr. H. C. Fry, of Washington, D. C., maintained that whenever possible the finger should be used instead of the curette for cleaning out the uterus. The use of the curette in cases of streptococcus infection was extremely dangerous because there was a protective zone thrown out by nature in most of these cases, which the curette broke down and general septicæmia followed. If a saprophytic infection was present curettage was indicated. Often this might be determined by the foul-smelling discharge, which was indicative of saprophytic infection. If one were in doubt, cultures should be taken, followed by a preliminary injection of salt solution. Agar formed the best medium for the growth of strep-

tococci. The growth could be made out plainly within twelve hours.

A Case of Streptococcus Infection Following Labor.—Dr. W. H. Humiston, of Cleveland, reported this case, in which immediate drainage of the peritoneal cavity was secured by incision in the cul-de-sac through the vagina. A grayish slough on the torn surfaces of the cervix, resembling in every respect a diphtheritic patch, was proved to have been produced by the colon bacillus. Since adopting vaginal incision and drainage, the author had not lost a case of puerperal sepsis when the septic foci were confined to the pelvis.

The Practice of Obstetrics as it Is and as it Should Be.—Dr. E. Gustav Zinke, of Cincinnati, Ohio, held that all women should be delivered by the family practitioner in the maternity hospital, because in no case could we be prepared for all emergencies in a private house. The scarcity of physicians who restricted themselves to obstetrics was because the remuneration at present was too small.

Dr. Kates, of Minneapolis, said that if a digital examination of the interior of the uterus was made and a smooth surface was felt, the streptococci were likely to be the cause of the infection. If a rough surface was found, sapræmia or a mixed infection was more likely. In these latter cases it was safe to curette.

Dr. Henry, of Omaha, said he curetted all cases and then thoroughly cauterized with carbolic acid.

Dr. J. W. Bovée, of Washington, advised that a wet antiseptic pad be kept on the vulva during labor and for several days thereafter.

Ectopic Gestation.—Dr. W. H. Wathen, of Louisville, stated that ectopic gestation was never primarily abdominal. There had been only one case of ovarian pregnancy reported before the one here exhibited. Tubal pregnancy was the most common form of ectopic gestation. In the treatment, the author advised that before rupture the vaginal method of extirpation was usually to be preferred. After rupture, when the blood was confined between the layers of the broad ligament or in the cul-de-sac, and in intra-abdominal rupture, when there was but little hemorrhage and in all other conditions, the suprapubic method was preferable. In cases beyond the third month, when the placenta could not be entirely removed, an incision should be made in the pouch of Douglas and the sac stitched there, shutting it off entirely from the abdominal cavity in the same manner as an intraligamentous cyst was treated.

The Increasing Sterility of American Women.—Dr. George J. Engelmann, of Boston, Mass., stated that the sterility of woman had increased hand-in-hand with the much-discussed decrease of fecundity everywhere to some extent, but in the United States to an excessive degree, as fecundity had diminished more rapidly here than in any other country. From a sterility of two per cent. of the eighteenth century and a fecundity of five children to the marriage, conditions better than in any other country, and such as led to the Malthusian theory of super-fecundation, we had gone to the other extreme, and now the sterility was greater and the fecundity less than that of the women of any other nation except France. The generally accepted ratio of sterility among civilized nations was eleven per cent. In this country the average was twenty per cent. In some States it reached twenty-five per cent. The fecundity in some parts of Europe reached eight to the family. The average was five to a marriage. In this country at present it was but two to each marriage. The sterility of foreigners in this country was thirteen per cent. Among college graduates sterility reached thirty-three per cent. The English Canadians in all these relations came under the same category as the women of the United States. The French Canadian had the highest fecundity of any nationality, amounting to nine to every marriage. Among college graduates there were but one-and-four-tenths children to each marriage. Normally, there was one miscarriage to every three-and-one-half labors; in the United States, one to every two-and-one-half labors. In Canada there was but one divorce to every sixty-three thousand marriages; in France, one in twelve thousand five hundred; in all the United States, one in one hundred and eighty-five; in Rhode Island, one in eight marriages. This condition of sterility went hand-in-hand with increase in divorce. There was an absolute and primary sterility due to utero-ovarian disease, mainly atresia, gonorrhœa, and endometritis with acrid discharge that was destructive to the spermatozoa. This was to be distinguished from secondary sterility, *i.e.*, conception and miscarriage. This primary sterility was much less frequent, twelve per cent. among Americans, three to six per cent. among foreigners, showing that among American-born there was a much greater proportion of sterility due to abortion. Once in four or five cases a sterility was due to the male. That this sterility was not mainly due to utero-ovarian disease was evident from the rapid increase hand-in-hand with the progress of gynæcological skill, which we have every reason to believe would reduce the number of childless women to a minimum if sterility were referable to tangible physical causes. The causes were moral rather than medical. The facts in this paper were based on records and statistical data gathered in various parts of the country, each one of which corroborated the other.

Dr. W. H. Duff, of Pittsburg, condemned the course of editors who allowed insinuating advertisements for the production of abortion to appear in the daily press.

Dr. E. D. Ferguson said that a great deal of the sterility was due to double epididymitis in the male. The paper was further discussed by Drs. Wathin, of Louisville, C. Graham, of Indianapolis, Coy, of Duluth, and Porter, of Fort Wayne.

Dr. Engelmann, in closing, said that in animals abortion occurred in twelve per cent. Epidemics of abortion had occurred often in large herds. Antiseptic precautions had successfully been employed in the governmental experimental stations in such epidemics.

GENERAL SESSION.

Fourth Day—Friday, June 7th.

Effect of Report on Reorganization.—The President said that as some confusion existed concerning the effect of the plan of reorganization on the present meeting, he would rule that the new constitution went into effect at the present session only so far as it concerned the election of representatives of sections to the House of Delegates, and that all standing committees, and all special committees created by the general meeting at the present annual session, should report next year to the House of Delegates.

Oration on State Medicine.—By Dr. Kober (see page 898).

Rockefeller's Donation for Research.—The following preamble and resolutions were unanimously adopted:

Whereas, Mr. John D. Rockefeller, of New York, appreciating the great importance and humanitarian utility of medical research, has recently donated the sum of $200,000 for the promotion of original investigation, and has placed the control of this sum in the hands of a committee composed of representative medical scientists under the able chairmanship of Dr. William H. Welch, of Baltimore;

Resolved, That the medical profession represented by the American Medical Association desires to express its appreciation of this generous gift and the gratifying fact that the needs of scientific research in medicine are so fully appreciated by the donor;

Resolved, That a copy of these resolutions be presented to Mr. Rockefeller.

Decisions Affecting Membership.—The Judicial Council reported through its secretary, Dr. Frederick Holme Wiggin, of New York, that it had ordered the names of certain members dropped from the roll because of their having been already dropped by their local association for arrears of dues, the same to continue in effect until such time as these persons should see fit to pay all indebtedness to said association. The council also instructed the secretary of the American Medical Association to notify those who had severed their connection with the local organization in affiliation with the national body, as well as those who had moved to other States or counties without having secured membership in the local affiliated organization of their new residence, that if they did not after a reasonable time secure membership in such local affiliated medical association, their names would be removed from the list of members of the American Medical Association. This action of the council was final, there being no higher court.

Restoration of Army Canteen Favored.—On the recommendation of the committee on legislation, the following resolutions were adopted:

Resolved, That this body deplores the action of Congress in abolishing the army post exchange or canteen, and in the interests of morality, discipline, and sanitation recommends its re-establishment at the earliest possible date;

Resolved, That the United States Congress be petitioned to repeal at the earliest possible moment the objectionable law which prohibits the army canteen.

Dr. J. A. Wyeth, of New York, the president-elect, was then escorted to the chair amid great applause. There were over eighteen hundred registered at this meeting.

JOINT SESSION OF SECTIONS ON PRACTICE OF MEDICINE, HYGIENE, AND SANITARY SCIENCE.

Fourth Day—Friday, June 7th.

Further Report on Pseudo- or Modified Smallpox.—Dr. T. J. Happell, of Trenton, Tenn., said that last year he had reported to the section his experience based upon three hundred cases of pseudo- or modified smallpox, made from a bedside study of the disease in all stages. He now spoke of some of the anomalies met with in four hundred cases that had recently come under his observation. In many instances the disease was noncommunicable. Many vaccinated persons contracted the disease, whilst many who had not been vaccinated escaped. The following differential points were presented: In the modified form there did not appear to be any prevailing types of the disease, the cases differing only in degree. The incubation was from fourteen to eighteen days. In smallpox, the varieties were varioloid, discrete, hemorrhagic, and confluent, and the incubation period was from fourteen to twenty-one days. The symptoms were stated to be as follows. From the first to the third day: In the modified form, at the onset the patient complained of cold; felt as though an attack of grippe or tonsillitis was coming on. The temperature was 102°–105° F. There was little or no vomiting. The pulse was full and rapid. Little or no prostration, and no delirium were present. No convulsions occurred in the young. In a few cases there might be sleeplessness. In smallpox the onset was sudden, with violent chill, persistent vomiting, agonizing pain in the back and head, and shooting pains in the limbs. The temperature was 103°–104° F. The pulse was full, strong, and rapid. The prostration was great from the onset. The eyes were injected. Sleeplessness, delirium, and convulsions occurred in the young. Third day: In modified smallpox no coarse red spots appeared. In smallpox coarse red spots appeared on the lips and forehead. With the appearance of these spots the temperature fell to the normal and the patient was comfortable. Fourth day: In the modified form an eruption appeared, whose character was generally that of an acne. In some rare instance the shot-like papules appeared. The temperature fell to the normal, and the patient almost invariably got up, if he had gone to bed, and said he was well. The eruption first appeared on the face: in men, about the forehead, cheek, and chin; in women and children, irregularly about the face. There was usually a sore throat. In smallpox the small red spots appeared on the forehead at the margin of the hair, later on the extremities. Papules followed the red spots. They had a shot-like feel. Fifth day: In the modified form the acne-like eruption and papules developed into vesicles which assumed an opalescence at once. These vesicles were unicellular and were not umbilicated. The serum which exuded at their apices dried and turned brown, and this in some cases gave them the appearance of umbilication. There was no puckering of the vesicle at its border. The temperature was generally normal unless it rose from abscess formation or other causes. The vesicle might dry up and the disease might be said to have aborted. A rapid recovery followed. In smallpox papules appeared on the wrists and forehead. Sixth to the ninth day: In the modified form the vesicles became filled with an opaque lymphoid fluid; in some cases with a brown nucleus in the centre, which gave it an umbilicated appearance. This vesicle, with its opaque fluid miscalled pus, shrank to half its diameter and became a thin brown scab, perfectly circular. The patient felt well and hungry after the appearance of the eruption. The latter occasionally affected the conjunctiva. There was no secondary fever. By the tenth day the skin might be entirely clear. In true smallpox vesicles appeared in place of papules, and the eruption spread gradually over the entire body. The vesicles were umbilicated and multilocular. On the eighth and ninth days the vesicles became pustular. Tenth to twelfth day: In smallpox pus oozed and formed scabs, and the stench was particularly bad. Seventeenth to twenty-first day: In smallpox the scabs dropped off, leaving red glistening pits which soon became white. Ulceration was deep. Ophthalmia was generally present. Pustules pervaded the mouth, larynx, pharynx, and trachea. As to papules, in the modified form, when these were present, they were the same size as in smallpox, perhaps a little smaller, but fewer. There might be none. The vesicles ranged in size from the head of a pin to a split pea. They were not umbilicated and when punctured collapsed. The vesicle was unilocular. Convalescence began at the appearance of the eruption. The so-called pustule did not extend into the derma. The epidermis was the only structure of the skin involved; hence there was no pitting. Those vaccinated contracted the disease. In smallpox the papules were about the size of No. 4 shot and had a translucent appearance. They occurred on the entire body, including the palms and soles, appearing first on the face and hands. The vesicles were umbilicated and multilocular. So was the pustule and neither would collapse in toto if pricked with a needle.

Smallpox; the Old and the New.—Dr. W. L. Beebe, of St. Cloud, Minn., stated that he had been identified with two epidemics (twenty years apart) and though they were evidently both smallpox they were

very dissimilar in many characteristics. He thought that many of the recent cases had been diagnosticated chickenpox when they were really smallpox.

The Sanitary Features of Smallpox.—Dr. Louis Leroy, of Nashville, Tenn., held that a competent physician should be placed in charge and given absolute power to act; he should communicate with boards of health. Daily official reports should be made to newspapers, stating the exact condition of affairs. Smallpox treatment in private was really a make-shift. Complete and perfect isolation should be insisted upon. Everything possible should be destroyed by burning after the patients had been discharged. He advocated the hypodermic needle as a means of introducing vaccine virus beneath the skin, in aqueous solution or glycerinated lymph. A solid piston hypodermic needle was used, and a drop of the lymph was forced into the skin, not beneath it. It had many advantages; in cases of compulsory vaccinations it could not be washed off; there was absolute freedom from infection at the time of vaccination. It was painless and no immediate dressing was necessary.

The Diagnosis of Mild Smallpox in the Present Outbreak.—Dr. Heman Spalding, of Chicago, stated that on February 15, 1899, smallpox had been introduced into Chicago from Cincinnati; and in the seventeen months following there had been seventy-two cases, twenty-five of which were direct importations. For a period of three and a half months there was entire freedom from the disease. Then there occurred another outbreak. These two outbreaks gave him an opportunity to study 310 cases in the Chicago Isolation Hospital. One hemorrhagic case proved fatal; 13 were confluent (3 deaths); 24 semi-confluent (2 deaths); 54 severe discrete (no deaths); 179 mild discrete cases (no deaths); 39 modified form (no deaths); 271 of these had never been vaccinated. The term varioloid should not be used. None of those afflicted with the mild form of the disease contracted smallpox from the severer typical cases in the wards, where the exposure had been prolonged and certain. The mild form of the disease gave immunity from smallpox and yet would transmit typical confluent or hemorrhagic smallpox.

The Distinguishing Characteristics between Mild Discrete Smallpox and Chickenpox.—Dr. Frederick Leavit, of St. Paul, made the following summary:

	Smallpox.	Chickenpox.
Age	Any age	Childhood.
Incubation	Two weeks	Thirteen to seventeen days.
Invasion	Marked headache, backache, fever, general malaise, lasting three to four days.	Is none, or at most only slight; worse in the covered portions, thorax.
Surfaces attacked	Worse on the exposed parts, extremities; invariably on the palms.	Rarely or never seen on the palms or soles.
Character of the eruption.	Progressive; papules, vesicles, pustules, crusts.	Papules and crusts; lesions very superficial; easy to rupture.
Histology	Lesion includes the lower layers of the derma; hard to rupture; multilocular.	Unilocular.
Temperature	Remains high (103–105°) till eruption appears, then drops and does not rise again for a week, and not then in the milder discrete forms.	Rises with the severity of the attack.
Contour of the eruption.	Quite uniform in size; has a reddened area at base; frequently umbilicated.	Not uniform; also inflamed area about the vesicle, but less marked.
Sensation	Painful to the touch; may itch.	Not painful to touch.
Duration, including period of invasion and desquamation.	Two to four weeks	One week to fourteen days.
Vaccination	Protects	Does not protect.
Pitting	When confluent on face will occasionally mark in the discrete form.	Seldom unless infected.
Complications	Generally none	None.
Mortality	High in severe confluent and hemorrhagic types.	Nil.
Resolution	By crisis	By lysis.

Variola.—Dr. H. M. Bracken, of St. Paul, stated that in the State of Minnesota there had been reported 7,211 cases of variola, with 49 deaths, during the past two and a half years. He did not think one could be governed in the diagnosis of all cases in this present epidemic by the usual text-book descriptions of variola. Typical prodromal symptoms might be present, but the rash might vary in degree, in form, in type, progress, and final disappearance. Of 662 cases in 244 houses, but 10 patients had been successfully vaccinated at any time prior to their infection, and of these 10, thirty years had elapsed since successful vaccination for two of them, over twenty-five years for four of them, twenty years for one, and six years for one. The Chicago board of health made the following statement: "Out of a total of 171 cases of smallpox found in Chicago between November 30, 1900, and April 10, 1901, 140 had never been vaccinated. Of the remaining 31 cases, 29 were adults showing faint, poor, or irregular scars, claimed to be evidence of attempted vaccination in infancy or childhood—the most recent being twenty-three years old. Only 2 out of the 171 cases exhibited typical scars of successful vaccinations. Since vaccination had been made compulsory in the schools of Chicago smallpox has disappeared from them. The degree of immunity depends, in part at least, upon the intensity of the infection. Marson gives the following death rate among those who have been vaccinated: One cicatrix, 7.73 per cent.; two cicatrices, 4.7 per cent.; three cicatrices, 1.95 per cent.; four or more cicatrices, 0.55 per cent."

Dr. J. M. March, of Canton, Ohio, made a strong plea for accuracy in diagnosis and universal vaccination. He was of the firm conviction that the mild epidemics of the past few years throughout the country were those of variola vera.

Dr. Ricard, of Minnesota, spoke of his experience in an epideimc in which seventeen hundred and fifty-eight cases occurred. It often happened that the only unvaccinated member of a family became affected.

Dr. J. A. Barr, of Pennsylvania, dwelt upon what one should consider successful vaccination. The scar present did not indicate "successful" vaccination. He thought only those repeatedly vaccinated could be said to have been successfully vaccinated. Taking 6,000 cases, it was found that 14 per cent. were fatal among those who had been vaccinated once, and 8 per cent. of those vaccinated twice, and so on. It took as a rule four good scars to indicate immunity.

Dr. Fox said that no State was safe until this mild smallpox was stamped out.

Dr. Martin, of Mississippi, took the ground that there were different varieties of smallpox, and that they bred true. He described several varieties with the popular names by which they were known: "four spot," "yellows," "stonepox," etc. He had traced sixteen cases, all similar, to infection from a patient with identical lesions.

Dr. Happel said he had never opposed vaccination, but had strongly advocated it. He believed the present outbreak in Tennessee a hybrid disease that bore the same relationship to variola that rötheln did to measles. Vaccination did not protect against it.

The Chairman was of opinion that vaccination did protect against the mild cases described in the various papers, and placed before the section a resolution to the effect that the prevailing epidemics throughout the country were those of smallpox, and should be treated as such. This was adopted by almost unanimous vote.

SECTION ON SURGERY AND ANATOMY.

Fourth Day—Friday, June 7th.

Indications for Operation in Calculous Nephritis and Ureteritis.—Dr. C. L. Leonard, of Philadelphia, stated that the *x*-ray had shown the very great

relative frequency of ureteral calculus. The absence of symptoms showed that the ureter was extraordinarily tolerant of these stones, and now that we had a means of actually being able to watch them and study the progress they were making, we were relieved of the necessity of operating on a great many cases which heretofore demanded exploratory incision. In one hundred and sixty-five cases the certainty and accuracy of the *x*-ray as a guide for and against operation had been well demonstrated. One very valuable point which this series had shown was that over fifty per cent. of all stones were located in the ureter; another, that the urine, formerly considered so important a factor, had been shown in many cases to be negative. A distended kidney was a good rather than an evil sign, because, in the absence of neoplasm, it showed that there was a *vis a tergo* behind the stone, which experience proved would in many cases dislodge it; on the other hand, in the absence of a large kidney, this force was lacking. The employment of instruments of all kinds seemed to be less valuable than the *x*-ray. In the female, however, this was not quite so true, since in the veins of the broad ligaments phleboliths were occasionally found, and these might interfere with *x*-ray diagnosis. In the male, anuria or a complete blockage of one ureter by calculus of course indicated operation. The presence of pus, however, did not necessarily do so. Every effort should be made to clear the urine by the use of disinfecting drugs, which even in the presence of grave provocation would often accomplish a great deal temporarily, and would thus afford a safer ground for operation. Interureteral operations were facilitated by suprapubic cystotomy and by a special method devised by the author. The *x*-ray had made possible a differentiation of cases in which conservatism was good surgery, from those demanding immediate operation. It had put the question of urinary calculi on a scientific basis.

Acute Infective Cholangitis and Cholecystitis as a Complication of Gall Stones.—Dr. D. N. Eisendrath, of Chicago, formulated the following questions: (1) Do the bile passages normally contain germs? Probably not, except near their entrance into the duodenum. (2) Is bile bactericidal? It probably inhibits the growth of the colon and typhoid bacilli. (3) How and when does infection of ducts occur? Occasionally from above, via the blood; more frequently from below. Any interference with the flow of bile at once increases the number of germs in the ducts. (4) The relation between infection and gall stones, and the effect of these on the liver tissue. He then cited a case, and drew the following conclusions: When pus is present in the gall bladder, the outlook is very grave. There must be no delay in operating as soon as gall stones have been diagnosed.

Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine.—He cited also a case of typhoid fever which had been greatly complicated by a very large abscess which, forming in the anterior abdominal parietes, had eventually opened near the umbilicus. Associated with it was a compensatory kyphosis, which, even after careful study, was only with great difficulty differentiated from typical tuberculous spinal lesion. The literature showed abscesses to be not infrequent sequels of typhoid, even in parts very remote from the abdomen. It was probable that Zenker's muscle degeneration was an important factor in affording the typhoid germ, which seemed to be the most frequent source of these abscesses, an opportunity to establish itself in the tissues. Of the few abscesses which were formed in the abdominal walls, most had finally opened near the umbilicus. It was interesting that certainly at their maturation they did not in any way connect with the gut. His conclusions were as follows: (1) Abscesses of the abdominal wall occurring occasionally after typhoid are not apt to be fatal and heal well after thorough drainage. (2) If large, these abscesses often produce extensive deformity, may yield some of the typical symptoms, and, particularly as regards the kyphus, resemble heart disease.

Dr. Smythe, of Memphis, in discussing these papers, reported a case which had come to him some time ago, presenting symptoms of violent cystitis. After two weeks' futile treatment by other methods, a preliminary suprapubic cystotomy was done. The patient made a good recovery, and was discharged from the hospital. A short time after, the symptoms returned with increased virulence, and, all else failing, in the presence of free discharge of pus from the ureteral opening, in which an abundance of gonococci were found, nephrectomy was done. There was good recovery from the operation, but subsequently the man complained of dyspnœa, and on auscultation of his heart there was revealed an acute septic endocarditis. The remaining kidney seemed to suffer from a similar infection—at all events, the patient soon presented the typical signs of advanced nephritis. This was a case in which the gonorrhœal sepsis had been very generally distributed throughout the body from the kidney as a nidus. The discussion of gall stones was of particular interest to surgeons of the Mississippi valley, because there was, particularly in its southern portions, an unusual number of these cases. Whether this was due to the existence of a great deal of malarial and typhoidal infection could only be surmised. In the cases which had come under his notice, jaundice had not been associated with gall-stone colic. After the removal of the stone, he invariably washed the bladder with silver nitrate, and if he found this organ reasonably healthy, he closed it very securely by a special technique.

Dr. McGowan, of Los Angeles, had found Dr. Leonard's paper of unusual interest. He asked if the *x*-ray always and invariably gave indication of the presence of a calculus. He wondered what was the percentage of errors which had been made by this technique. Under his care, and, indeed, under his knife, there had come two so-called *x*-ray burns. One of these occupied an entire year in healing; the other one resisted treatment for eighteen months. In each he was obliged to cut away the offending tissue as freely as if it had been malignant. He would wish to know if these conditions arose with the new technique. He felt that clinical judgment in these series of cases, just as in many others, was more to be relied upon than laboratory findings. The surgical sense of the trained and experienced surgeon was of greater value than any microscopic report or *x*-ray.

Dr. Thomas, of Pittsburg, cited three cases which showed that the Harris segregator and the *x*-ray were neither of them infallible. He believed that the idea of closing the gall bladder after the removal of the stones, and in the presence of a comparatively uninjured mucous membrane, was gaining ground.

Dr. Crane, of Vermont, said that he had had an experience of several thousand cases in this *x*-ray work, and wished to emphasize that it was not the *x*-ray, but the negligence of the operator who kept his patient too near the tube and exposed him too long, which gave rise to these distressing so-called burns. The skiagram was dependent on the atomic weight of the substance casting it. Varieties of calculi had variable densities. Oxalate-of-lime calculi, for example, had a greater atomic weight than that of uric-acid stones, consequently they cast a much deeper shadow. The question of differentiation of the shadow was important.

Dr. Means, of Ohio, discussed cholangitis and

cholecystitis. It was a yet unsolved problem how gall stones formed. Was infection a secondary matter in the process, or was it a primary factor which had as yet not been thoroughly worked out? Because of the fatality of these cases, which were operated on for stones during an acute attack, and because of the comparative safety of the operation during quiescence, it was obviously of the greatest import that we should find some means of discovering the existence of stones before they produced their ordinary symptoms. He emphasized that jaundice was not by any means diagnostic of gall stones.

Dr. Davis, of Omaha, had experimented for some time in an effort to find what constituted the nucleus of gall stones. In cases which had not had typhoid fever the colon bacilli were almost invariably found at the centre of the calculus. In typhoidal cases their place was taken by the typhoid germ. Thus, although his cases were not numerous enough to admit of any positive statement, he would say that they at least agreed with the observations of others that the primary cause of calculi was bacterical infection. Once the diagnosis of gall stones was made, immediate operation was necessary. No surgeon was justified in allowing the contents of gall bladders to drain into the peritoneum. In these cases he should be as careful to wall off the area as he was in appendicitis. He protested vehemently against the closure of the gall bladder. It should be drained till every possible indication of infection had passed away.

Dr. Dunsmore, of Minneapolis, asked whether there was any difference in the liability to burn in the different types of *x*-ray machines. He emphasized strongly the importance of "clinical sense." He felt that closure of the gall bladder in properly selected cases was not attended with danger, and reported a number of cases in which this had been successfully accomplished.

Dr. Rodman, of Philadelphia, said that in his city the accuracy of the *x*-ray was considered to be of the very highest type. There it was placed by the best men far ahead of "clinical sense." He had not seen any burns, even when the rays had been flooded on the face, and this from a series of hundreds of cases in which they had been used by a colleague. Indeed, he knew of an infinite number of instances in which not even the mildest type of conjunctivitis had followed its prolonged use in the eye.

Dr. Lemon, of Milwaukee, cited two interesting cases of dissecting post-typhoidal abdominal abscesses. Both of these cases, one of them by Dr. Keen, had been mistaken for appendicitis, for the tumor was low and on the right side. They were unaccompanied by jaundice. Though the occurrence was rare, he was glad that a paper on this important topic had been presented to the section.

Dr. Bloodgood, of the Johns Hopkins Hospital, spoke of the relation of gall stones to pancreatitis. This was such a rare condition that the most careful record should be kept of every case. The work of Opie and others had shown the very important relation anatomically between gall stones and pancreatitis. In a case of Halsted's, of the acute hemorrhagic form, which after operation proved fatal, Opie was so fortunate as to find a small stone lodged in the ampulla of Vater. There it lay like a ball valve, allowing a small amount of bile to pass, so that the patient did not become jaundiced, but yet causing sufficient back pressure to drive a certain quantity into the pancreas. If the stone was lodged higher up in the common bile duct, it not only obstructed its lumen, but, because of the nearness of the pancreatic duct and the frailty of the septum separating them, it undoubtedly induced an inflammatory reaction which often developed into pancreatitis. This blocking of the pancreatic duct might be a factor in accounting for the extraordinary loss of weight sometimes seen in cases supposed to be simple obstructive jaundice. One argument in favor of always marsupializing the gall bladder, even in cases in which no stone was found, was that this procedure was now known to be curative of the chronic pancreatitis which was as yet ofttimes mistaken for cholecystic troubles.

Dr. Porter, of Fort Wayne, believed that the colic so characteristic of gall stones was not produced by the passage of the calculus at all. Both the pain and the jaundice were due to a common cause—the infection and inflammation of the tract.

Dr. Mitchell, of Missouri, asked if the pain might not be induced by the very acid character of the secretion.

Dr. Bernays, of St. Louis, did not believe the pain to be inflammatory in origin. This view he based upon the fact that there were many cases in which no lesion whatsoever was to be found.

Dr. Leonard, in closing, said that some of the points which he had endeavored to establish were as follows: First, that a great many of the stones which were now searched for would pass if left *in situ;* that a detection of even a large stone did not by any means always indicate operation. He had had failures. These he had published. The word opacity had acquired a new meaning since the discovery of the *x*-ray. Proper interpretation of a skiagraph depended on the realization that the sum of the shadows in one area must necessarily be greater than the sum in another. The negative power of diagnosis of this method was as great as the positive. Nevertheless, the clinical side must always remain a very potent factor. In reference to burns, the factor engendering them was the *x*. It was absolutely unknown. However, he believed it was not the ray, but was the effect of the current around the tube. This belief he based on the observation that his own hands had been burned repeatedly, although he rarely if ever placed them in the course of the ray. All forms of machines were equally liable to produce the lesion. He had found a grounded screen to be a great protection. He was now prepared with a considerable degree of positiveness to diagnose which conditions should be left to nature. These were more numerous than formerly supposed, for a careful observation of many cases had shown the ureters in particular to be singularly tolerant of stone.

Dr. Eisendrath, of Chicago, said that abundant evidence had been presented to show that gall stones must be treated surgically. Infection was the first factor which gave knowledge of the presence of stones. In themselves they seemed often to be dormant. All the biliary and pancreatic ducts were sterile save the ampulla of Vater. A Japanese experimenter named Mijake, in a series of experiments on dogs, in one class of which he tied the ducts, in another class of which he infected the ducts, showed that no permanent lesion resulted unless these conditions went hand-in-hand. Sudden death, so frequent in these cases of infective cholangitis of the suppurative type, was due to a paralysis of the function of the liver cells which normally disposed of the germs and their products. He agreed with Dr. Bloodgood and others that a primary suture of the bladder was dangerous; it was better either to excise it or to drain. At the end of ten days if this be done the whole tract would be found sterile.

Dr. Bullitt said that renal surgery had a wonderful future. The progress that would be made would be engendered largely by the application of the *x*-ray. Leonard's conclusions that rays of certain powers must be used in differentiating the softer shadows of objects which were more or less penetrable was the

keynote to the whole situation. Burns might be produced by any type of machine.

Dr. Keokuk, of Iowa, demonstrated a method for the treatment of fracture of the femoral neck which he felt was in accordance with anatomical conditions, and which in the twenty odd cases in which it had been given trial, had shown twenty-five per cent. of cases in which there was no shortening whatsoever. In none of the others did it exceed one inch. His cases ranged from tender years to the limit of life. The principle of his technique was that there should be traction in the body line, just as in the ordinary Bucks extension method, and also in the line of the neck of the femur. In practice he applied the ordinary Bucks extension and then cast a band of adhesive plaster, about six inches wide, around the thigh on its inner aspect close to the perineum. This was drawn outward and upward, more traction was exerted upon the lower band than upon the upper, and a weight equal to that of the Bucks extension was applied.

Dr. Thompson, of Scranton, exhibited a specimen of united neck of the femur, which he had taken from a man aged sixty-two, upon whom he had operated by Gillett's method. A bone flap, consisting of a portion of the femur and the great trochanter, was turned down; a silver nail, three-sixteenths of an inch by two and one-half inches, was driven directly into the head of the bone. The wound was closed, and a plaster spica applied from the axilla to the tips of the toes. The result was perfect. Death occurred later from heart trouble.

A Simple Operation for the Treatment of Hemorrhoids.—Dr. J. R. Pennington, of Chicago, held that these tumors were to be considered typical blood-lakes or angiomata. The aim of an operation must be to reduce the destruction of normal mucous membrane while removing all the diseased area. He simply slit the mucous membrane over the hemorrhoid, evaginated the rectum, and enucleated the angioma. Saline irrigation flowed constantly over the wound. The mucous membrane fell back, and, because of the minimum of injury done, the patients so operated upon were relieved in a most radical fashion; they had very little post-operative pain, and were usually able to be up and about on the fourth day.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Fourth Day—Friday, June 7th.

Puerperal Eclampsia: its Etiology and Treatment.—Dr. T. J. Beattie, of Kansas City, stated that the etiology of puerperal eclampsia was still a mooted question. The theory of intoxication by urea, as well as that of mechanical obstruction of the vessels of the kidney or the ureter, had been exploded. Eclampsia was not dependent on diseases of the kidney because we might have eclampsia without uræmia and uræmia was not accompanied by convulsions. In all cases of eclampsia it had been shown that the urine contained micro-organisms. No one germ could be regarded as specific. It had been shown further that pregnancy caused a retention of poison in the blood because the urine of pregnant women was less poisonous than normal. Albumin in the urine was a secondary manifestation due to the direct action of the poison on the renal epithelium in an effort at elimination. Less than one and five-tenths per cent. of urea in the urine was the most significant evidence of impending eclampsia. In the prophylaxis frequent hot baths and catharsis were the most valuable agents. Special attention should be paid to the specific gravity of the urine in these cases. During the convulsions, chloroform should be administered, followed by an enema of gr. xlv. of chloral with egg and milk. Veratrum viride was the best general drug available in this condition. If given in sufficient quantity the pulse could be kept low, and if this was done convulsions very rarely occurred. Ten minims were to be given by hypodermic injection and be frequently repeated.

Dr. C. L. Bonifield, of Cincinnati, Ohio, said that in full-blooded individuals with strong bounding pulse, veratrum viride was an absolute specific. Fifteen to sixty minims of Norwood's tincture should be given and repeated every fifteen minutes until the pulse fell below sixty. It should be kept below sixty for three or four days. In thin, anæmic patients with a small, thready pulse, veratrum viride should never be used. Chloral and morphine were the best agents in this class of cases.

Dr. Cates, of Minneapolis, stated that by limited diet convulsions could be prevented in most cases if seen early. During the convulsion chloral should be combined with veratrum viride. Albumin in the urine was a very unreliable index of approaching eclampsia. It was only when there was a low percentage of urea with the albumin that the condition was dangerous.

Dr. W. H. Plummer, of Omaha, advised rapid delivery in these cases. Eczematous skin affections bore a close relation to the production of uræmia in many cases.

Dr. W. H. Hall, of Kansas City, had witnessed marvellous results from bloodletting in these cases. As a prophylactic measure, no remedy had given him as much satisfaction as pilocarpine administered as a diuretic in doses from gr. $\frac{1}{20}$ to gr. $\frac{1}{12}$ three times a day. The paper was further discussed by Dr. Rosenthal, of Fort Wayne.

Cæsarean Section as a Method of Treatment for Placenta Prævia.—Dr. W. J. Gillette, of Toledo, Ohio, stated that the most favorable result obtained in the treatment of placenta prævia by induced labor showed a maternal mortality of five per cent., and a fœtal mortality of fifty per cent. A circular letter was sent by the author to one thousand of the largest maternity institutions in this country, inquiring into the frequency of placenta prævia. The author received reports of 105,935 deliveries, among which there were 216 with placenta prævia, or 1:481. Thirty-four mothers died, with a mortality of 15 per cent.; 96 children died, with a mortality of 34⅓ per cent. In placenta prævia centralis the maternal mortality was 22 per cent., fœtal mortality 70 per cent.; in placenta prævia partialis the maternal mortality was 11 per cent., fœtal mortality 31 per cent. None of these mothers died before the seventh month. One-third of the cases reached full term. The high mortality induced Bernays in 1893 to perform Cæsarean section for this condition with a successful result. Since then there had been nine cases reported in this country in addition to the one done by the author, four of which had been successful as regarded both mother and child. Under proper conditions placenta prævia should not have more than ten per cent. fœtal mortality by this method. For emergency cases the Porro operation should be done, as it could be done more rapidly than Cæsarean section and was most useful in this class of cases because when the patient was seen she was exsanguinated, and such a uterus did not contract well. In such a case post-partum hemorrhage and sepsis were very prone to occur. When placenta prævia once occurred it was apt to recur at each subsequent pregnancy and thereby again endanger the life of the patient. In ninety-three cases of Cæsarean section done by German operators for other causes, there had been no fœtal or maternal mortality, and there was no reason why the mortality should be greater

in Cæsarean section done for placenta prævia, provided it be done before the patient lost much blood.

Dr. A. C. Bernays, of St. Louis, advised in these cases the classical Cæsarean section as described by Kelly, of Baltimore. By the methods of tamponing most of these cases would be lost.

Dr. Engelmann, of Boston, advised the use of a rubber bag to tampon the cervix, and then the vagina should be packed tightly with gauze.

Dr. C. L. Bonifield, of Cincinnati, said that if a patient had placenta prævia once, her uterus should be curetted and repaired, and in this way we might prevent recurrence.

Dr. F. F. Reese, of Cortland, N. Y., said he tamponed the cervix by means of the child's leg, and this usually stopped the hemorrhage. The mother's life should be considered paramount to that of the child, and capital operations not employed.

Dr. Gillette, in closing, stated that he would not advise this operation to be done in the milder cases of placenta prævia and in those in which the os could be easily dilated. In the fatal cases of Cæsarean section done for this purpose, the patients had always died from shock and hemorrhage from the uterus left after the operation.

Intra-uterine Amputations.—Dr. Maher, of Oakland, Cal., reported the case of a child born with the fingers of one hand and the toes of one foot missing. Later investigation showed that the amputation was due to fibrous bands that encircled the hands and toes on both extremities. A few days later a spontaneous amputation occurred on the other side, which could be observed to be due directly to the fibrous bands. In most of the cases hitherto reported, the amputation took place early in pregnancy, and it was generally thought to be due to adhesions of the amniotic sac. In this case this was not the cause. It was the author's opinion that it was due to an excess of fibrin in the liquor amnii that was deposited on the fingers and toes.

Gynæcology: its Contributions to Surgery.—Dr. Henry O. Marcy, of Boston, presented this paper. An exhaustive summary of the statistics of ovariotomy as reported by the author showed the progressive advance that had been made in this country beyond every other nation of the globe. Ovariotomy was first done by an American. Dr. Burnham, of Lowell, was the first in the world to describe and perform myomectomy for fibroid tumors. The author reported the first cholecystotomy ever performed. The gynæcological surgeon had been gradually evolved into a general surgeon, and gynæcology as such was rapidly disappearing, although it might be considered the cornerstone of modern surgery.

Officers Elected.—Dr. J. H. Carstens, of St. Louis, *Chairman;* Dr. C. L. Bonifield, of Cincinnati, Ohio, *Secretary.*

SECTION ON DISEASES OF CHILDREN.

Samuel W. Kelley, M.D., of Cleveland, Ohio, Chairman.

First Day—Tuesday, June 4th.

Measles.—Dr. J. B. Garber, of Dunkirk, Ind., read this paper. He said that certain peculiar organisms had been discovered in the secretions of those suffering from measles. No age was exempt from measles, and recurrence was not uncommon. The blood was fluid and dark in measles, and a large number of microbes had been found in severe cases. The period of incubation had been determined quite accurately by experiment and observation to be between twelve and fourteen days. A case occurring in the author's experience was related, proving that susceptibility to this disease began at birth. If the temperature continued elevated, though the rash was subsiding, one should be on the lookout for complicating bronchitis or catarrhal pneumonia. Koplik's sign was not always present. Malignant forms might occur both in epidemics and in isolated cases.

Dr. C. G. Slegle, of Minneapolis, asserted that measles was a disease which one was never too old to contract. He believed that when Koplik's sign was present it was pathognomonic, but in his experience it had been the exception for it to be present. He could not accept the author's statement that recurrences of measles were common; when such apparently occurred, he would explain them on the supposition that measles had been confounded with rötheln.

Dr. Clifton Scott, of Des Moines, said that his practice had afforded peculiar advantages for the study of measles on a large scale, and the experience thus gained led him to differ from the author regarding the susceptibility to measles at all ages. While it was true that very young infants might contract the disease, it was equally true that many children under one year of age would not develop the disease after exposure to it. In his experience, recurrence of measles was rare, but it undoubtedly occurred. It was certainly easy to confound measles and rötheln if attention were given to the rash alone, but the lesser degree of catarrhal inflammation, the presence of post-auricular glandular enlargement, and the generally trivial character of rötheln should serve to differentiate it from true measles. The presence of Koplik's spots had aided him materially in numerous cases in making the differential diagnosis between measles and smallpox.

Dr. Brownell, of Oneonta, N. Y., said that four years ago he had had under his care the father, mother, and two children in one family, each presenting all of the characteristics of measles. Two years later he had attended these same four persons while they were sick with all the characteristic signs and symptoms of measles. An old physician who had repeatedly declared his disbelief in the recurrence of measles in the same individual, and who had seen these individuals in their first illness, was asked to see them the second time, and he was forced to admit that in this particular instance measles had occurred twice.

Dr. J. M. Postle, of Hinckley, Ill., said that he had repeatedly seen a second attack of measles, and cited cases in support of his position. He added that the internal administration, either by the stomach or hypodermically, of suprarenal extract would check the catarrhal symptoms better in the majority of cases than almost any other medicine within his knowledge.

Dr. Charles Douglas, of Detroit, called attention to the wide difference in the mortality from measles in private and in institution practice. It was much greater in institutions, and this he attributed to the inherent vices of such subjects and the more feeble state of health of institution children. It was quite common, too, he said, for children to die of measles in institutions, and that, too, without any special complications.

Dr. Barber, of Minneapolis, called attention to the frequent occurrence of endocarditis as a sequela of measles, and said that children who were allowed to run about shortly after an attack of measles, and before fully convalescent, would often be found to have a heart murmur.

Dr. Townsend, of New Lisbon, Wis., relied upon the enlargement of the post-auricular glands as a means of distinguishing rötheln from true measles.

Dr. Garber, in closing the discussion, said that his statement regarding the common recurrence of measles had referred to true measles and not to rötheln, as he had taken for granted that all physicians recognized these as two distinct affections, and were competent to differentiate them.

The Pathology of Pertussis.—Dr. J. M. Postle, of Hinckley, Ind., presented this subject. He believed the disease to be a toxic neurosis, produced by a bacterium, probably that which Koplik and others had constantly found in the expectoration. He believed that these bacteria worked in the mucous membrane, primarily of the upper respiratory tract, and passed down secondarily into the primary bronchi and alveoli. They produced a toxin which attacked by preference those nerve cells which governed expiration. This toxin was supposed to produce nerve depression, and consequently a clonic spasm of the respiratory muscles. The excess of carbonic acid in the blood produced a powerful stimulation of the nerve cells governing respiration, and at the same time almost completely destroyed the toxin. The cells returned very promptly to their normal condition after this destruction of the toxin. Immunization and recovery took place in about four weeks under appropriate medication. Remedies which powerfully stimulated the respiratory centres should be selected. The use of suprarenal gland hypodermically or by the stomach would materially assist. Strychnine, or some preparation of nux vomica, would give prompt and decided results if pushed almost, if not quite, to slightly toxic effects. This medication would completely relieve the vomiting, and if the remedy were stopped there would be almost no paroxysms of coughing for a period of about forty-eight hours.

Dr. Douglas, of Detroit, asked as to how large an experience formed the basis of this recommendation of strychnine.

Dr. Garber replied that he had used it in about fifty cases in a period of three years, and it had yielded positively favorable results in every instance. Medical friends had also given the method a trial, with the same result.

Dr. Slegle, of Minneapolis, said that he thought the physician had less control over pertussis than over almost any other of the common diseases. The use of strychnine was old, and he could not understand how it could be given so heroically in country practice without a good deal of risk.

Antenatal Treatment of Hæmophilia.—Dr. J. W. Ballantyne, of Edinburgh, Scotland, sent a communication on this subject, which was read by the secretary. In it he reported a case which seemed to indicate the possibility of one's being able, by the administration to a hæmophilic mother, during gestation, of chloride of calcium, not only to save her from severe hemorrhages at the time of confinement, but also to prevent the child when born from becoming a hæmophiliac. As he very properly admitted, the case reported might certainly be only a concidence, but the history was given in minute detail, and was, to say the least, suggestive.

Drs. Slegle and Clifton Scott were disposed to consider the author's position a reasonable one, and commended the scientific spirit of the communication.

Report of a Case of a Child who Ate Paint, Wood, and Plaster.—Dr. Brownell, of Oneonta, N. Y., made this report. The child was ten months old, apparently of normal intelligence. Both it and its parents were healthy. The child ate these strange things whenever an opportunity presented itself. Suddenly, after a long period of obstipation, it died in a convulsion. The autopsy showed three intussusceptions, but no inflammation and no lesions which would throw any light on the case.

Second Day—Wednesday, June 5th.

The special order for this session was a symposium on typhoid fever.

Symptoms and Course of Typhoid Fever.—Dr. J. P Crozer Griffith, of Philadelphia, was the author of this paper. He stated that it could not be denied that typhoid fever was a disease which one having much to do with disease of children must encounter quite frequently. The great degree of malaise and fatigue seen in the adult was usually absent in children. It was common for the child to be brought to the dispensary complaining of loss of appetite and headache, and the physician was usually the first to observe that it had any fever. Usually after careful observation for several days the diagnosis of typhoid fever was made, chiefly by exclusion. Of course, in some cases the onset was sudden and marked; in others the suddenness was only apparent, the earlier symptoms having been overlooked. Very frequently only the serum reaction would distinguish the case from one of indigestion or of enteritis or of an attack of influenza. The average duration was about seventeen days, though abortive attacks were quite common. The mortality in children was from three to five per cent., being nearer the latter than the former. The typhoid roseola was nearly as frequently present as in adult life, according to the experience of many observers. In a very few cases he had seen herpes labialis develop. French observers had described desquamation as of not infrequent occurrence. Enlargement of the spleen was probably always present, and could usually be detected on careful examination if the abdomen were not too much distended. Epistaxis was probably nearly as frequent as in adult life. The temperature ran a similar course to that observed in adults, though it was subject to greater variations and often remained for a considerable time at the maximum. The remittent type of temperature seen in the later stages of typhoid in the adult was not so common in children. Vomiting was much more frequent than in later life, and even in advanced cases was often a troublesome symptom, and, indeed, he had known it to be the cause of death. Abdominal tenderness and distention were usually not marked. Intestinal hemorrhage was exceedingly rare, and when it did occur it was usually in children eight or ten years of age. One of the characteristics of typhoid fever in children was the tendency of the nervous symptoms to predominate over the intestinal symptoms. A certain degree of apathy was a common feature, especially in young children. The condition known as pseudo-meningitis was apt to cause confusion in the diagnosis. He had seen typhoid fever begin in children with all the symptoms of an acute leptomeningitis.

The Diagnosis of Typhoid Fever in the Laboratory.—Dr. John Lovett Morse, of Boston, Mass., sent this communication, which was read in his absence. The author said that the chief laboratory tests for typhoid fever were the Widal reaction, the examination of the urine and fæces for typhoid bacilli, the examination of the blood and of the rose spots for these bacilli, the diazo reaction in the urine, and finally the leucocyte count. The Widal reaction was observed in ninety-five per cent. of all cases, and was not usually observed before the second week. In a small number of cases it was never present; in others, it was present only intermittently; hence, typhoid fever could not be excluded even by repeated negative tests for this reaction, though the latter constituted extremely strong evidence of typhoid. The reaction might be obtained from the blood after the lapse of twenty-one years; hence, a positive reaction in persons who had had typhoid fever previously was not absolute evidence of the present illness being typhoid. The occurrence, however, of a positive after a negative reaction in a dilution of one in fifty should be looked upon as positive evidence of the presence of typhoid fever. The presence of the Widal reaction in early infancy was of less diagnostic value than in later life because the agglutinating power might be transmitted

from the mother to the fœtus through the placenta. It was also probable that it might be transmitted through the breast milk for years, but when so transmitted it did not persist for more than one week. Although typhoid bacilli were usually present in the stools before the Widal reaction was obtainable from the blood, it was a much more difficult test to apply, requiring laboratory facilities and expert knowledge. Typhoid bacilli could be found in the urine in from twenty-five to thirty per cent. at some stage of the typhoid. In a few cases only had they been demonstrated in the urine before the Widal reaction. The isolation of the bacilli from the urine was less difficult than from the stools, requiring only about two days. Typhoid bacilli had also been cultivated from the splenic blood obtained by puncture of the spleen, but this was not justifiable. It had also been obtained from the blood from a vein in eighty per cent. of the cases examined. This test also required expert knowledge, and two days for its performance. Tapping of the vein was a much more delicate and risky procedure than pricking of the ear. By excision of several rose spots under aseptic precautions typhoid bacilli had been isolated, but the method was not available for the general practitioner. The diazo reaction could be obtained in the urine of most cases of typhoid fever, and quite early in the disease, but as it was present in several other diseases liable to be confounded with typhoid fever, its diagnostic value was not very great. The leucocyte count was subnormal throughout typhoid fever, the average number being 5,000 per cubic millimetre. This count was of no value in the differential diagnosis between typhoid fever and malaria, neither of which had a leucocytosis. On the other hand, it was of great value in differentiating between typhoid and septicæmia, because of the occurrence of leucocytosis in the latter and its absence in the former. The increase in the number of white blood corpuscles in typhoid fever meant some complication, often an actual or a threatened perforation of the bowel. The examination of the blood for the malarial plasmodium to distinguish typhoid fever from malaria, and the examination by lumbar puncture to differentiate the disease from meningitis, were both important tests. In conclusion, the author insisted that the Widal reaction and the leucocyte count were of the greatest value as practical tests, and that all laboratory tests should be used in conjunction with clinical study.

The Treatment of Elevated Temperature by Drugs.—Dr. Edwin Rosenthal, of Philadelphia, read this paper. He said that typhoid fever was probably the only disease in which the temperature was higher in adults than in children. The temperature might range from 101° to 106° without any unusual disturbance. The average duration of the fever in young children was about eighteen days. After having used many drugs he had come to the conclusion that none acted specifically in the control of the fever. He had tried a number of the coal-tar derivatives, but had not observed any positive results from them. He was disposed to use in uncomplicated cases of typhoid fever the "neutral mixture" of the pharmacopœia. He had tried many of the so-called specifics. It should be remembered that hyperpyrexia produced tissue degeneration, and was more apt to do this in children than in adults. He preferred bathing by tubbing or sponging to drugs for controlling a dangerous degree of fever.

A Case of Multiple Gangrene, Associated with Cholangitis and Adenoma of the Liver, Complicating Typhoid Fever.—Dr. Isaac A. Abt, of Chicago, reported this case. The subject of it was a female child of twenty-one months, who had come under observation on the fourth day of her illness, or on September 25, 1900. Four days previously the illness had begun with headache and fever, and she was already dull and listless. At the same time the father was in a ward of the same hospital with well-marked typhoid. The temperature on admission had been 103°, the pulse 130, and the respirations 28. The Widal reaction was positive. There was a peculiar eruption on the head, back, and extremities. It began as papules, which soon became pustular, and then these resulted in the development of areas of gangrene. The child became steadily weaker, and died on October 12th. The process had been most marked on the back, where there had been an area as large as a quarter. At the autopsy the liver was found somewhat enlarged, reddish, and firm. Its surface was studded with pin-point areas having a reddish centre and a yellowish periphery. In the inferior portions of the left lobe was an area, about the size of a lemon, having a white fibrous and nodular appearance. The Peyer's patches of the intestine were swollen, but presented no ulceration. Cultures made from the areas of gangrene showed the presence of staphylococcus pyogenes aureus, and cultures from the spleen showed a bacillus which resembled the typhoid bacillus, but its identity could not be definitely determined. Microscopical examination of the large fibrous area in the liver made it probable that it was an adenoma, and not a mere hyperplasia. There was, in addition, a round-cell inflammation around the bile passages, with a resulting necrosis of the liver cells. The report of the dermatologist who examined this case expressed the opinion that the process in the skin was a multiple embolic process leading to infectious multiple gangrene. This form of gangrene had been observed in connection with varicella, and had, therefore, been described by one author as varicella gangrenosa, but it had been found as a complication of a number of other disorders. The catarrhal form of cholangitis found in this case had received little attention in literature. The occurrence of adenoma in the liver of children was extremely rare.

Dr. Victor C. Vaughan, of Ann Arbor, Mich., opened the general discussion on typhoid fever in children. He said that he would explain the lesser frequency of this disease in children on the ground that children did not go about so much or drank water from so many different sources as adults. He was inclined to think that many persons, both adults and children, escaped with only a mild attack because there was a mixed infection, as a result of which the bowel was irritated by non-specific bacteria, and the diarrhœa thus set up carried out of the system most of the typhoid bacilli. This was more apt to happen in children than in adults because of the greater susceptibility of the mucous membrane of the bowel in children to irritation from such causes. Touching upon the death rate, the speaker said that in Hamburg, where every case of typhoid was reported as well as every death, out of about thirteen thousand cases the death rate was 7.5 per cent. He had calculated the death rate in the hospitals of this country from statistics of several thousand cases, and had found it to be between eight and nine per cent. According to the statistics of the health department of New York City, however, the death rate from typhoid in that city was about twenty-nine per cent., while from similar sources the death rate in Philadelphia is computed to be about thirteen per cent. These great discrepancies were to be explained only by the supposition that New York physicians did not recognize and report many cases of typhoid. He had collected twenty thousand cases occurring in this country in private practice, and the mortality in this series was about sixteen per cent.

Dr. Charles Douglas, of Detroit, said that he had often seen the fever increase and the patient made uncomfortable by an improper dietary. He would give

anything which was easily digested, usually milk, broths, and white of egg, and he would never give more than one pint for every fifty pounds of body weight.

Dr. T. F. Wood, of Angola, Ind., corroborated the statements of the last speaker regarding the common error of feeding typhoid patients too much, and giving them too little water. It was well to keep the bowels slightly relaxed. When the fever was dangerously high, it should be controlled by systematic bathing. Absolute rest and quiet were most important.

Dr. Barber, of Minneapolis, described an epidemic of typhoid that had occurred in his city from infection of the water supply, and pointed out that whereas in the early part of the epidemic, when the level of the river was low and there was much ice present, most of the cases of typhoid had been very severe, in the latter part of this epidemic, or when the river had been replenished by copious rains, sixty per cent. of the cases had been exceedingly mild, being of the walking type. He raised the question as to whether this change to a milder type had been the result of the dilution of the infected water in the river, or to an actual decrease in the virulence of the bacilli.

Dr. Johnston, of Grand Rapids, Mich., said that the physicians of his city had been the pioneers there in using the bath treatment for typhoid fever; and now, after ten years, he wished to assert most positively that the method was entirely applicable to cases in the country and in private practice, as well as to those treated in the large metropolitan hospitals.

Dr. George D. Head, of Minneapolis, said that he wished to protest against the prevalent notion that the white blood count was not a reliable diagnostic method in children. While the Widal reaction often appeared too late to be of any practical value in making the diagnosis, the leucocyte count was often of great assistance in this respect from the beginning.

Dr. Rosenthal, in closing, said that if after two weeks the typhoid diarrhœa gave place to constipation, showing that the disease was held in check, he would not then think of giving calomel, as this, by causing irritation of the bowel, would almost surely do harm.

Prolonged Intubations.—Dr. Edwin Rosenthal, of Philadelphia, was the author of this paper also. He said that whereas formerly the practice of O'Dwyer and his followers had been to leave the tube in the larynx for seven days before attempting its removal, it was now known that this period had been reduced by the use of diphtheria antitoxin, so that the general rule at present was to remove the tube, in uncomplicated cases of diphtheritic stenosis of the larynx, in five days. The author divided the causes of prolonged intubation as follows: (1) the type of the disease; (2) the result or sequela of the disease; and (3) the wearing of the tube. By far the most frequent cause was the second one mentioned, *i.e.*, the result of the disease, diphtheritic paralysis. The too free use of certain irritating medicaments, such as peroxide of hydrogen, to cleanse the tube he felt sure was one cause of prolonged intubation. Formerly he had made use of as strong solutions of peroxide of hydrogen as he could obtain; now he employed a very weak solution. The so-called solvents of the membrane should never be used. It was better and far safer to make use of a solution of borax. If antitoxin were used early enough, it would be found an effective prophylactic measure.

Dr. B. R. Shurley, of Detroit, was of the opinion that prolonged intubations should be considered to be those in which the tube was retained longer than the sixth day. It had been his practice to remove the tube on the fourth day, and sometimes even on the second day. It seemed to him that under a dosage of 3,000 units of antitoxin the tube might be safely removed on the fourth day, and would not ordinarily be required again. In his opinion, the most important cause of prolonged intubation was traumatism incident to the improper performance of intubation. The next most important etiological factor was the use of an ill-fitting tube. He objected to the use of plated tubes on the ground that the plating was liable to be worn off, and wherever there was a defect in it calcareous deposits were apt to form, and so cause injury to the delicate mucous membrane of the larynx.

Dr. Golden, of Chicago, said that in a few rather mild cases of stenosis of the larynx he had administered internally two grains of suprarenal extract at intervals of three hours. This had caused such prompt subsidence of the œdema and disappearance of the symptoms that he had even had the parents refuse to allow intubation to be performed, claiming that it was no longer required.

Dr. I. A. Abt, of Chicago, thought it was an excellent practice to intubate every day, or even more often, beginning about twenty-four hours after injection. This should be possible if the dose of antitoxin had been sufficiently large. He was convinced that there were a few cases in which intubation was impossible. One such case was reported in which it had been impossible even just after death to insert the tube into the larynx.

Dr. Rosenthal, in closing, said that he employed plated tubes, but always had them regilt after each using. This could be done at a cost of seventy-five cents, and should be done after each insertion of the tube, even though it was reinserted in the same case a number of times.

Prevention of Pulmonary Tuberculosis in Predisposed Children.—Dr. John A. Robison, of Chicago, read this paper. He made a plea for considering heredity as well as the tubercle bacilli, particularly when statistics showed that heredity played a part in no less than thirty-six per cent. of the cases. A child might inherit scrofula without the bacillus, or the bacillus without scrofula, or, as was most commonly the case, both together. Children of tuberculous parents were easily infected either directly or indirectly. As Holmes remarked, prevention should begin with the ancestors. The great aim of the physician in the management of children predisposed to tuberculosis should be to promote nutrition. The baby should never be nursed by the mother, but by a wetnurse, or else fed with food known to be positively free from the tubercle bacillus. The effort should be made early to encourage a taste for fats, and the natural craving for sweets should not be too strictly curbed. In his opinion, candy was rather beneficial if given after and not between meals. Water should also be given freely. During childhood the diet should contain a greater proportion of nitrogenous food, for nitrogen supplied muscular force. The period of puberty was a critical one. Enforced ignorance of the sexual laws was most harmful. We boasted of our public schools, yet the method of class instruction there in vogue, subjecting as they did the strong and weak to the same strain, did a great deal toward wrecking feeble constitutions. The harmonious and dual development of the mind and body must be secured. After the period of education came the selection of a vocation. An open-air occupation requiring the person to be active was the best. Work in crowded factories or in dusty places should be sedulously avoided. The statistics in this country showed that the lowest mortality was among farmers. Contrary to what might be expected, the mortality was very low among coal-miners. These persons predisposed to tuberculosis should be warmly clad, and the clothing should be loose enough to allow of free exercise. A corset should not be worn by such a child, as it interfered with nutrition and the development of the re-

spiratory function of the lungs. Excessive swaddling of the neck and chest should also be avoided, as this made these parts unnecessarily sensitive to changes in temperature. The predisposed should avoid contact as far as possible with persons who were consumptives. Hydrotherapy was of great value, as it stimulated the nutritive processes and steadied the vasomotor nerves, thus diminishing the susceptibility to changes in temperature. Fresh-air sanatoria and the country vacation clubs were doing a great deal of good by lessening the susceptibility to consumption in our midst, but their work was far too restricted. France beat the rest of the world in its provision of sanatoria for the care of children who were tuberculous or predisposed to this disease. The physician should warn parents concerning the danger of measles, whooping-cough, tonsillitis, and adenoids in these children.

DR. T. F. WOOD, of Angola, Ind., said that the author of this admirable paper had left out of consideration a most important underlying cause, the lack of any proper restrictions on the marriage of tuberculous individuals.

DR. WORK, of Elkhart, Ind., thought the physician should give explicit directions not only regarding the kind and quantity of clothing to be worn, but should insist that it be changed in accordance with the sudden and marked changes in our climate.

DR. SLEGLE, of Minneapolis, recalled the fact that Professor Flint used to lay great stress on the general aversion to fats exhibited by tuberculous persons, and added that he thought it most important that such persons should be taught from the earliest childhood to eat fats freely.

DR. JOHNSTON, of Grand Rapids, quoted certain statistics published in Virchow's *Archiv*, showing that ninety-eight per cent. of the human race who attained the age of thirty exhibited post-mortem lesions of tuberculosis, and that, therefore, it was evident that almost every one must be infected with the disease at some time. Osler maintained that there were only twenty cases on record of persons having been born with the disease. The system of reporting cases of tuberculosis in the State of Michigan was commended, and it was asserted that as a result of this in the last eight years the death rate from pulmonary tuberculosis in that State had been reduced from one hundred and twenty to ninety per ten thousand of the population.

DR. KELSEY, of Minneapolis, said that he thought some of the credit for the improved conditions existing in Michigan should be given to advances in hygiene.

Protracted Influenzal Pneumonia in Children.—DR. F. X. WALLS, of Chicago, presented a paper on this subject, based on a clinical study of four cases. Attention was called to the sudden onset and the great height and marked daily variations in temperature. Distinct crepitant râles had been wanting over the consolidated area. Two of the four patients recovered after twenty-five and forty-one days respectively; the other two died. The differential diagnosis included gastro-intestinal infections, pneumococcus pneumonia, ordinary broncho-pneumonia, malaria, sepsis, and tuberculosis. These cases should be isolated in a room having a temperature of 80° to 85°.

DR. I. A. ABT, of Chicago, said that all protracted pneumonias were not due to influenza. The greatest difficulty he had experienced in these cases had been to differentiate an empyema with a limited quantity of fluid from cases of protracted pneumonia of whatever type.

Congenital Malformations with Roentgen Ray Demonstrations.—DR. CARL BECK, of New York, read this paper, and exhibited many photographs and radiographs.

Membranous Colitis in Infants.—DR. CHARLES DOUGLAS, of Detroit, was the author of this paper. He said that this disorder commonly appeared suddenly, and was accompanied by vomiting, high fever, severe pain, and frequent, large mucous stools. The stools resembled those of catarrhal enteritis except that they contained more blood and also the characteristic yellowish opaque masses of membrane. The prognosis depended upon the amount of mucous discharge and the duration of the illness. Recovery usually took place in eight or ten days. The disease was rare in infants under six months of age, and was most apt to appear in hand-fed infants. Three cases were reported occurring in very young infants, and presenting some unusual symptoms.

A Case of Ureteral Calculus in a Boy of Ten.—DR. W. W. KEEN, of Philadelphia, reported this case, and presented an excellent skiagraph of the same, made by Dr. Leonard. This child gave a history of numerous attacks of nephritic colic from the age of two years. Because of the distention and extreme tenderness, the calculus, which was evidently present on the left side, could not be located until a radiograph had been taken. At the operation, which was done on October 2, 1900, under the guidance of the skiagraph, a calculus was found a little below the pelvic brim in the left ureter. The stone measured 1.5 cm. by 1 cm. by 8 mm. Its nucleus was mucin, and the shell was composed chiefly of calcium phosphate. The recovery was uneventful. In the opinion of Dr. Keen this was one of the most remarkable demonstrations of the value of skiagraphy in such obscure cases.

DR. LEONARD, of Philadelphia, said that he had found a calculus in forty-seven cases examined by skiagraphy, and in fifty per cent. of them the calculus had been lodged in the ureter. As this method placed the surgeon in complete control of the situation, it was rational to resort to expectant treatment in certain cases.

DR. CLIFTON SCOTT, of Des Moines, spoke of the negative as well as the positive value of the method in preventing useless operations founded on erroneous diagnoses.

Third Day—Thursday, June 6th.

Diabetes Mellitus in Children.—DR. A. C. COTTON, of Chicago, read this paper and reported a case. He said there could be little doubt that this disease was apparently on the increase, but this might perhaps be explained by the greater number of cases reported in consequence of improved diagnosis. Dr. Stern's statistics were quoted to show that the annual average of cases reported to the bureau of vital statistics of New York City was one hundred and sixty-eight, and that the figures for Chicago, from a similar source, were one hundred and four. It seemed to him clear that heredity played a distinct part in the etiology. He did not accept the view entertained by some, that there was a causal relation between diabetes mellitus in children and the acute infectious diseases. The glycogen-storage capacity of the tissues of children had been found to be relatively high. Since the obese type was practically unknown in children, an advanced case of diabetes in early life presented a picture of extreme malnutrition. The affection was essentially acute in childhood, few cases surviving more than a few months. With the exception of opium and the alkalies, the benefits of drug therapy were admittedly very small. The death certificate usually followed hard upon the diagnosis. Something might, however, be accomplished in the way of prophylaxis by guarding these children against dietary indiscretions and against nervous shock and traumatism. Success in the treatment was in inverse ratio to the duration of the disease; hence the great importance of an early diagnosis. He believed too much stress could not be laid

upon the importance of protecting these children from sudden lowering of temperature.

Albuminuria in Disease of the Kidneys in Infancy and Childhood.—Dr. John R. Rathmell, of Chattanooga, Tenn., was the author of this paper. He said that even in so-called cases of functional or cyclic albuminuria it was probable that slight changes took place in the kidney. For cases of albuminuria an almost exclusive diet of milk was the treatment *par excellence*. The hot wet pack would be found an exceedingly useful therapeutic measure. When there was much œdema, cathartics were especially useful. Teaspoonful doses of infusion of digitalis, given every four hours, to a child of four years, would be found beneficial.

Congenital Cystic Kidney.—Dr. William Jepson, of Sioux City, Iowa, reported this case and exhibited the specimen. The points of interest were: (1) The involvement of only one kidney; (2) the absence of disturbance until the cyst was of such a size as to cause undue pressure; (3) the fact that even inspection of the growth at the operation was not sufficient for a diagnosis until a number of other conditions had been excluded, and (4) the fact that this was believed to be the youngest patient to recover after a nephrectomy.

Gonorrhœa in Boys.—Dr. A. L. Wolbarst, of New York City, was the author of this communication. He had seen cases of gonorrhœa occurring in males varying in age from eighteen months to twelve years. The clinical diagnosis had been confirmed by microscopical examination. It was generally thought, he said, that in such young boys the disease arose from infection from soiled linen and filthy water-closets, but his experience with the children of the vile tenements had led him to believe that many such cases originated in the same way as in older persons. He had himself observed gonorrhœal urethritis in three boys of four, ten, and twelve years of age respectively, and in girls of ten and twelve years. The social conditions of the tenement dwellers accounted for very early sexual relations. In this class pæderasty was not uncommon. In accordance with a superstition brought over to this country from certain parts of Europe, some prostitutes endeavored to rid themselves of gonorrhœa by endeavoring to convey it to a child. In these very young children affected with gonorrhœa there was usually frequent and burning micturition, but often also nearly complete retention. The discharge differed from the beginning very little from that seen in the adult. The pain which these children suffered was usually out of all proportion to the symptoms, but this was explicable by the existence of a tight prepuce. Many of these children would not be brought to the surgeon if it were not for the great redness and swelling of the prepuce. These cases afforded ground for an earnest plea for the circumcision of all male infants. Posterior urethritis, prostatitis, and even epididymitis occurred in these cases. When the prostate was involved, it became swollen and highly sensitive, causing intense pain on defecation. It was interesting to note that the duration of the disease, four to six weeks, was the same as in adults, yet there was not the same tendency to development of chronic urethritis as in adults. Physicians practising among the poor should see to it that healthy children did not sleep with infected ones, and that they be warned of the danger of disseminating the disease. The primary requisite in treatment was cleanliness, even carried to the surgical degree. This would in itself often prevent disagreeable complications. If the child had been circumcised, the use of warm water or of boric acid several times a day would secure this. If the prepuce were tight, the cleansing solution might be injected between the prepuce and the glans penis. For the anterior urethra the injection of a half-per-cent. solution of protargol, three times a day, and the retention of this for several minutes each time, would often prove wonderfully effective. In spite of this treatment, or perhaps because of it, the inflammation might extend to the posterior urethra. Irrigation of the urethra with a solution of potassium permanganate, 1:6,000, would prove very beneficial. It was best done with a small soft catheter, or with a small glass syringe. After the bladder had been well filled with the solution, the latter should be urinated out and the injection repeated. The internal administration of pure oil of wintergreen in doses of ♏ v. to x. in milk or water, three times a day, would prove of benefit. Epididymitis was best treated by the local application of a ten-per-cent. guaiacol ointment. When the prostate was inflamed and very painful, rectal irrigation with hot water usually afforded relief. Small-sized "gonorrhœa bags" might be used with excellent effect to prevent further infection, especially of the eyes.

Dr. Edwin Rosenthal, of Philadelphia, said that he had known a whole troop of boys to be infected by one prostitute in the effort of the latter to rid herself of the disease.

The paper was quite extensively discussed, the speakers concurring in the author's view concerning the large number of children who were infected with gonorrhœa.

The Prevention of Infection in Babes Born of Tuberculous Parents.—Dr. Clifton Scott, of Des Moines, in this paper presented a brief report of two cases, one in which the mother, a primipara, had died of chronic pulmonary tuberculosis within six months after the birth of the child; another case in which the mother, also a primipara, had died of acute pulmonary tuberculosis within four months after the birth of her child, the latter dying of acute pulmonary tuberculosis one week after the mother's death. He asserted that many babies dying of hereditary tuberculosis were really infected.

Dr. Johnston, of Grand Rapids, remarked that these two cases had evidently been infected from the mother's sputum or from tuberculous milk.

Dr. Cook, of Chicago, narrated a case in which a young lady had become infected with tuberculosis from a pet monkey.

Dr. E. F. Brush, of Mount Vernon, N. Y., detailed an experiment that he had made, *i.e.*, the feeding of the tuberculous masses taken from a tuberculous cow to twenty-four laying hens and a rooster. All of the animals had died of tuberculosis within five or six weeks. Twenty-four eggs laid by these hens had been set under healthy hens in another part of the farm, and while all of these eggs developed a chick, every one of them was dead. He had known seven healthy children to be reared on the raw milk from a cow subsequently found to have been tuberculous for a long time. It was necessary, therefore, to have some other element in addition to the tubercle bacilli, probably an elevation of temperature.

The following papers were read as parts of a symposium on school hygiene:

The Introduction and Management of School Hygiene.—Dr. Leigh K. Baker, of Cleveland, Ohio, in this paper described a general plan of organization.

Physical Culture in Children, and the Objects to be Attained.—Dr. John Madison Taylor, of Philadelphia, said that the first object of physical culture was to enable the children to assume and maintain a proper and normal attitude. The throwing back of the shoulders according to the old military position was wholly artificial, and tended to impair the equipoise. The shoulders should be let alone, and should be free from tension, but the back should be kept straight and the abdomen held in. The position of the pelvis should be maintained as nearly at a level as possible

so that movement along the level would be almost unconsciously performed. Properly executed breathing exercises were of importance.

The Pubescent School Girl. — Dr. William E. Darnell, of Atlantic City, N. J., read this paper. The importance of this subject was considered to be especially great in this country because of our high-pressure system of education. The strain was bad enough in growing boys, but girls must not only keep up with their classes but must spend many weary hours in the study of music and other accomplishments. After graduation these brain-fagged and physically incapacitated girls plunged into a life of social gayety and dissipation, and little or no attention was given to securing rest at the menstrual period.

Diagnosis of the Backward Child.—Dr. A. W. Wilmarth, of Chippewa Falls, Wis., read this paper. He said that there was no sharp line of distinction between the normal and the backward child, and often there seemed to be some relation between mental backwardness and moral obliquity. The hope was expressed that more special schools for this class of children would be provided.

Speech as a Factor in the Diagnosis of the Backward Child.—Dr. G. Hudson Makuen, of Philadelphia, presented this paper. He gave as a scientific definition of the backward child, "one who is not living up to his capabilities or possibilities." Freedom of speech, he said, was an absolute essential to the normal development of children, and any impairment of this function would unfavorably influence the mental development, for speech was a tool of the mind. It was not always possible to determine at a glance the cause of the backwardness. The latter was not always due to a central lesion, but to an arrest of development or some abnormality of structure in the peripheral organs. Often a defect of the organs of speech was to blame. The best method of arriving at even an approximately correct prognosis was to apply the speech test, *i.e.*, to ascertain by careful study and experiment to what extent the faculty of speech could be improved. Those who were susceptible to training in the refinements of speech were the ones in whom the best results could be promised.

A Plea for the Backward Child.—Dr. C. F. Wahrer, of Fort Madison, Iowa, read this paper. He said that many geniuses had been considered dull and stupid in childhood, but their apparent backwardness had been simply the result of the mental powers being latent. To discover and guide, and not condemn, the backward child should be the effort of all.

Some of the Considerations Regarding the Medical Criticisms of the Hygiene of Early Life.—Dr. J. Noer, of Stoughton, Wis., presented this paper. He pointed out the absurdity of the contention of the pedagogists that they should have the absolute control of the children, for, while no doubt the details of instruction must and should be left to them, the position which they took was comparable to that of a physician who would claim that he had absolute control of the children under his care, and could treat them regardless of their wishes or those of their parents.

Officers Elected.—*Chairman*, Dr. H. F. McClanahan, of Omaha; *Secretary*, Dr. Frank X. Walls, of Chicago.

Electric Light Least Injurious to the Eyes.—An English journal named *The People* has the following item of news: "A Russian medical man has decided that the electric light is least injurious to the eyes. He says that the oftener the lids are closed the greater the fatigue and consequent injury. By experiments he finds that the lid would close with different illuminations per minute: Candle light, 6.8; gas, 2.8; sun, 2.2; electric light, 1.8.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 1, 1901:

	Cases.	Deaths.
Tuberculosis	226	152
Typhoid fever	30	5
Scarlet fever	449	30
Measles	302	13
Diphtheria and croup	241	48
Smallpox	86	16
Chickenpox	76	0

An Old-Time Physician on the Properties of Coffee.—M. Louis Lemery, "Regent Doctor of the Faculty of Physick at Paris," who lived in the first years of the eighteenth century, in a treatise he wrote upon foods, has this to say of the properties of coffee: "It fortifies the stomach and brain, promotes digestion, allays the headache, suppresses the fumes caused by wine or other liquors; promotes urine and women's terms, opens some people's bodies, makes the memory and fancy more quick, and people that drink it brisk. It agrees, when moderately taken, especially in cold weather, with old people; with such as are phlegmatic, and those who are fat and corpulent; but 'tis not so proper for bilious and melancholy persons. The use of coffee to excess is at least as pernicious as the moderate use of it is wholesome to many persons. Many persons that have been used to drink too much coffee become infirm and paralytic, as Willis and other physicians have observed."

The Teeth and Growth of Children.—At a recent meeting of the Harveian Society Dr. W. H. Dolamoret read a paper in which he pointed out the importance of the first set of teeth, both in regard to health and growth. He first showed how injurious an effect upon the health of the child might be produced by the septic condition of the mouth induced by caries of deciduous set of teeth. Among other conditions he mentioned ulcerative stomachs, necrosis of bone and enlarged lymphatic glands, which latter might become the seat of tuberculous growth, by which the whole system might become infected. He also traced much gastric disturbance to the same cause. Then he insisted on the important part played by the first teeth in regard to the growth of the child, and he concluded that the mastication of food could not be interfered with by the decay and extraction of deciduous teeth without impairing the health of the child.

Registrar-General's Report for Great Britain for 1899.—This report, says *The Medical Magazine*, contains very many points not only of statistical value, but of general interest. The estimated population of England and Wales in the middle of 1899 is put at 31,742,588 persons. The marriage act of 1898 came into operation during the year, and appears to have been attended with good results, for the marriage rate recorded, 16.5 per 1,000, is the highest reached since 1876, or 1.1 above the mean rate for the previous ten years. The marriage rate has increased of late years *pari passu* with an increase of value per head of the United Kingdom in exports of British produce and imports, showing the tendency of marriage to follow the lead of increase in natural prosperity. It is sad to note the still falling birth rate, which stands at 29.3 per 1,000, or 0.1 per 1,000 below the rate for the previous year and 1.0 below the mean rate for the previous ten years. There is a faint ray of hope held

out that, the rate being based upon a purely provisional population, the estimate may be fallacious. Its steady decrease of late years, however, has led thinking people to have grave apprehensions for the future of the empire, and to wonder whether the nation is not drifting into the state of the people alluded to by the psalmist when he wrote: "They have children at their desire." The death rate was 18.3 per 1,000, as against 18.4, the average of the previous ten years, and the various factors in this death rate were as follows: Infantile mortality was equal to a rate of 16.3 per 1,000, higher than the average of the ten preceding years. This represents in part the price paid by northern manufacturing towns for their factory labor.

Health Reports.—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended June 8, 1901:

		Cases.	Deaths.
SMALLPOX—UNITED STATES AND INSULAR.			
California, Los Angeles	May 18th to 25th	1	
San Francisco	May 18th to 25th	5	
Dist. of Columbia, Washington	May 25th to June 1st	1	
Illinois, Chicago	May 25th to June 1st	7	
Iowa, Ottumwa	April 27th to June 1st	16	
Kansas, Leavenworth	May 1st to 31st	3	
Wichita	May 18th to June 1st	42	
Louisiana, New Orleans	May 25th to June 1st	4	
Massachusetts, Boston	May 25th to June 1st	1	
Fitchburg	May 17th to 24th	1	
New Bedford	May 25th to June 1st	1	
Quincy	May 25th to June 1st	1	
Michigan, Detroit	May 25th to June 1st	57	
Grand Rapids	May 25th to June 1st	2	
Minnesota, Minneapolis	May 18th to June 4th	15	
Winona	May 25th to June 1st	1	
Missouri, St. Louis	May 19th to 26th	27	
Nebraska, Nebraska City	April 27th to May 18th	6	
Omaha	May 17th to June 1st	25	
South Omaha	May 24th to 31st	26	
N. Hampshire, Manchester	May 25th to June 1st	7	
N. Jersey, Jersey City	May 26th to June 2d	4	
Newark	May 25th to June 1st	2	
New York, New York	May 25th to June 1st	64	17
North Carolina, Charlotte	May 1st to 31st	11	
Ohio, Cincinnati	May 1st to 31st	10	
Cleveland	May 25th to June 1st	31	1
Youngstown	May 18th to 25th	1	
Pennsylvania, Lebanon	May 23d to 31st	5	
Philadelphia	May 25th to June 1st	4	
Pittsburg	May 18th to June 1st.	7	
Rhode Island, Providence	May 25th to June 1st	1	
Warwick	May 23d to 30th	1	
Tennessee, Memphis	May 25th to June 1st	13	
Nashville	May 25th to June 1st	6	
W. Virginia, Green Bay	May 26th to June 2d	4	
Milwaukee	May 25th to June 1st	2	
Utah, Salt Lake City	May 18th to June 1st	19	1
Washington, Aberdeen	May 21st	4	
SMALLPOX—FOREIGN.			
Argentina, Buenos Ayres	March 1st to 31st	76	
Austria, Prague	May 11th to 18th	5	
Belgium, Antwerp	May 6th to 11th	7	2
Ceylon, Colombo	April 20th	1	1
Colombia, Panama	May 20th to 27th	6	
France, Paris	May 11th to 18th	..	15
Great Britain, Glasgow	May 11th to 18th	..	3
Nottingham	May 16th	1*	
Italy, Naples	May 3d to 10th	114	95
India, Bombay	April 23d to May 7th	..	12
Calcutta	April 20th to May 4th	..	125
Karachi	April 21st to 28th	8	5
Madras	April 20th to May 3d	..	28
Russia, Moscow	May 4th to 18th	29	13
Odessa	May 4th to 11th	5	1
Warsaw	April 29th to May 4th	..	1
Switzerland, Geneva	May 4th to 11th	1	

* Apparently transmitted from Salt Lake City, Utah, by fomites.

YELLOW FEVER.			
Costa Rica, Liberia	May 25th	Present.	
CHOLERA.			
India, Bombay	April 22d to May 7th	..	4
Calcutta	April 20th to May 4th	..	126
Madras	April 20th to May 3d	..	7
PLAGUE.			
Africa, Cape Town	To April 27th	377	160
India, Bombay	April 22d to May 7th	..	778
Calcutta	April 20th to May 4th	..	371
Karachi	April 21st to 28th	273	233

Lunacy Statistics.—Finland, says an English weekly journal, turns the tables on England in lunacy statistics. Out of a million Finns, 1,700 only are fit subjects for the lunatic asylum. No part of England drops below 2,500. London heads the list with 3,610 mad persons in each of her 5,000,000. Harder-headed Scotland has 2,580 in 1,000,000.

Antiseptic Barber Shops in Paris.—Several barbers in Paris, says *The Scientific American*, have been induced by medical students to introduce aseptic hair dressing. In front of each chair there is a gas burner, metal combs are used, and they are passed through the flame several times. Scissors and razors are likewise purified by fire. The brush cannot, of course, be treated in this manner, but it is given a frequent wash in an antiseptic solution, in which thymol is the principal ingredient. The principles of the operating-room of the hospital are thus extended to the barber-shop, and as the barbers used formerly to be surgeons as well, they should be flattered if they are required to observe the practice of surgeons to-day.

A Helper of the Deaf.—The Rev. Dr. Thomas Gallaudet, says the New York *Tribune*, May 26th, will be seventy-nine years old if he lives until June 3d. He has spent a great portion of his life in efforts to promote the welfare of deaf-mutes. His father founded the first permanent school for deaf-mutes at Hartford, Conn., in 1817. In October, 1872, Dr. Gallaudet founded the Church Mission for Deaf-Mutes, having for its object the promoting of the welfare of the silent people after leaving school. This society was a pioneer in church work among deaf-mutes throughout the country. It has a board of twenty-five trustees, with the bishop of New York as president *ex officio*. Its missionaries hold services at ten places. The society has established the Gallaudet Home for Aged and Infirm Deaf-Mutes. Dr. Gallaudet has made several visits to Europe in the interests of work among the deaf-mutes.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By James N. Hyde, M.D. 8vo, 828 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

OPERATIVE SURGERY. By Joseph D. Bryant, M.D. Vol. II. 8vo, 1302 pages. Illustrated. D. Appleton & Co., New York City.

DISEASES OF THE THYROID GLAND. By James Berry. 8vo. 367 pages. Illustrated. P. Blakiston's Sons & Co., Philadelphia, Pa.

LECTURES ON THE HISTORY OF PHYSIOLOGY. By Sir M. Foster, M.D. 8vo, 310 pages. Cambridge University Press.

SELECTED RESEARCHES IN PATHOLOGY. By Alex. Gunn Auld, M.D. 8vo, 153 pages. Illustrated. J. & A. Churchill, London.

MANUAL OF DISEASES OF THE NOSE AND THROAT. By Cornelius G. Coakley, M.D. 8vo, 566 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

TRANSACTIONS OF THE TWENTY-SECOND ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. 235 pages. Illustrated. Carey Printing Company, New York, N. Y.

SYSTEM OF PHYSIOLOGIC THERAPEUTICS. By Solomon S. Cohen, M.D. Vol. II. 8vo, 323 pages. Illustrated. P. Blakiston's Sons & Co., Philadelphia.

PUBLIC WATER SUPPLIES. By F. E. Turneaure and H. L. Russell. 8vo, 746 pages. Illustrated. First edition. John Wiley & Sons, New York.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By John J. Nutt, M.D. 12mo, 69 pages. Abbey Press, New York, N. Y.

COMPENDIUM DER PHYSIOLOGIE DES MENSCHEN. By Dr. Paul Schultz. 12mo, 352 pages. Verlag von S. Karger, Berlin, Germany.

THE PRACTICE OF CHARITY. By Edward T. Devine. 12mo, 186 pages. Lentilhon & Co., New York, N. Y.

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Original Articles.

HERNIA OF THE URINARY BLADDER.

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My interest in this subject was suddenly and acutely aroused by the following experience:

In the night of January 10, 1900, I was called to see in consultation a man aged sixty-seven years, suffering for eight hours from strangulated hernia. Ever since his twenty-fifth year he had had a left inguinal hernia which trusses failed to hold; hence it had grown and become scrotal. He possessed also a small umbilical hernia; and, in addition, a right inguinal hernia had recently developed. No more urinary trouble was observed than is usual with elderly men. The large mass on the left was irreducible by taxis, so I proceeded to operate.

A heavy, much hypertrophied sac was found containing a knuckle of dark gut. This was reduced, and the sac freed from its attachment to the spermatic cord and canal, in doing which a larger amount of fat than usual was observed, but not enough to deserve the designation of lipoma. The thick-walled sac was then lifted without traction, transfixed near its neck by a ligature carrier, the ligature (catgut) tied both ways, the sac cut away, and the rather large stump returned.

For some fortunate reason, I think mainly because of its hypertrophy, I was led to examine the sac after removal, and was disturbed to find attached firmly to it a disc of mucous membrane about as large as a silver dollar, and easily recognizable as bladder mucous membrane. The situation was cleared still further, when the bladder was disentangled from the ligature about the neck of the sac, and a finger passed into the viscus, urine thereupon welling out freely through a goodly opening.

The margins of the bladder wound were drawn out into the world by hæmostats, and closed with catgut carried through the muscle coat to, but not including, the mucous membrane. A second *étage* was then placed, inverting somewhat the first. The bladder was then returned within the abdomen, a drainage tube placed against the suture line in it, and the skin wound closed. The muscle and Poupart's ligament were, I regret to say, not united according to Bassini, as I feared leakage of urine within, which would necessitate reopening the outer wound.

A catheter tied in the bladder caused the patient so much annoyance that he pulled it out on the second day, after which urine was either drawn or passed voluntarily every two hours, and the bladder was washed out daily with boric-acid solution.

Primary union followed throughout. The hernia is at present apparently cured, and no urinary symptoms remain.

Examination of the excised sac showed that the bladder was virtually inseparable from it. It seemed probable that the weight of the hernia and sac had by traction on its peritoneal coat gradually drawn the corner of the bladder into the inguinal canal to the extent of over one inch. No pull was made while the sac was being tied; hence I do not consider the possibility of an artifact, or what has been termed "operative cystocele."

Any one interested in surgical matters must have read of the occasional presence of the bladder in a hernia, but how frequent an occurrence this is, and how rich is the literature of the topic, one does not realize till a research is made.

History.—The matter was first treated monographically by Verdier in a classical treatise published in 1769, and not again till Aue, in 1891, collected the cases recorded up to that year. Since then a number of articles have appeared, each endeavoring to bring the material up to date.[1]

There have been, besides, numerous clinical reports of cases with more or less extended review of the subject in German, French, Italian, and Russian. Little seems to have been made of the topic in English-speaking countries, however. The studies of Curtis (*Annals of Surg.*, June, 1895) and Gibson (Trans. Med. Soc. State of New York, 1897) being all of any importance that I can find. So, as the former appeared five, and the latter three, years ago, there seems a good excuse for recalling attention to a danger every surgeon should have in mind when operating for hernia.

Anatomical Varieties.—Three forms have been described: First, an extra-peritoneal, in which some portion of the bladder uncovered by peritoneum protrudes through the hernial opening, with or without a sac containing intestine; second, an intra-peritoneal, in which bladder covered by peritoneum enters the sac; and third, a mixed type (the "para-peritoneal" of Jaboulay and Villard), in which the bladder partly covered and partly uncovered by peritoneum protrudes. Writers differ as to the relative frequency of extra-peritoneal and mixed types, but all agree upon the great rarity of the intra-peritoneal form.

Etiology.—Bladder hernia is computed by Lotheissen to occur in about 3.2 per cent. of all cases of hernia, by Sjovall in one per cent. Nearly four times as many cases have been observed with inguinal as with femoral hernias. It is very rare under thirty, and increases in frequency after forty, probably owing to growth of the original hernia, increase of fat, relaxation of the abdominal wall, weakening of muscular tone of the bladder, etc. I have been able to find but six cases in children, viz., Pott's, aged thirteen (1770); Felizet's, aged twelve (1894), (doubtful); Kummer's, aged five (1892); Wyeth's, aged two and one-half (1895); Adams', aged eighteen months (1900): Foy's, operated upon in 1893 by O'Grady, aged six years, reported 1900.[2]

[1] Among the best of these are—Bourbon: Thèse de Paris, 1892; Siegel: Dissert., Würzburg, 1892; Maudry: Beiträge z. klin. Chir., 1893; Lejars: Rev. de Chir., 1893; Piquet: Thèse de Paris, 1893; Imbert: Ann. des Mal. des Org. Génito-Urin., 1896; Lotheissen: "Die inguin. Blasenbrüche." Beiträge z. klin. Chir., 1898; Brunner: Deutsch. Zeitsch. f. Chir., 1898; Sjovall: Inaug. Dissert., 1899; Ansinn: Inaug. Diss., 1899.

[2] So great is the rarity of bladder hernia in childhood, that a summary of these two latter cases reported during the last year may be of interest:

Adams' case (Clin. Rev., Chicago, 1900, vol. xii., p. 270). A

Among a number of causal factors suggested by different writers as productive of hernial cystocele, such as constipation, pregnancy, oblique position of the bladder, etc., none seems generally accepted except direct traction upon the bladder through its peritoneal coat, by the weight of the hernial sac and contents. Lotheissen accounts for the occurrence of extra-peritoneal hernias by assuming that the pre-vesical fat (lipocele) engages in the hernial opening, and drags the bladder after it. In Adams' unique case a bladder diverticulum closely adherent to the cord and canal constituted the sole hernial protrusion in an infant. It seems possible that here the testis in its descent may, in pushing before it the peritoneum, have carried down a portion of the attached urinary bladder, elongating and thinning it, till it assumed the finger-like form described.

Beyond doubt, during operations for radical cure, the bladder has been in many cases drawn out of the hernial opening by traction during ligation of the hernial sac. This is appropriately termed "operative cystocele" by Imbert. The great increase of cases observed during the last decade, since operations for radical cure of hernia have become common, gives added probability to this etiology.

I have been able to find records of one hundred and eighty cases of bladder hernia, which may be analyzed and tabulated as minutely as one wishes.[1] For practical purposes, however, the material divided itself largely and naturally into the following classes:[2]

1. Cases discovered at autopsy.[3] Beginning with that of Sala in 1520, twenty-two autopsy cases are recorded. In five instances the hernial bladder contained calculi. Verdier cites one in which five stones were found. A particularly interesting case which seems to have been overlooked by collectors, and which was the first described in America, was reported to the Medical Society of the County of New York on March 16, 1815, by James L. Phelps. The patient had the hernia fourteen years, the tumor slowly growing. With desire to urinate, the swelling in the groin became tense, and compression of this enabled the patient to start the stream. Finally, at the age of eighty, there was strangulation, not relieved by catheterization, taxis, or bleeding; and death followed on the third day. The autopsy showed the wall of the sac thickened, and containing, beside some sphacelated gut, a pouch five inches long, consisting of the anterior wall and fundus of the bladder.

2. Cases in which there were symptoms of vesical hernia.[1] There are thirty of these, and their study illustrates the rational and physical signs by which the bladder may make its presence in a hernia known, and put the surgeon on his guard lest he add another to the long list in which the bladder has been injured. These symptoms consist in various disturbances of urination; pain and tenesmus being the mildest and least suggestive, especially in old men. An increase of dysuria, with enlargement of the tumor in the groin, as in Ribell's case, would be a more pointed hint; while it would seem pretty plain talk on the part of disease if the tumor swelled when desire to urinate was felt, or if urination was followed by the tumor's disappearance, or if the patient needed to urinate before the hernia could be reduced, or if a noise could be heard in the hernia at the end of urination. Yet symptoms can speak more clearly still, as in those cases in which, in order to urinate, the patient found it necessary to elevate the scrotum and its contents, or compress it, or both elevate and compress it, as in Brodier's case, in which the hernia hung half-way down the thigh. Petit's patient needed to practise compression while in the dorsal decubitus; and Clement's, whose whole bladder was in the scrotum and would hold two quarts, had to compress while raising and rolling the tumor around. In De la Porte's case of double vesical hernia pressure on both tumors was needed; and in Ledru's case (1739), in which there were two tumors, one hypogastric, the other near the symphysis, after the former had been emptied by the catheter, compression of the latter caused fresh urination.

The two cases of Stolpert van der Weyl, in which an abscess in the groin discharged urine and calculi, are cited by Verdier as instances of vesical hernia, though the evidence seems inconclusive. But in Toscano's case such was probably the condition, as a tumor formed in the right scrotum, burst spontaneously with exit of urine and pus, and a fistula resulted through which eventually all the urine escaped. A calculus was also expelled by this route.

3. Cases in which the bladder was found in a hernia, but was recognized and not wounded.[2] In

boy, aged eighteen months, had a tumor of the right scrotum for ten months. During radical operation, urine escaped from the wound. The hernia was found to consist entirely of a very thin finger-shaped diverticulum of the bladder, firmly adherent to the cord and the inguinal canal. This was cut away, and the opening closed by suture of the muscular coats. Primary union ensued.

Foy (Lancet, 1900, i., 731) reports a case operated upon by O'Grady in 1883, that of a boy aged six years. The hernia was of one and a half years' duration, and the size of an orange. When compressed it caused urination. At the operation it was recognized as the bladder, but was deliberately opened to make sure of the relations, a catheter being passed through the urethra, bladder, and hernial opening. After suture recovery ensued.

[1] Sjovall's cases are included, though they are not tabulated, the particulars in Swedish being inaccessible.

[2] A few cases fall under two of these categories (*e.g.*, Pott's), but none are counted twice in making up the total.

[3] Cases found at autopsy: Sala, 1520, cited by Verdier. Curade, 1742, cited by Verdier. Verdier, 1769. Unnamed surgeon, cited by Verdier, 1731. Ruysch, cited by Verdier. Beaumont, 1733, cited by Verdier. Clement: "Obs. in Surg. and Pathol." Anonymous: Rust's Magazin, Bd. xxiii., p. 616. Hartmann: Graefe's and Walther's Jour., Bd. ix., p. 399. Perrin: Bull. de la Soc. Anatom., 1853, p. 412. Civiale: "Traité Pratique sur les Mal. des Org. Génit.-Urin.," 1860, p. 33. Piedvache: Bull. de la Soc. Anat., 1861. Marchant: Progrès Méd., 1875, No. 41. Leroux: Revue Mensuelle, 1880. Larabrie: Arch. Gén. de Méd., Mars, 1881. Guyon-Broca: Thesis of Duret, 1883. Imbert: Ann. des Mal. des Org. Gén.-Urin., 1896, p. 433. Pilcher: Trans. London Path. Soc., 1853, iv., 187. Phelps: Trans. Med. Soc. of the County of New York, 1815. Keate, cited by Brunner. Menici, cited by Brunner. Palen, cited by Brunner.

[1] Cases giving symptoms: Ruysch, cited by Verdier. Beaumont, cited by Verdier. Petit, cited by Verdier. Sue, cited by Verdier. De la Porte, cited by Verdier. Simon and Levret, cited by Verdier. Ledran, cited by Verdier. Stolpert van der Weyl, cited by Verdier, two cases. Mery: Mem. de l'Acad. Royale des Sci., 1731, two cases. Pott: "Surg. Works," London, 1791, vol. iii., p. 347. Rognetta: Rev. Méd., 1832, June. Duchaussoy: Bull. de la Soc. Anat., 7, p. 59. Marchant: Progrès Méd., 1875, No. 41. Leroux: Rev. Mens., 1880. Larabrie: Arch. Gén. de Méd., March, 1881. Brodier: Bourbon's Thesis, 1892. Jaboulay and Villard: Lyon Méd., 1895 (one case of their three). Vincent: Arch. Prov. de Chir., 1898, No. 5 (one case of his three). Zondek: Deutsch. Zeitsch. f. Chir., B. 52, p. 584, two cases. Pilcher: Trans. London Path. Soc., 1853, iv., 187. Phelps: Trans. Med. Soc. of the County of New York, 1815. Delagénière: Arch. Prov. de Chir., iii., 645. Ribell (cited by Brunner): Arch. Gén. de Méd., 1829, 21. E. Martin: Deutsch. Zeitsch. f. Chir., Bd. liv., 468. Clements: "Obs. in Surg. and Path.," London, 1832. Toscano: Wien. med. Woch., 1856, 454. Foy: London Lancet, 1900, i., 731.

[2] List of cases—bladder recognized not wounded: Morain, cited by Verdier. Fletcher: Hecker's Annalen, Oct., 1832. B. Cooper: Lancet, July and August, 1852. Scott: Med. and Surg. Reporter, July, 1868. Kroenlein: Arch. f. clin. Chir., 1876, xix. Boeckel: Gaz. Méd. de Strasbourg, 1890. Kummer: Rev. Méd. de la Suisse, No. iv., 1892. Walther: Bourbon's Thesis, "De la Cystocele Ing.," 1892. Felizet: "Hernies Ing. de l'Enfance," 1894. Raymond: Bull. Soc. Anatom., 1894. Delorme: Bull. et Mem. Soc. de Chir., 1894, xx., 355. Lardy: Rev. de Chir., Feb., 1896, three cases. Monari: Beiträge z. klin. Chir., Bd. xvii., Hft. 2, five cases. Fenger: Trans. Am. Surg. Assoc., 1895, two cases. Jaboulay and Villard: Lyon Méd., 1895, one case. Hermes: Deutsch. Zeitsch. f. Chir., Bd. xlv., 245. Gibson: Trans. New York State Med. Soc., 1897. Blake, cited by Gibson. Lanz: Berliner klin. Woch., 1892. Delagénière: Arch. Prov. de Chir., t. iii., 645. Roth: Deutsch. med. Woch., 1892, 537. Lotheissen: Bei-

forty-seven instances this was the fortunate outcome, and a consideration of these illustrates the means at our disposal for recognition of the ectopic bladder. In view of the pretty general experience of operators, its presence should be suspected when the hernial sac is of unusual thickness and weight, and especially when a large mass of fat lies to its inner side. This latter has been dignified in the literature by the term "prevesical lipoma," and this appellation may be rarely deserved. But in most instances it is merely an increase of the fat usual in this locality. Within the mass may sometimes be distinguished by a nice sense of touch the feel of two surfaces slipping on one another. Lotheissen was several times led by this sensation to suspect the abnormality, which was then confirmed by other tests. Yet we should remember Lotheissen's own observation that small cysts containing a yellow fluid may be found here.

When the displaced bladder has been encountered, it has often been mistaken for another hernial sac. This error is comprehensible, since in its false position the walls become often so thinned as to be indistinguishable from ordinary serous sacs, and so friable as to tear with slight handling. Even when the presence of the bladder has been suspected, and the protrusion examined with that possibility in mind, veteran operators have pronounced the doubtful structure a second sac, opened it intentionally or unintentionally, and found it to be the urinary bladder. If muscular fibres can be distinguished, or if a sound can be made to enter the suspected structure from within the bladder, or if its cavity can be distended coincidently with the bladder by injections, doubts will be dispelled. Yet all these tests have at times failed in the hands of able operators; and even after the bladder has been opened it has been occasionally impossible, except by outflow of urine, or by causing a sound introduced from the groin to touch another introduced *per urethram*, or by microscopic examination of the tissues, to distinguish the thinned, translucent structure from a sac formed of peritoneum. The occurrence of a second hernial sac is itself, however, so great a rarity that a safe rule would seem to be to regard as the urinary bladder any structure resembling a second hernial sac, until proved otherwise.

4. Cases in which the bladder was wounded, intentionally or unintentionally, during operations for hernia.[1] There are some ninety-three cases, including the one herein reported by myself. Wounding of the bladder has sometimes happened because its presence was unknown. The accident has then been discovered at once, or not until tenesmus, hæmaturia, and perhaps urinary fistula announced its occurrence. Sometimes the bladder has been mistaken for a second hernial sac, omentum, lipoma, or cyst, and treated accordingly. And sometimes the protruding portion of the bladder has been intentionally opened or resected.

Methods of Treatment and Mortality.—When the emergency was recognized, a variety of plans of treatment have been employed to meet it. In one of the earliest cases (Arnaud's, 1740), the wound was simply tamponed. Other operators (Aue, Schimpert, Praenischnikow, Delorme, Sebileau), fearing urinary infiltration, sewed the edges of the bladder wound to the skin, thus making a urinary fistula. If the patient recovered (Praenischnikow's died of pyæmia), this either closed spontaneously, or was closed by a secondary operation.

In eleven other instances, usually from the oft-repeated mistake of taking a bladder-diverticulum for a hernial sac, the protruding portion was ligated and cut away. In one instance (Bull's) this treatment resulted in healing without fistula, though tenesmus and hæmaturia necessitated reopening of the external wound. Four (Curtis says three) of this series of eleven cases were fatal; two after a secondary operation for removal of the ligature and suture of the bladder wound (Ostermayer, Hotchkiss). Jungengel and Michel saved their patients by doing a secondary suture. The other cases recovered with fistulæ, which eventually closed spontaneously.[1]

It is probable that many cases have been, like my own, instances of inadvertent ligature and resection of a portion of the bladder, in which, after the accident was discovered, the ligature was removed and a suturing done. But it seems to me poor practice intentionally to place a ligature of the bladder, and I cannot at all agree with Curtis' conclusion: "These results are not so bad, but that, if suture be impossible, the ligature might be considered as a means of occluding the

träge z. klin. Chir., 1898, six cases. Montegnacco: Atti della Assoc. med. lombard., 1896. Carazza: Revista Veneta de Med., 1896. Ssalistchew: Chir. Laitop (Russian), 1895, two cases. Souligoux: Arch. Gén. de Méd., 1898. Forselles, cited by Brunner. Lane: Lancet, 1894. Zartanan: Rev. de Chir., 1896, 142. Sokoloff, cited by Gibson, 1894. Guinard: Arch. Gén. de Méd., 1896, vol. i., p. 87. E. Martin: Deutsch. Zeitsch. f. Chir., Bd. liv., 468, 1899. Treves: Lancet, 1895, vol. i., 1424. Thomas: British Med. Jour., 1896, vol. xi., 202.

[1] Cases in which the bladder was wounded: Plater, cited by Verdier. Mertru, cited by Verdier. Guyon, cited by Verdier. Unnamed operator, cited by Verdier. Arnaud: Mém. de Chir., i., 1740, p. 79. Pott: "Surg. Works," London, 1790, vol. iii., p. 347. Duchaussoy: Bull. de la Soc. Anatom., 1853, vii., 59. Israel: Berliner klin. Woch., 1882, p. 40. Berger, cited by Duret: Thèse de Paris, 1882. Lucas-Championnière: "Cure Rad. des Hernies," 1887, two cases. Monod and Delagénière: Rev. de Chir., 1889, p. 701, two cases. Guelliot: Rev. de Chir., 1889, p. 941. Boeckel, cited by Hedrich: Gaz. Méd. de Strasbourg, 1890. Hedrich: Gaz. Méd. de Strasbourg, 1890. Thiriar: Gaz. Hebdom., 1890, No. 35, p. 411. Reverdin: Rev. Méd. de la Suisse, 1890, No. 11. Postempski: Riforma Med., 1891, June. Pilz: Wiener klin. Woch., 1891, No. 19. Polaillon: Bourbon's Thesis, Paris, 1892. Jungengel: Siegel's Inaug. Diss., Würzburg, 1892. Justo: Revista de la Soc. Med. Argentina, April 22, 1892. Maudry: Beiträge z. klin. Chir. 1893, x., 773. Socin, cited by Maudry. Demoulin: Union Médicale, 1893. Duplay, cited by Demoulin. Zondek: Deutsch. Zeitsch. f. Chir., Bd. lii., 584, two cases, operated upon by Israel. Lejars: Rev. de Chir., 1893, p. 128. Sebileau: Piquet's Thesis, Paris, 1893, three cases. Quenu: Piquet's Thesis. Jaboulay and Villard: Lyon Méd., 1895, two cases. Maunz: Münchener med. Woch., 1895, 748, LeConte: Annals of Surgery, 1896, xxiv., 753. Rabineau: Thesis, Paris, 1896. Ssalistchew: von Langenbeck's Archiv, Bd. liv., Hft. 1. Monari: Beiträge z. klin. Chir., Bd. xvii., Hft. 2. Fenger: Trans. Amer. Surg. Assoc., Phila., 1895, p. 321. Hermes: Deutsch. Zeitsch. f. Chir., Bd. xlv., 245, three cases. Muchard: Rev. Méd. de la Suisse, 1898, No. 5. Vincent: Arch. Prov. de Chir., 1898, No. 5, three cases. Gueterbock: Deutsch. Zeitsch. f. Chir., Bd. xxxii., 296. MacReady: Lancet, 1894, i., 1065. Michel: Medico-Chir. Trans., 1894, lxxvii. Ostermayer: Deutsch. Zeitsch. f. Chir., 1894. Tiling, cited by Aue. Kablukow: Chirurg. Annalen, 1895, p. 380. Hollaender: Berl. klin. Woch., 1896, p. 938. F. Guinard: Legrand's Thèse de Paris, 1896. Breffeil, cited by Legrand. Bernhard: Korrespondenzblatt f. schweiz. Aerzte, 1899, xxiii., three cases. Lanz: Berl. klin. Woch., 1892, No. 30, p. 31. Hannecart: Soc. Belge de Chir., May 21, 1898. Weir, cited by Gibson, two cases. Gibson: Trans. New York Med. Soc., 1897. Bolton, cited by Gibson. Tuttle, cited by Gibson. Roche: Annal. des Mal. des Org. Génito-Urin., 1899, No. 1. Morisani: Clinica Chir., 1897, No. 7. Schumpert: MEDICAL RECORD, August 27, 1898. Aue: Deutsch. Zeitsch. f. Chir., Bd. xxxv., p. 351. Praenischnikow: Chirurg. Ann., 1895. Montegnacco: Atti della Assoc. Med. Lombard., 1896, three cases. Thormann: Schweiz. Zeitsch. f. Natur- u. Heilkunde, 1891, 411. Meienberger: Dissert., Zurich, 1893. Wyeth: Arch. of Pediatrics, March, 1895. MacGowan: South. Calif. Pract., 1894–95. Curtis: Annals of Surg., June, 1895. Bull, cited by Curtis. Stimson, cited by Curtis. Hartley, cited by Curtis. Gerster, cited by Curtis, two cases. Hotchkiss, cited by Curtis. Purcell: Lancet, 1894. Rose: Lancet, 1894. Garampazzi: La Riforma Medica, 1898, i., 277. Charles Adams: Clin. Rev., Chicago, 1900, xii., 270. Foy: Lancet, 1900, i., 731, operator O'Grady. Cheesman.

[1] Cases of ligature of bladder wound: Bull: no fistula, recovery. Israel: fistula, recovery. Reverdin: fistula, recovery. Rabineau: fistula, recovery. MacReady: fistula, recovery. Jungengel: fistula, secondary suture, recovery. Michel: fistula, secondary suture, recovery. Hedrich: fistula, death. Pilz: fistula, death. Hotchkiss: fistula, death. Ostermayer: fistula, death.

wound in the bladder in case of emergency; for if it can be made to hold by transfixion, its use will tide the patient over the early dangers of extravasation, provided the external wound be treated openly by packing, or at least drained by a large tube carried down to the neighborhood of the vesical wound." This practice contemplates the eventual formation of a urinary fistula, and it would seem safer and less distressing to the patient, when suture is impossible, to establish the fistula at once by tube or siphon, as in suprapubic cystotomy, rather than to place a puckering ligature, which must produce dysuria and eventual sloughing.

In the majority of cases—fifty-five out of ninety-three—the bladder wound was sutured, some surgeons placing one, some two, and some three rows of catgut or other material. This suturing failed to hold in eight cases, fistula resulting; all of which eventually closed spontaneously. Eleven patients died, a mortality of twenty per cent. among the fifty-five sutured cases. Two of these deaths occurred after a suprapubic opening was made to reach and close the wounded bladder; while Vincent saved a case by laparotomy and suture, in which one-third of the bladder had been cut off. The best success seems to have attended prompt suture of the bladder wound by at least two rows of catgut, the first penetrating the muscularis to the mucosa, the second infolding the edges of the wound upon themselves.

Monod and Delagénière proposed that the prolapsed portion of the bladder be frankly resected, and the resulting wound closed. Bernhard advised similarly when the bladder was thinned, and reports three cases in which this was successfully done; and Israel is reported by Zondek to have had good results from this procedure in two cases. Meienberger extirpated a ruptured bladder diverticulum, and sutured, the patient recovering; and Pilz did the same, but lost his patient from uræmia; while Garampazzi found a bladder diverticulum so adherent that he was compelled to resect and suture, success ensuing. Both Wyeth and Lanz opened doubtful protrusions merely for diagnostic purposes, and O'Grady (reported by Foy) deliberately opened and then sutured successfully a protrusion which he seems to have known to be the bladder.

These successes, while they will encourage surgeons to resect and suture diverticula with tenuous walls, which have been accidentally ruptured, or which cannot be separated from other structures, will not, however, lead them to abandon the safe rule to replace the bladder intact whenever possible.

The value of the catheter *à demeure* in these cases is problematical. Frequent emptying of the bladder by voluntary effort or catheter seems to give as good results as the retention instrument.

Drainage of the external wound is a prudent provision against leakage from the suture line in the bladder. It need, however, be no more than a small tell-tale drain. Packing of the wound, or any interference with closure of the layers advised by Bassini or Macewen, is rarely if ever needful.

Urinary fistula resulted in twenty-two of the group of ninety-three cases, in five at least of which it was intentionally established. All but two of the fistula cases resulted in recovery, the sinus closing spontaneously after a longer or shorter time; though once (Schumpert) it was necessary to close by secondary plastic operation.

Summing up results in this group of ninety-three cases in which the bladder was wounded, it may be stated that twenty-five patients died, a mortality of some twenty-six per cent. Of these twenty-five deaths, I can find but nine (Curtis found eight), about ten per cent., in which the result was fairly attributable to the accident. These were the cases of Duchaussoy, Hedrich, Jaboulay and Villard, LeConte, Guinard, Bolton, Morisani, Hartley, and Hotchkiss. The causes of death were shock, hemorrhage, urinary infiltration, sepsis. The sixteen other deaths not referable to the bladder injury were due to such causes as affect surgical results in general, and those of hernia operations in particular, viz., uræmia, peritonitis, chronic nephritis, dysentery, pulmonary congestion, etc.

Conclusions.—From this discussion and review of recorded experience in one hundred and eighty cases I conclude:

1. That the principal cause of bladder hernia is direct traction exercised through the peritoneal coat by the weight of the hernial mass, or by pull on the sac during ligation in operations for radical cure.

2. In one-sixth of the cases symptoms occur sufficient to arouse suspicion, sometimes amounting to certainty, of the existence of the abnormality.

3. In about one-fourth of the cases it may be possible during operation to recognize the bladder and avoid injuring it; and after one hernial sac has been found, any structure resembling a second should be regarded as bladder, till proved otherwise.

4. When the bladder is wounded, the best procedure is immediate suture by two layers of catgut, and closure of the hernial wound by Bassini's method; a small drain only being left leading to the bladder suture line. The bladder wall, when thinned, may be freely resected preparatory to closure.

The catheter *à demeure* is not essential to primary union of wounds thus closed.

5. Urinary fistula nearly always closes spontaneously.

6. Injuries of the bladder have been directly responsible for death in only ten per cent. of the hernia cases in which they occurred.

THE "NAUHEIM TREATMENT."

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In 1887 I first visited Bad Nauheim and for ten successive summers spent from two to four months at that resort. The opportunity to investigate the treatment resulted in the papers read before the New York Academy of Medicine in 1890[1] and in 1896. In the winter of 1895–96, the kindness of Geheimrat Professor Dr. von Leyden, of Berlin, enabled me to make some observations upon exercise treatment, and these together with previous work at Nauheim constituted the basis of a paper read before the Verein f. Innere Medizin, of Berlin, in February, 1896.[2]

At the close of 1896 accident determined me to take up practice at Bad Nauheim. At the very outset I felt the necessity of a change in the manner of applying the treatment, which had unwittingly gone on in the old routine, and judging of the effects in not a small number of cases, it appeared to me excessive. I determined upon a course of conservatism with my own patients, which I felt should receive a fair trial, knowing that such treatment could certainly do no harm.

Four seasons, practically representing four years of personal experience, induce me again to offer the profession the results of this trial.

Historical: In the interest of historical truth I desire to do justice to a name deserving of the highest encomiums and to whose transcendent genius we owe the application of the bath treatment to cardiac dis-

[1] "Balneotherapeutics and Mechanotherapeutics of Chronic Heart Disease." MEDICAL RECORD, February 14, 1891.

[2] "Chronische Herzkrankheiten-Therapie." Verein f. innere Mediz. Deutsche mediz. Wochenschrift, 1896.

ease. In 1857 Professor Beneke, then Dr. Beneke, and instructor at the Marburg University, was called to Bad Nauheim by the authorities to practise in the summer. For several years prior he had visited Nauheim and made observations, and after eighteen months he in 1859 published the first scientific "Treatise upon the Nauheim Baths," in which he says (page 257):

"The cases of organic cardiac disease which has resulted from rheumatism or endocarditis furnish no contraindication to the use of the saline bath. Four cases above referred to of organic cardiac disease belong to this category; in none of these even a single symptom arose which could render the continuation of the bath unwise. On the contrary, I have arrived at the conclusion that the saline bath in individual cases, even if it does not produce improvement of the organic lesion, at all events can prevent its increase and relapse. I should not hesitate an instant to bathe persons who in consequence of rheumatism have become afflicted with cardiac disorder, provided that no secondary renal disease have developed, and I believe that the bath will not prove without service."

It should be borne in mind that Beneke was also a brilliant pathologist, and that the above statements would never have been made had he not found pathological evidence to support them. This gives to them a value which they have, I fear, even to-day failed to be credited with.

In 1871, August Schott, the senior brother, since deceased (1886), entered upon practice. At this time Oertel, of Munich, was writing and urging the use of various forms of exercise, when Schott adopted the resistant movements of the Ling Swedish system of exercises, and thus gave a very useful and practical form of exercises to the profession. But even here, as in so many things, "history repeats itself."

So far as the application of warmth is concerned, dry and moist warmth in the shape of baths were resorted to for cardiac disease in the sixteenth and seventeenth centuries. And at the beginning of the present century Williams and Hope both demonstrated, in the first place, that cardiac hypertrophy and other lesions could be recovered from, and that exercise kept within limits was one of the means of treatment applicable to cardiac disease. It is a matter for regret that the genius of Stokes, who recognized improvement in many of his patients with cardiac disease, who were devoted to hunting and sport, after indulgence in exercise against his own wishes, failed to do little more than simply to note the fact. Had he carried it out to its legitimate deductions, he would have formulated some mode of exercise, for the teachings of Williams and Hope, which had been lost sight of, were before him to encourage him.

General Remarks.—Mental states and suggestion in cardiac treatment: It has been remarked that in no form of illness can so much be accomplished by "suggestion" as in cardiac treatment. That mental states have a powerful influence over cardiac conditions is true, but this should not be confounded with suggestion. By suggestion we mean a state of mind disposed favorably for the good results of a certain treatment. My own experience has taught me time and again that what I must control is the avoidance of mental irritation that comes from family, financial, business, and social worries and annoyances. If I can do this, I bring to bear a very important condition for the success of cardiac treatment; and with complete freedom from mental annoyances, it then matters not whether the patient be an absolute unbeliever in the treatment applied; in short, even if the suggestion be opposed to the treatment (which is not suggestion), success generally follows. In a paper read before the Berlin Medical Society, I referred to my experience in a case which I had carefully followed. There are not a few medical men who, in speaking of Nauheim results, dismiss it with the word "suggestion." This word, which may mean so much or so little, cannot have any greater application in Nauheim treatment than it has in the entire range of medicine. We all know that the inspiration of confidence gives the patient a buoyancy that unquestionably diminishes pain and overcomes difficulties and even crises. I appeal to any member of the profession who has lain upon the sick-bed in his older years, when he had become the therapeutic cynic, whether the entrance of the colleague upon whom he relied for help did not give him a feeling of helpfulness that was appreciable. Shall we deny this to the average layman? But to accept the inference that Nauheim treatment is even largely suggestion is to be led to a conclusion without justification. The suspicion with which the profession still regards physical treatment keeps patients from Nauheim until they have tried all known medical means; a large number have tried all the forms of quackery, and a certain number come feeling that death has already claimed them, absolutely without faith and only to oblige a fond parent, wife, child, or other relative. There are a large number of children, and a not inconsiderable number of adults of wealth without occupation or care of any kind, who, with equal indifference to result except a desire to get well, try all known remedies and physicians in turn, and finally find relief only in Nauheim treatment. These latter were as much under the influence of suggestion in the treatment that failed as in that which succeeded, and as for children one could not claim suggestion here more or less than elsewhere.

In 1894 and 1895 I examined the cardiac condition of a large number of German laborers daily before and after their day's work. The German phlegmatic disposition lent itself well to the investigation, and I found that only when the mental element of hurry was added to the work could an appreciable and undoubted difference in the size[1] of the heart be recognized at night. Among those examined, I found an athletic, sober, and steady baggageman who for a fortnight failed to show any difference worth remarking in the size of the heart, between the early morn and night. One night, however, the difference had become so marked, being nearly a centimetre, that I asked him what he had done and if his work had been unusually hard. His response was no; finally, driven by my questions, he admitted having had a wordy quarrel at the railroad station an hour previous, which was all that he had done out of the ordinary that day. It was thus proven that mental excitement had produced an amount of cardiac dilatation which his daily hard avocation had failed to produce. Dr. Livingstone, the African explorer, learned by autopsies that many of the young Africans whom he took out of their countries to use as guides, died of homesickness and had well marked cardiac dilatation. The effect of intense mental application in bringing on attacks of angina has often come under my experience.

The result of anger and various forms of mental excitement in producing cardiac dilatation or hypertrophy have been recognized not only in man but in animals as well. The late Prof. Alonzo Clark often spoke of the fact that the rooster in charge of a large number of hens frequently had cardiac hypertrophy.

It must be evident, therefore, that the patient who is being given Nauheim treatment, and who leaves the bath in the forenoon to encounter later in the day the varied forms of life's mental annoyances, can never

[1] I wish to remark here that the heart of men in active work does not maintain itself in exactly the same position from morning to night, and that some displacement is always found at night after work, and if they are well there is no difference in size worth speaking of.

hope to receive much or permanent benefit. Freedom from mental irritation, during the period of treatment and for a period after treatment, from all sources, whether from family, social, or business causes, is a *sine qua non* to its success. Exceptional results prove nothing. I do not by any means advise solitude, as is necessary at times in the Weir-Mitchell treatment, for Nauheim treatment means physical medication in which exercise of some form is an important factor.

Artificial treatment compared with treatment at Nauheim often results so decidedly to the disadvantage of the former, that the failure to obtain results in hospital or private practice is constantly brought forward to disprove the probability, yes, even the possibility of a Nauheim cure being really the result of the treatment. It cannot be expected that the former can equal the treatment at Nauheim. But any large degree of failure must even here be traced to the omission to secure the requisite mental or physical quiet for the patient at the time. Still further it is very necessary to remember that the effect of Nauheim treatment cannot always be judged immediately, unless all factors are carefully inquired into, and even then I am constantly meeting cases at Nauheim concerning whose improvement I have the gravest doubt, which doubt is at times shared by the patient; but in the majority of such cases I have been gratified to learn in the spring that one or two months after treatment, and once the patient was at home, rapid improvement of a permanent kind had set in—and to receive the news that the winter had been the best passed in years is a common intelligence, which reaches me even from the most bitter scoffers among the patients. So that, given a proper conservatism in the application of the treatment, I should hesitate in even the most doubtful cases to pronounce judgment upon the result, short of three months.

Hospital Experience.—One of the most important things to be remembered is, again, the frame of mind of the patient treated. The poor man who, lying ill in the hospital, knows his family to be starving, or who has mental suffering because of his poverty or of his family affairs, is in no condition to be helped. Let private charity step in, however, and provide for that family and smooth out his troubles, and the hospital patient will improve as surely as does his wealthier brother. Again, to expect that a diseased heart can be repaired to the extent that a hospital patient can return to work like blacksmithing or longshore work, is to expect the impossible. Here again private charity must step in to teach the laborer lighter forms of work with which to maintain himself and his family. This view is based upon my own practical experience; so that I am not surprised to read that the hospital reports as published from time to time offer little encouragement in the application of this treatment. The opportunities here for saving the labor of men who still could do some form of light work is the philanthropists' opportunity, side by side with the public sanatorium for consumptives, with fully as good if not a better prospect for success.

Private Practice. — Except as an after-treatment during the winter, after a summer passed at Bad Nauheim, the giving of treatment, say at one time of the day, while the patient attends to his business at another, will never furnish sufficient success to encourage the profession to adopt it. Even domestic relations must be inquired into, and unless there is a certainty that nothing in this direction could interfere, the patient should be sent away from home to be treated. Often even at Nauheim I have found the presence of children a serious source of irritation to the parent, so that I now insist upon their separation, and this must be considered in private practice. In private practice as in Nauheim the patient must give himself up to the treatment.

Nauheim treatment: During the past year an additional spring, No. 14, has been tapped, whose waters are nearly identical with the other two springs, Nos. 7 and 12; the temperature varying from 31° to 33° C. and over.

This has been an important addition to the existing sources for baths, and with a new bath house just building, whose level is so arranged as to secure the new spring water under its most nearly natural existing conditions, a potent increase of Nauheim's bath resources is secured.

The modes of administering the baths are still as formerly, with the exception that the new bath house when completed may furnish new grades of strength of the water.

The springs Nos. 7 and 12 are led to open and to closed reservoirs. In these they lose more or less carbonic acid and some heat, and thus from the open reservoir we draw the water weakest in carbonic acid, while from the closed reservoir the water contains considerably more carbonic acid. This constitutes an important factor in Nauheim baths—for the carbonic acid being held in three ways, by chemical union, in (as the German calls it "halb gebunden") semi-combination, and free in the water, enough remains after the free carbonic acid is lost to constitute the baths given from the reservoirs very strong thermal carbonated saline baths, technically called thermal baths.

The succeeding grades of strength of bath are furnished by using the waters of the various springs led directly underground into the tub, without intermediate exposure to the air. This is called the effervescent (sprudel) saline bath. In the latter the patient has the effect of all the carbonic acid, the free carbonic acid covering the body with carbonic-acid bubbles, which keep discharging very slowly from the surface of the body, while the body is also affected by the partly and wholly combined gas. I desire to say here that there is no danger connected with such a bath, if after the tub is filled the gas on the surface of the water is brushed aside with a towel, two or three blows answering; the subsequent accumulation of gas being insignificant. With children, however, care must be taken not to use adult tubs, else the reaccumulation may be enough to disturb them. The final grades or strength of bath are obtained by causing the waters, as in the case of the effervescent bath, to come directly from the earth to the tub without exposure, but permitting them to flow through the tub continuously during the entire time of the bath, openings for the outflow being provided in the tub at the upper level of the water. Thus, given that it takes two minutes to fill a tub, the patient who remains in the bath for ten minutes receives the stimulating effect of the carbonic acid and mineral elements contained in five effervescent baths.

This constitutes a very powerful and for some purposes over-stimulating bath.

Factors of the Bath.—The factors in applying the baths, which constitute the important elements in treatment, are:

First. The warmth and the fact that it is a natural warmth, avoiding any injurious artificial application of heat by which important elements may be dissipated.

Second. The presence of alkaline salts and of metals in large quantities; and of rarer elements whose exact value is as yet uncertain.

Third. The large quantity of carbonic acid held in an active form, and its coincident combination with the salts and other elements.

Finally. A certain quantity of electro-magnetism or magneto-electricity, which these waters have in common with certain other springs.

It is the combined presence of all these important components that constitutes the efficacy of the Nauheim waters and makes them the most potent waters in Germany. At times it is necessary at the outset to dilute the natural Nauheim waters in order to introduce the treatment without discomfort to the patient.

Temperature and duration: In this connection I must ask special attention to an error into which I had myself been led. In my papers of 1896 I recommended the use of temperatures of 33½° at the beginning and its gradual reduction upon successive days to 30°, 29°, and even 28° C. Such a course must needs bring confusion into the physiological theories that we adopt, for a bath at 28° C. is no longer a warm bath, but a decidedly cool bath, and its effect upon the skin and circulation is vastly different. For three years I have entirely abandoned any such low temperatures, and I desire to say that I begin with a temperature of from 33½° to 35° C. according to the diseased physical condition of the patient, considering likewise whether the patient be stout or lean, be younger or older, and be accustomed to cooler or warmer bathing. The temperature in subsequent baths is sometimes lowered two or three degrees, though in the majority of cases one or two degrees, in some cases less, and in a few the same temperature is maintained for the greater part of the time.

Duration of bath: Beginning with four to six minutes, I gradually increase the duration to eight, ten, or twelve minutes, increasing the time in exceptional cases to fifteen or twenty minutes. Whenever the baths are changed to the stronger form, the duration must be reduced at the outset, and the length of time finally adopted depends upon the patient's condition and his ability to bear a stronger bath, always keeping well within conservative limits. Usually it is less than the maximum duration of the weaker bath.

The weakening effects, which are sometimes noticed after a first bath of even four minutes' duration are sufficient evidence that this length of time is adequate to produce a decided effect. The proper and only guide to the proper length of bath after the first few, during which the patient becomes accustomed to them, is determined by the time when the pulse changes from a slower and fuller to a quicker or smaller one, and of course when any signs of weakness of which the patient may complain supervene. The pulse almost invariably gives the indication before the patient's sensations do.

After-treatment: The necessity for having the bath towels warm, and the taking of some liquid food soon after (even a bite during dressing may give needed support and prevent faintness), are quite important. One to one and a half hour's rest is all-important. While dozing is unobjectionable, profound sleep proves so muscle-relaxing that much of the tonic effect is thereby lost.

Length of treatment: It is difficult to decide *a priori* upon any definite number of baths as constituting a course. Ordinarily from twenty to twenty-five baths constitute a number from which a good result may be expected. Still much depends upon the age, the nature of the illness, and the strength of the patient. Then too the question of the patient's ability to return for subsequent treatment in the following year must be considered. Thus thirty and more baths may exceptionally be given. The plan preferred by me when more baths are necessary, and which is considered more conservative, is, after the course of eighteen to twenty-five baths, to order the patient to a mountain resort for one month or more of rest and change of scene and method of life; then to return for a supplementary course of several weeks' further treatment.

Another question of great importance is the frequency of the baths. The ideal mode of treatment, according to my experience, is to give a bath every alternate day; but when on account of the necessarily protracted stay the patients object, they should never receive a bath upon more than two successive days, with a rest upon the third. The combination of the two methods, of a bath first upon alternate days followed by two baths on successive days, after the second rest, in regular rotation, may also prove unobjectionable.

Physiology.—When patients with weak hearts are placed in a Nauheim bath at the usual temperature of 33½° to 35° C., they first experience a feeling of oppression over the sternum, which in exceptional cases is somewhat uncomfortable, but is never of a nature to cause the slightest concern, for it soon passes off, and becomes less in subsequent baths, disappearing entirely after a few baths. At times the oppression is more marked in the abdomen, the patient feeling either a sense of weight or of constriction about the waist. The abdominal oppression is more common in women and is often found in patients who have some intestinal or pelvic weakness. Exceptionally I have found the latter sufficiently annoying (never serious, however) to compel me to use the douche baths at first, and to fill the tub as little as possible in order to keep the weight of the superimposed column of water down to a minimum.

In most cases we find the patient's pulse getting slower and fuller in the bath and the respirations after the first few hurried respirations likewise fuller and less in number. It is not an uncommon thing for the good effects of the bath to be manifested at the end of an hour or two or later, and when a change is made from milder to stronger baths, while there are no evidences of disagreeing in the pulse at the time or shortly after, very decided effects of overtension may be noticed in the evening, seven or eight hours after such a bath. Conservatism, experience, and careful watching can alone control these conditions in a proper manner.

It is not unusual, therefore, to have a lowering of eight to twelve or even twenty beats in the bath, and later during the period of rest at home a further diminution with a corresponding increase of fulness, or, as stated, the diminution and improved fulness are recognized only after the bath during the rest or even at a later period.

When we consider that the bath promotes relaxation of the skin and dilatation of arterioles, and so relieves internal engorgement for the time being, it is not to be wondered at that in a certain number of cases in which the chest walls are so thin as to permit of unequivocal mapping out of the exact size of the heart, we find the heart occupying a lesser area in some of its dimensions, at times in all, and evidently contracted as a result of the greater ease with which it drives the blood in consequence of the internal disengorgement. Such contraction and diminution in area are not equally great every day nor steadily maintained, but are liable to ups and downs with a tendency to more or less ultimate permanent diminution. The amount of such diminution must of course depend upon the amount of dilatation to be overcome. Nor must a subsequent increase of size, when this follows, mean a loss of the improvement, for compensatory hypertrophy may in a given case be needed to supplant the dilatation and maintain the heart in a satisfactory condition.[1]

That reflex action through the nervous system plays a certain rôle in this heart change is demonstrated by the fact, well known to physiologists, that the heart can be made to vary in size in experiments upon animals. Again, in an article published by me in 1890, read before the Academy of Medicine of New York, I referred to the steadying effects which counter-irritation with

[1] Discussion before Harveian Society, London, March 19, 1896.

the galvano-cautery had when applied over the heart or liver. Heitler, of Vienna, Botkin, of Russia, and others have experimented and studied the relations of the size of the heart and other internal organs to each other; thus, that a small liver meant a small heart, and that better contractions and consequent diminution in the size of the heart denoted a smaller liver or spleen. Again the results of Roentgen pictures taken by me some three years ago, which were published by a colleague, and which, repeated by me since under circumstances of the greatest accuracy, proved the correctness of the contention that the heart could be directly improved in a comparatively short time, as evidenced by better contraction of its walls and their retraction in possible cases. Still further the recent investigations into the human cardiac reflex help to prove the possibility and thus add to the strong probability that the statements made by me that a heart may diminish its calibre under the influence of Nauheim baths are true. I desire, however, to deny most emphatically the statement that simple reflex effect upon the cardiac muscular walls constitutes the principal effect of the baths, and that to reproduce this effect by other means is to reproduce the whole effect of the Nauheim bath. As the result of the Nauheim bath we have not only the relaxation of the capillary blood-vessels of the integument,[1] but all the results, which this article will discuss, and it is this sum total of result that constitutes the entire physiological action upon which the effect is based.

Blood state: Another most important physiological change which the baths produce is the change in the quality and quantity of the blood. Winternitz and his pupils long since called attention to the effect which simple water baths had upon the circulating fluid in ordinarily depleted persons. Personal experience compels me to say that simple water baths of any duration are badly borne by patients ill with cardiac disease. Keller, of Rheinfelden, and Robin,[2] of Paris, have demonstrated that in cases of chlorosis the saline bath produces marked changes for the better in the blood state.

For the past three years I have selected two kinds of cases for such investigation, the one group in which chlorosis was the predominating factor and the cardiac and vascular weakness secondary, the other in which the cardiac degeneration was the more important, and anæmia while marked was clearly secondary.

In the cases of chlorosis the improvement in coloring matter (hæmoglobin) has varied from fifteen to thirty-five per cent., and the increase in number of the red blood globules from eight to sixteen per cent.

In the cases of predominating cardiac disorder, the hæmoglobin has increased from five to twenty-one per cent. and the average red blood globules from three to ten per cent.

I here refer to the improvement made in the course of a treatment at Nauheim lasting from five to ten or twelve weeks, the latter periods of time not representing continuous treatment, but the entire time from the beginning of a first cure through a vacation of some weeks and a second treatment of a few weeks.

This improvement in the constitution of the circulating medium and the change for the better in the pulse conditions, would of themselves explain in a satisfactory manner much of the general improvement in health which follows in nearly all cases aside from cardiac improvement, upon which the baths likewise exercise a decided influence.

Nerve Tonic.—With better blood state of course improved nerve tone must follow, and the change in the circulation in the spinal cord and body, effecting a better condition of the cord and peripheral nerves, must explain to a large extent the improvement which we so often find in spinal affections, locomotor ataxia, neurasthenia, etc. Still further the relation of the cardiac plexuses with the numerous peripheral nerves must under such conditions furnish the basis for improved reflex action upon the heart and body generally.

Electric or magnetic influence: Du Bois-Reymond, Claude Bernard, Marey, Waller, of London, v. Urbanowitch, and others have demonstrated that the cardiac systole produces as the result of the muscular contraction (oxidation of the tissue) a distinct electrical discharge capable of being measured, and varying with different conditions of the heart and the manner of measuring the discharge. This subject, which has interested me for some years, finds its greatest difficulties in the fact that the discharge cannot be measured while the patient's body is immersed in the saline bathing fluid, for the current will take the shortest and easiest route through the fluid to the other pole. By means of comparison before and after the bath, taking due precautions to get rid of the imbibed salt in the skin without adding other elements of irritation or excitement to the integument or muscles, I have found an increase of electrical discharge after the Nauheim bath. These experiments, which are of extreme difficulty, I hope to publish in detail in the course of time. The question, too, whether the increase is the result of a greater discharge or a better nerve transmission must likewise be determined. It is an important corroboration as far as it goes of the influence upon either the heart or nervous system, or both, of the Nauheim bath.

Tissue metabolism: There can be no question that the metabolic changes in the boby are affected. Thus in two-thirds of the cases the specific gravity of the urine is gradually diminished, while the quantity passed is increased. The average diminution in specific gravity is five degrees, varying from one to twelve degrees, while the largest number of changes lie between five and seven degrees. The average time required for this diminished specific gravity to reach its maximum is from fourteen days to a month; occasionally it is reached in seven to ten days. In one-third of the cases the specific gravity of the urine is raised; the average is four and one-half degrees. There appears to be no difference so far as prognosis is concerned between these cases of diminished or increased specific gravity. In a small fraction of cases there is no effect whatever upon the specific gravity, and these are usually cases in which the specific gravity is low to begin with, and in such cases I feel that the suspicion of contracted granular kidney is often justified.

The experiments made some years ago by Zuntz in his laboratory with saline baths led to a negative result, but we must recall that he took normal patients. The effect of an ordinary stimulant upon a weak or a healthy robust patient is very different, so that the above experiments require repetition under the conditions prevailing in patients to whom such treatment is administered. In cases of chlorosis, in which tissue metabolism has often been studied, the physiological conclusions agree with the good practical results obtained.

Rheumatism and gout: The important practical results obtained in cases of rheumatism and gout and their combinations, and the improved condition resulting from the baths as demonstrated in the recorded[1] experience of over fifty years' use of these baths—for formerly these two conditions were those almost exclusively treated at Bad Nauheim—speak volumes for the power of these baths to produce tissue changes resulting in improved diatheses.

[1] We must constantly bear in mind that the capillaries of the skin can harbor over two-thirds of the entire blood in the body.

[2] See article "Nauheim, etc.," by H. Newton Heineman, M.D., 1896, MEDICAL RECORD.

[1] See Bohde, Sr., on "Nauheim Baths."

Exercise Treatment.—Few cases under my care receive bath treatment alone. While the exercise treatment as limited to resistance movements has great value in many cases, I have found that a system of graded exercises furnishes the safest and best means of accomplishing the desired result. This important modification of my teachings of 1896 was forced upon me immediately after I began my own practice, by finding a small number of cases in which I could not apply even the mildest resistant movements. Accordingly I began with a "stroking massage," the effects of which I had long since learned would produce greater fulness and slowing of the pulse, in consequence of the greater ease with which the return flow of blood takes place through the venous capillaries as the result of the compression produced by the hand. The massage must be made from below upward toward the centre of the body, and from the head toward the trunk. This massage given daily, always under cover and without exposure, in the afternoon for from six to ten minutes at the outset and increased to twenty minutes, exceptionally to thirty minutes, should be followed by an hour's rest. Exceptionally we find patients complaining of cold feet after this massage. Such patients must be kept especially well covered and artificial heat applied, and if this be insufficient, then a final "tattoo" massage of the feet and limbs will restore warmth.

I find "respiratory exercises" of great importance; these the patients should be taught to do when alone. Have patients place a light cane behind their back and put both arms over the projecting ends; they should then walk with measured stride, breathing regularly and as deeply as they conveniently can at the same time. In summer or in good weather this should be done in the open air, and in winter in the house in a well-ventilated room.

Resistance Exercises.—These follow after a week or fortnight of massage and respiratory exercises. The old rules as formerly given are:

First: To make all movements and resistance steadily and without jerk.

Second: Not to repeat the same movement in succession.

Third: To vary the nature of the movement as much as possible.

Fourth: To stop when hurried respiration or quickened pulse indicate fatigue.

To these rules I wish to add the following:

First: Resistance movements do harm if the patient has not been taught to breathe regularly at the same time, and to avoid holding the breath. Holding the breath during the movement produces dilatation of the heart, especially when the cardiac muscle is already impaired.

Second: In heavily built and stout persons certain movements may produce intermittent heart action. In women they are often those of opening the extended arms, sometimes the leg movements, and in both sexes often the trunk movements, particularly of the left side. These must then be omitted. Sometimes the patients can undertake even these exercises later, having gained muscular strength and adroitness, and particularly because they have learned the task of coincident, regular respiration.

Third: Never seek to produce immediate results; a forcible resistance which fills the pulse is apt to be followed by a harmful relaxation. Begin with moderate resistance and do not permit the patient to dictate the amount. After months of treatment, when the muscles have acquired tone, decided resistance may be resorted to, provided it is comfortable to the patient.

Fourth: Use no movement that carries the hands above the level of the shoulders, and particularly not above the head. This fact rests upon well-established physiological data proving that, when the hands are raised, arterial tension[1] is increased and the action of the heart weakened and made slower. This is caused by the force of gravity acting with increased vigor against the heart.

Combined exercises: Not infrequently I find that eight to ten minutes of stroking massage, given after twelve to fifteen minutes of resistance exercises, has a most quieting and soothing yet stimulating effect upon the patient. The succession and combination of massage, respiratory exercises, and resistance exercises, the length of time which each form is to receive, must be decided by taking into consideration all the elements of the case, and our personal experience. While mere caprice should never influence a physician in his decision, decided aversion or extreme discomfort must be considered in recommending massage or exercises, and the time of administering them. I have met with patients with unbearable aversion to massage and some with inability to exercise properly. One rule should never be violated, and that is, never to give exercises in the same forenoon with a bath; as well give two doses of a medicine (ordered thrice daily) to save the time and trouble of taking the second dose.

Hill and stair climbing: In cases in which we are dealing with fatty heart, I find that after the patient has been under treatment for a course of five or six weeks and then returns after some weeks' rest for a second brief treatment, this form of exercise can be introduced after a week's use of the general exercises; provided, of course, the patient is, generally speaking, suffering from no untoward symptoms. One can commence with a short walk of one hundred, one hundred and fifty, to two hundred and fifty feet up a moderate incline, stopping every thirty, forty, or fifty feet for rest and to take a few full respirations. It is important that the patient breathe quietly and regularly during this entire exercise. If the patient cannot do this, the exercise will do harm. It is evident, therefore, that such exercise can be used only with the supervision of the doctor or a reliable assistant, who must determine by the pulse and his own observation of the respirations the ability of the patient to do more or less. Here again the rule of not increasing the amount of exercise from day to day too rapidly is most important. Time to accomplish safe results is of the first importance. An ultimate walk of five hundred to one thousand feet is ample for all purposes, the nature of the incline being varied when the patient gains sufficient strength.

Stair climbing is a very useful mode of exercising. The patient is taught to mount at first two, three, or four steps, resting with both feet on the step long enough to take a few good breaths, before mounting the next. This can readily be substituted for outdoor exercise in bad weather.

General rules: I repeat as of sovereign importance that in all forms of exercise regular respiration is absolutely essential, and an important essential is to resist the patient's ambitious desires and one's own inclination to press forward and so go too quickly, and to attempt too many forms of exercise. It is never safe to give too much exercise upon any one day, and this is particularly to be avoided upon the day of the bath.

Here as in the bath treatment we seek for the cumulative effect of the completed treatment or of sufficiently long periods thereof. We gauge excess daily or from minute to minute, we measure success by intervals of days or weeks or ultimate result.

Physiology of exercise: All forms of respiratory exercise improve the cardiac action by better aeration of the blood, by the stimulating effect which the improved blood has upon the cardiac nerves and the heart

[1] See Marey, "Circulation," p. 341, sec. 221.

muscle, while the substance of the muscle is better nourished and thus stimulated to better contraction; also through the momentous influence of improved aspiration by which the venous return is facilitated; and finally, by all the good economic or metabolic results that flow from improved respiration.

The stroking massage, as has been already indicated, helps the venous return by directly promoting the return flow through the superficial veins compressed, and I have repeatedly demonstrated in my clinics in former years that with ten minutes of such massage a quickened pulse in a case of cardiac disease can be reduced in frequence and improved in volume. Resistance movements, by contracting the muscles, drive the venous blood on, cause a greater afflux to the part, and promote deeper and better respiration.

The direct influence of these factors is sufficient to enable the heart to act more forcibly, yet more quietly, to contract down, and to tend to overcome cardiac dilatation. The vasomotor nervous system, which controls the relation of every part of the body and the general and local blood supply, under the influence of reflex action is also stimulated to a more healthful action through the reflexes which the exercise arouses.

Artificial Treatment.—The value of artificial treatment for those to whom Nauheim treatment is inaccessible, if administered with the surroundings and under the conditions stated by me as necessary, cannot be denied. The value of alleviating half of the suffering for those to whom this or nothing is the ultimatum, requires no discussion. Without desiring to prolong this paper, I must again refer to the adoption of some form of apparatus by which the carbonic acid is so mixed with the artificial salt solution as to resemble, to some extent at least, the intimate natural admixture at Nauheim. The carbonic-acid gas is thus made active, instead of simply being allowed to pass over the body as it does in the ordinary chemical effervescence, and, what is more important still, it is only by such means, by which the exact amount of carbonic acid present can be determined, that accurate and exact knowledge of this subject can be secured. The older chemical methods of preparing artificial baths have been given in previous papers. Germany, Austria, and France, in all of which countries special forms of apparatus exist for making artificial baths, make use of very elaborate systems to produce this result. The apparatus of the Nauheim Artificial Apparatus Company of New York, which is in use there and which is employed on the Continent in a few establishments, is worthy of reference. Its ready portability and convenience, and the fact that it can hold sufficient gas and salt for three baths of a one to one and one half per cent. carbonic-acid gas and a two to three per cent. saline strength, recommend it strongly.

Dietary Rules.—From the very outset of my own practice in 1896–97 in Bad Nauheim I found that the vague and uncertain directions as given by me in my article of 1896 before the Verein f. Innere Medizin, and before the New York Academy of Medicine, required serious amendment. More is required than simply to see that the patient takes only food that agrees with him, generally speaking.

Recognizing as I had previously in general practice that many of the acute symptoms of a patient, whether burdened with cardiac or any other disorder, depended upon improper diet, imperfect digestion, and their consequences, I had when commencing practice in Nauheim but to recall my own previous experience[1] to be forcibly reminded that exact directions were necessary in these cases. Particularly in those ill with cardiac disease, it is malassimilation which has ultimately produced the diathesis which gives rise to the vascular degeneration, as well as to the train of acute symptoms against which only a strict régime maintained over a long period can avail.

Drinks: Alcohol is the worst enemy with which we have to contend, and in all persons under sixty years of age (with few exceptions) should be excluded. In older persons who have been accustomed to wine or stimulant all their lifetime, a tablespoonful of whiskey diluted at the noon (?) and evening meal may be indulged in. Time and again I have seen attacks of angina grow markedly less when alcohol was rigidly abstained from.

Coffee is likewise contraindicated, particularly if some alcohol be allowed. Occasionally when tea disagrees and cocoa is unpalatable, a little coffee in considerable milk in the morning is not objected to. Milk is above all the beverage; weak tea once a day may be recommended, and cocoa if not too richly prepared.

In arteriosclerosis the diet should be largely milk, not less than two to three litres daily. Starchy food should be avoided and bread in even very small quantity; the soda biscuit is preferable. Eggs when well borne and cream cheese (pot cheese as it is called in America) may be indulged in. Somatose prepared from milk (not from meat) and some of the similar preparations can be made use of to add readily digested food to the dietary list.

In cases requiring a less rigid diet white meats and green vegetables and the easily digested white fish (with scales) may be resorted to under the doctor's directions. In cases of fatty people with fatty heart, starchy and fatty food must be avoided; lean meats and fish, green vegetables, tomatoes, salads without oil or vinegar dressing may be used. In all cases water and soup in large quantities should be interdicted at meals for persons with fatty heart, provided they are also allowed solid food in any quantity. Between meals liquids may be freely indulged in.

In regulating an anti-fat diet, it is still a matter requiring proof that a severe diminution of adipose tissue can be accomplished without serious loss of albuminoids of the body, and though Dapper[1] remarked that *a priori* we cannot count upon such a favorable result (*i.e.*, loss of adipose without albuminoid loss) with any degree of certainty, still Zuntz's important injunction made years ago when discussing the subject of "Dietetics in Heart Disorder" is still imperative today: "In heart disorders in which paralysis of the overworked heart muscle must always be feared, besides the proteid food essential for keeping up the heart well we must see that moderate quantities of carbohydrates are constantly in the body." My own labors in the field of tissue metabolism which have been carried on for over five years firmly support his view.

It is impossible to give rules to fit each individual case. In like manner it should be remembered that just as cases of arteriosclerosis and those of fatty heart differ in the greatest possible variety, the relation of habits of life, age of patient, and constitution to the different degrees of degeneration call for so many varieties (medically considered) of patients, that all the surroundings should be taken into consideration before deciding upon a rigorous application of any form of diet. Excessive and ill applied severity may weaken and undermine the patient's physique and permit the disease to grow worse instead of better. It is also proper here again to inveigh against the constant self-experimentation in obesity cures, which so often leads to the most serious results.

Prognosis.—While it happens in about one-fourth of the cases that immediate improvement in some direction follows even after the first baths, and more often as the course of treatment advances, in fully one-half

[1] "Treatment of Chronic Cardiac Disease." MED. RECORD, 1896.

[1] Zeitschr. f. klin. Med., Bd. xxiii., Hft. 1 and 2.

of the cases improvement can be determined only by the physician's examination. The condition of the heart, of the kidneys, the relief from internal congestions, the improved condition of the blood, and better qualities of the pulse furnish data by which the gain is to be measured.

That a change in surroundings, in diet, and the more rigorous diet and even the moderate self-abnegation which devotion to the treatment calls for, should at times cause the patient to think that he feels less strong is not to be wondered at. But ten days' or a fortnight's rest in some cheerful mountain resort after the treatment soon dispose of this sense of diminished vigor. I desire here, however, to inveigh against that weakness produced by over-treatment, whether prolonged or of the too severe kind; such weakness, if the patient is strong enough, may be recovered from, but should any accident or complication supervene serious results may and do follow.

When proper conservatism is resorted to, improvement follows rapidly, and it is rare that nearly all (over ninety per cent.) of the patients do not find some improvement in the course of the winter succeeding their treatment, and in most cases improvement of a decided kind. Experience has found this observation to be so constantly correct that with a just measure of the treatment one can almost predict in a given case the amount of improvement likely to follow. It is certainly interesting to note such results as are given in a letter from a patient who had suffered from extensive myocarditis, and who for several years was practically bedridden and under the care of distinguished physicians, so that we can admit that no recognized plan of treatment had been omitted. He writes five months after the treatment at Nauheim: "I am stronger and better in many ways than I have been for ten years."

To speak of the improvement in detail:

Blood state: Hæmoglobin is increased and with it more fully developed red blood cells appear.

Heart: That portion of the heart which has yielded to dilatation is likely first to receive the impulse to recontraction and to hypertrophy of its tissues; thus we have improved contraction of the weakened portions of the heart and finally a certain diminution in size in some cases, provided compensatory hypertrophy does not finally replace the previous area occupied by the dilated heart muscle. Thus while the tendency is to general diminution, inasmuch as better contraction implies this, yet this does not go on in any steady manner, diminutions and relaxations or enlargements succeeding each other, the dilatations or relaxations becoming less; and ultimately the final result as to the heart's size is determined, as already said, by the amount of hypertrophy induced and made necessary to effect permanent improvement. Beneke had opportunities of making autopsies in cases in which endocarditis had been recognized and had been known to follow previous rheumatic infection. In accepting his dictum, therefore, that endocarditis is improved by the Nauheim baths, we are following in safe footsteps. The effect of treatment was also evidenced to me in an autopsy upon a case in which pericarditis had been recognized a year before the patient came under my observation. The usual retraction of the chest wall, which was distinct when the patient was first seen, disappeared after a time, and at the autopsy made some months after treatment the pericardium could be peeled off almost as easily as if the lesion was of recent date, while about the lower half of the left ventricular surface, where the pericardium was non-adherent, evidences of old pericarditis could be recognized. It is a record of fact whose value must be determined by additional observations, whether the diminished firmness of the adhesions were actual results of treatment or simply accidents.

Internal viscera: They are relieved of their congestion and are thus found smaller. In fact, in making my examination of a heart at the outset, the condition of the viscera, particularly the liver and spleen and kidneys, give me a better indication of the heart force than the direct examination of the heart, and this holds true constantly, provided disease of the liver can be excluded. In this connection the frequent examination of the urine must not be overlooked, for the strength of my bath and the continuation of the treatment are often determined and measured by the condition of the kidneys. While a few casts or a little albumin of a secondary character do not contraindicate treatment, yet increasing albuminuria is always a warning sign for prudence, if not discontinuance of treatment.

In the present still disputed condition of the theories concerning the rheumatic and gouty diatheses, even metabolic experiments would leave us in the dark to a certain extent as to the exact explanation for the improvement, but that rheumatism and gout are ameliorated and disappear under this treatment is a matter that has long since been practically proven. The absorptive power of these baths, or the effect they have in causing disappearance of inflammatory exudate in the body, whether in the thorax or abdominal or pelvic cavity, is a matter of very old and long-standing observation, so that years ago pelvic disorders were among those most commonly treated.

Any number of articles have been written upon the subject of Nauheim, many of them I regret to say based upon insufficient data, and I take pleasure in quoting from one whose author, Prof. George L. Peabody, after a careful investigation at Nauheim referred to the prognosis in the following words:[1]

"I am convinced that its power in heart cases justifies us in giving it very serious consideration. It is certainly a great deal to be able to relieve distressing and even dangerous symptoms, and to enable people to work who have been led to believe that their days of usefulness were over, as it is also to enable those who are working with undue fatigue and weariness to accomplish their daily tasks with less effort or even with pleasure."

Indications for Treatment.—Rheumatism and gout.

Inflammatory exudates; whether pleuritic, abdominal, or pelvic.

Nervous disorders; functional and incipient organic spinal disorders, spinal congestions, neurasthenia, locomotor ataxia in its early stages. Chorea. Sciatica and certain forms of neuritis.

Circulatory disorders; the conditions produced by chlorosis, hæmophilia, and Barlow's disease. Arteriosclerosis not in its final stages, and aneurism only in its incipiency. Varicose condition of veins. All vasomotor disturbances.

Cardiac disorders; myocarditis and fatty heart. All forms of loss of compensation, whether dependent upon muscular changes or valvular disease. Angina pectoris. All forms of functional cardiac disorder.

Contraindications.—Chronic Bright's disease. Aneurism in any advanced form. In serious cases of advanced arteriosclerosis the utmost conservatism and personal watchfulness can alone exceptionally justify treatment, which at times yields surprisingly gratifying results.

Conclusions.—No form of treatment in the range of medicine, which is applied to chronic disease and often apparently hopeless cases for whom distinguished skill and money has done everything available, can show a larger number of improved patients whose energy has been restored in various degree and whose lives have been prolonged for indefinite periods of years.

[1] "Five Weeks' Experience at Bad Nauheim." MED. RECORD, November 19, 1898.

Failure, or rather failure to achieve the desired improvement, sometimes results from the patient's indifference or inability or badly advised course in not

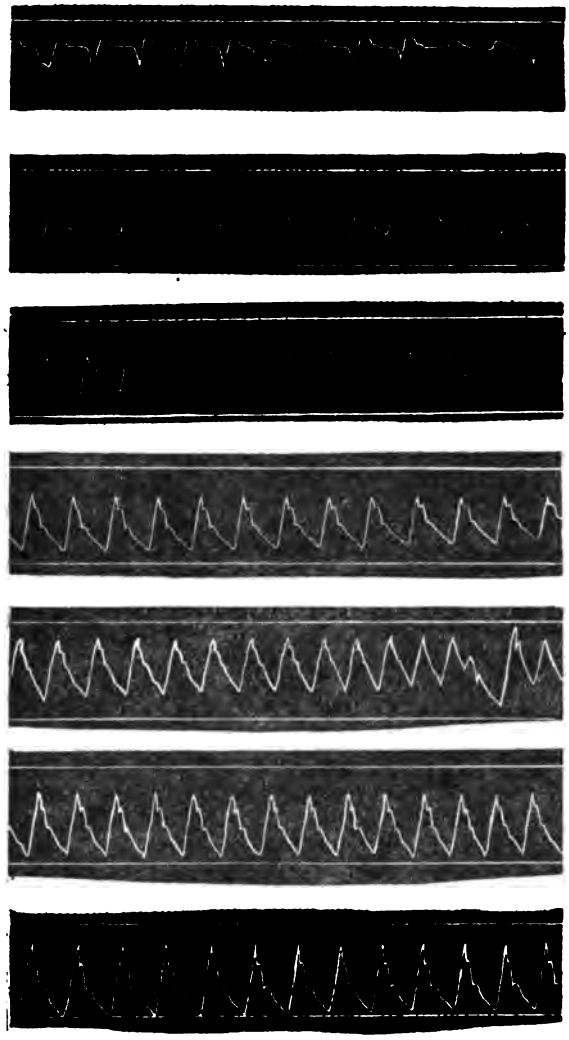

Chart 1.

repeating the treatment during the succeeding year. Here again I wish to warn against the natural inclination of too rapidly increasing the strength of the treatment in some such cases, even upon subsequent visits or courses of treatment. The same conservatism applied a second time may be equally necessary in serious conditions. And even in those in which increasing vigor of treatment may be resorted to, the increasing severity must be determined by experience and a careful weighing in the given case of the probable after-effect as well as the immediate result. In selecting the character of the bath and its temperature we should keep clearly in mind that cool baths produce different physiological effects from warm baths. Experience alone can determine whether in a given case further improvement is best secured by a continuance of the same warm bath, or whether the simple general tonic effect of a cooler bath would add to the result. But the distinction between such kinds of treatment should always be kept clearly in mind, if increasing experience is ever to lead to definite scientific conclusions and accurately measured treatment.

In weighing the value of all the various systems of treatment that are now misleading the public and the profession, it is important to remember that the production of a cardiac contraction, or of a single similar phenomenon, by this or that means, and the founding of a system of treatment upon it, is certain to bring physical therapeutics into discredit.

Step by step the effects of simple water baths and medicated baths of all sorts have been tested, and the most careless perusal of foreign literature will furnish no end of information about the effect of every kind of medication; little by little massage and resistance movements have been studied and their separate value has been noted; with the utmost painstaking the Nauheim system has been formulated and has fought its way, and to-day we know that it is by many different avenues that Nauheim treatment produces its effects. None the less, with a sublime disregard of all that has been proven and done, systems based upon a single phenomenon present themselves for adoption. The failure to give the matter the attention it deserves by proper instruction in our colleges must be responsible for such ill-formed ideas. Few of the colleges in my country have imitated the recent steps of European universities, in which in the future "physical therapy" is to be a separate study. It is thus only that the chaff can be separated from the wheat, and the valuable in physical therapeutics be preserved to the American profession.

Addendum: A few cases will serve to illustrate remarkable results in cases in which all other treatment had proven unavailing.

X——, aged sixty-two years, clergyman, widower, came to Nauheim May, 1898. He was of gouty ancestry, moderate in the use of alcohol and tobacco, had no gout or rheumatism, but had passed through the diseases of infancy. He was never robust, but always active; had dyspnœa in youth in climbing hills. He was subject to gastric and hepatic attacks since youth. Three years ago he had influenza, followed by aggravation of his old-time dyspnœa and cardiac palpitation so as to prevent moderate stair climbing. He went south and improved, but in a year's time matters grew worse so that the dyspnœa was constant upon the slightest exertion. He had attacks of angina, associated with severe abdominal pressure and a sense of cardiac expansion and of hot water flowing into the heart, and he was often unable to walk. Gastric and liver troubles were aggravated of late. He often is threatened with syncope, which he has had periodically for years. Now he is anæmic, pale, and jaundiced; has a coated tongue and sluggish bowels; complains of dyspnœa, palpitation, and cardiac sensations as above; is liable to syncope, flatu-

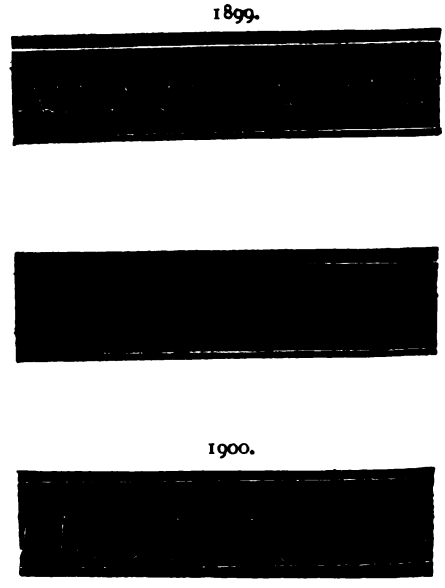

Chart 2.

lency, and gastric overdistention. Examination reveals advanced general arteriosclerosis. The heart is en-

larged, irregular in rhythm, and intermittent. The heart sounds are muffled, almost inaudible; dilatation is marked, particularly on the right side; there are moderate old hypertrophy and loss of compensation. Beats, standing, 134; lying down, 116. He has considerable emphysema and an old bronchitis. Urine, 1,330 c.c.; specific gravity, 1,022; contains a mere trace of albumin and biliary coloring matter, otherwise negative. Diagnosis, arteriosclerosis, myocarditis. The diagnosis was confirmed by that of Balfour and Finlayson, of Glasgow, who in October, 1897, recognized a weak, degenerated, and dilated heart. Within forty-eight hours after the first bath was given, the pulse had gone to the opposite extreme of 48 to 60, according to the position of lying or standing, though the slightest exertion would send it above 100.

A few days later the patient again had repeated threatenings of his old syncope. Later the pulse, which at first could not be counted on account of the reduplication and irregular rhythm and intermittency and rapidity, remained with few exceptions during the day sufficiently slow and sufficiently regular to be accurately appreciated, and it now became alternately bigeminous and trigeminous in successive beats, with a tendency to equalization of strength of beat.

The improvement is recognized in the series of sphygmographic tracings in Chart 1, taken before, during, and at the close of treatment at the end of six weeks. Before leaving Nauheim the patient was warned to forego preaching and parish work and to spend the winter in the South. He persisted, however, in facing the rigors of the Scotch winter, with a break of a few weeks, and continued his work.

He returned to Nauheim in 1899 and was again improved (see the first pulse trace in Chart 2), and again in the summer of 1900 with a further gain as shown in the lower trace. He had kept up his winter work fairly well; against my advice, however.

Latterly, January, 1901, the patient reports himself well, having gone through a serious carriage accident in which he broke an arm and had some severe sprains, yet without visible effect upon his heart as reported by his doctor.

Balfour and Finlayson considered the case one of grave import and with but little chance in 1897.

Of a case of mitral stenosis in a woman (July, 1899), who had suffered since youth and who latterly had complained of the usual præcordial pains, dyspnœa, hæmoptysis, and in whom drugs failed to give relief, her doctor, writing some time after her return, said:

"1. There is improvement in the general appearance and nutrition. 2. Ability to perform muscular exercise has returned and increased. 3. The physical signs are improved: (*a*) the tone of the ventricular wall, as evinced by the condition of the apex beat, is good. (*b*) The presystolic murmur is better heard, owing to better muscular power of the heart. (*c*) the cardiac action is regular. This improvement has been maintained to date."

A third case of myocarditis with aortic dilatation and arteriosclerosis with severe angina occurred in a man fifty-six years old, American. His father and brothers died of apoplexy and cardiac troubles. The patient has had gout, has been an excessive smoker for many years, and overindulged in athletics. He had had no influenza. For years he had a distinct sensation of restraint and oppression over the chest. Six years ago he was suddenly seized with angina, with intense dyspnœa, sternal oppression, and later pains radiating into the left hand and arm. Gradually he suffered from more or less constant præcordial pain, which became of the above acute character after dinner and upon walking against the wind. He never suffered from indigestion. He had præcordial pain radiating into the arm when taking a morning douche. He can ride a bicycle without discomfort, but pain returns on walking. Of late the discomfort has gone to the point of despair, the patient feeling that unless he could secure relief his life's work was ended. Under the care of a sagacious and interested practitioner all remedies were tried without avail, and as a last resort he was sent to Nauheim. He had not smoked for six years, since the above attacks began. Upon arrival at Nauheim examination reveals advanced arteriosclerosis. The heart sounds are feeble; first sound long and dull, second sound accentuated. The heart is enlarged; the pulse small, irregular. At times a systolic murmur is heard. During the following winter the patient steadily improved, and returned in the summer of 1899, but not in 1900. Since his first treatment in 1898 he has had practically no medicinal treatment, and his symptoms have subsided so that he is to-day in better health than he has been in years. In a fourth case of myocarditis and arteriosclerosis, the patient, nearly sixty years of age, was bedridden in consequence of his inability to make even the slightest exertion without danger of acute cardiac dilatation. After six weeks of treatment (1900) the patient, after an interval of three weeks, returned for a second three weeks' treatment. The accompanying pulse trace (chart 3) shows the cardiac

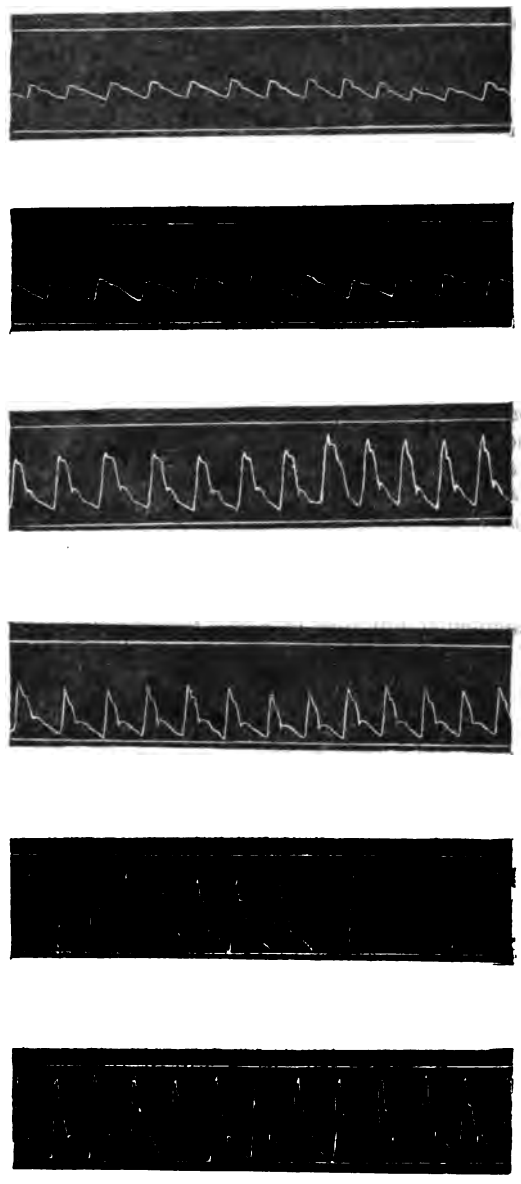

CHART 3.

improvement. The first three represent the first treatment, the fourth the beginning, and the last the close of the second treatment. At times during both the first and second treatments slight overexertion in walking caused heart failure sufficient to give rise to moderate pulmonary œdema, which was not always appreciable to the patient, but sufficiently threatening to induce me to order him to bed for some time. Within two months of the patient's treatment, he was able to take long walks without fatigue or injury, and in January, 1901, he expressed himself as better than he had been in ten years, he meanwhile having taken up his normal daily life. In this case likewise nothing that medical science could do had been omitted by his distinguished advisers.

BAD NAUHEIM, 1901.

ON NEPHRORRHAPHY WITH FLAP FIXATION.

BY ARNOLD STURMDORF, M.D.,
NEW YORK.

THE merit of any operative procedure for the cure of wandering kidney can be decided only by the permanence of the anchorage secured. That such permanence of result is frequently established, in a certain proportion of cases, by some of the modern methods of kidney fixation is fully recognized.

Statistical data on this point being unavailable, a casual inquiry among those experienced in this class of cases, as to the ultimate condition of such patients as have undergone nephrorrhaphy, elicits the fact that the choice of a technique affording the greatest promise of permanent cure is still a point for controversy. Consequently any plan or modification that guarantees

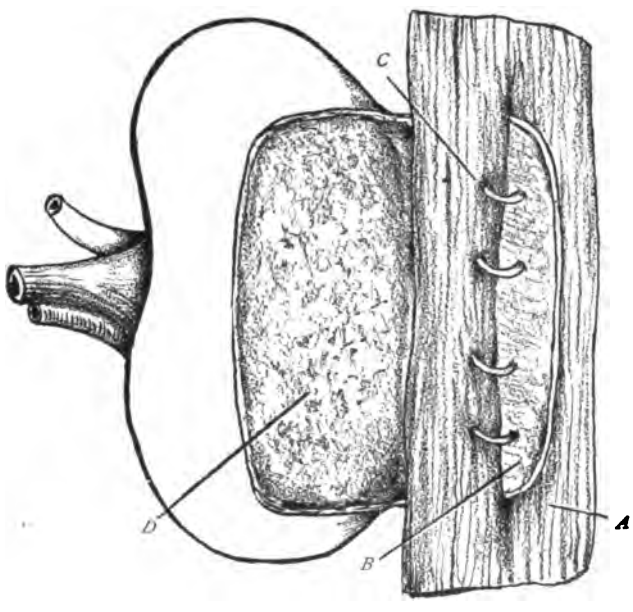

FIG. 1.

an additional element of security against ultimate recurrence of the dislocation should receive due consideration.

In the MEDICAL RECORD of February 23, 1901, we find an article by Dr. Robert T. Morris, entitled, "A Method of Fixation for Loose Kidney"; the essential features of which are embodied in the following quotation:

"About two years ago, in reading over some foreign journals at the academy library, I found mention of a method for fastening a loose kidney by turning up a flap of the fibrous capsule and drawing it through a slit in the psoas muscle. I made a note of the method at the time without keeping the name of the author in mind, and since that time have been unable to find it. I have received letters from several physicians asking about my operation, as this is the one I have performed in all my cases for the last two years, but I wish to state that I have no claim upon the operation, except that it was adopted as one that seemed rational, and that up to the present time it seems to me to be the most desirable one.

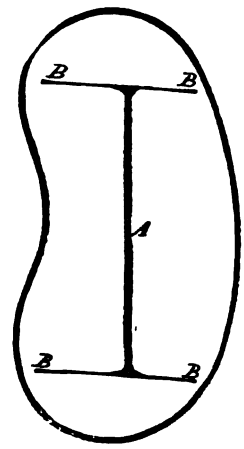

FIG. 2.—Lines of Incision in Capsula Propria. *A*, Longitudinal incision; *B*, lateral incisions.

"In this operation a flap of capsule including the larger part of the mesial surface of the kidney is incised with a scalpel, and the flap of capsule then stripped up from the parenchyma but remaining attached at the convex border of the kidney. The flap of capsule is drawn through a slit in the psoas muscle or in the quadratus muscle, indifferently as one chooses, and is there sutured in place. This brings bare parenchyma also in contact with the psoas or quadratus fascia, where it forms a firm connective-tissue attachment. The operation certainly avoids the necessity for passing sutures through the parenchyma of the kidney, and I have had no reports of recurrence of loose kidney up to the present time. It is not possible to keep track of all of one's cases, and in writing to forty or fifty patients for post-operative reports, several letters are required on an average for each patient, so that it gets to be quite a serious matter; but all patients or their physicians have been asked at the time of the operation to report any recurrence."

The operations in vogue for the cure of nephroptosis aim by various methods to secure firm broad cicatricial union between the denuded surface of the kidney and the contiguous abdominal parietes. The operation described by Dr. Morris differs from those usually employed in the following features:

First, in the utilization of a flap of capsule, in addition to the production of adventitious tissue for the purpose of securing a permanent mooring of the kidney.

Secondly, in the omission of the usual transparenchymatous sutures.

It will readily appear that the capsule flap, as a means of permanent suspension, aided by cicatricial adhesions, offers decided advantages over methods depending upon cicatricial adhesions unaided; but Dr. Morris' communication does not make it apparent that this advantage is attained to the fullest extent.

Dr. Morris' diagram here reproduced shows a single flap of fibrous capsule, *B*, separated from an area of kidney tissue which represents nearly two-thirds of the surface of that organ. Such a flap for formation is hazardous, and its employment risks defeat of the purpose in view. For, in the first place, owing to its great width, the free margin of such a flap is carried so far from its blood supply as to endanger its vitality and favor its ultimate disintegration. In the second place, the base of the flap remaining adherent to the convex border of the kidney forms a hinge joint, which will naturally favor a swinging of the inner border of that organ in the direction of least resistance; namely, forward and outward.

This forward and outward rotation must necessarily result in a separation of the very surfaces which it is

intended should be maintained in close apposition for the purpose of securing ultimate fibrous union.

It would seem that this last-mentioned disadvantage of such a flap formation could be obviated by the introduction of transparenchymatous sutures; yet it is distinctly stated by Dr. Morris that "the operation certainly avoids the necessity for passing sutures through the parenchyma of the kidney."

That such sutures properly introduced are harmless has been abundantly proven. Tuffier (quoted by Edebohls) has demonstrated "that destroyed or ablated kidney tissue is readily and speedily replaced under ordinary circumstances by a liberal regeneration of new kidney structure." Furthermore, the favorable results obtained by such parenchymatous retention sutures have been emphasized by Edebohls in a very elaborate essay on "Movable Kidney" (*American Journal of the Medical Sciences*, March and April, 1893; also *American Journal of Obstetrics*, February, 1895).

Deliberating upon the additional security against relapse which a well-devised flap operation would assure, I devised a plan of procedure, and employed it shortly after, as follows:

Patient S. K——, age nineteen years, servant, unmarried; has complete nephroptosis producing marked symptoms, and also chronic appendicitis. (The removal of the appendix by the usual interval method, which was carried out at the same time, will not be described.)

Operation, April 23, 1901, Drs. M. S. Kakels and H. S. Stark assisting. The patient was placed in the Sims position with cushions so arranged as to cause a marked upward arching of the right renal region.

An incision was made obliquely downward and somewhat outward, extending from the lower border of the last rib at a point corresponding to the edge of the erector spinæ group to the iliac crest and through to the perirenal fat.

Strong lateral traction of the wound was made so as to expose as much of the perirenal fat as possible, which was separated bluntly from its surroundings.

Incision of the fat capsule was made along the whole length of the kidney, the edges of the incised fat capsule being drawn out of the wound as far as possible, and this redundant fat being ablated on both sides flush with the bottom of the wound.

The ablation of this fat tissue is absolutely essential to secure proper coaptation between the exposed kidney surface and the contiguous parts.

To this point it will be observed the method followed that described by Dr. Edebohls in the publication mentioned above.

The formation of the flaps was now undertaken in the following manner. The kidney was pushed as near to the surface as possible, and steadied there by pressure exerted through the abdominal wall by the hand of an assistant. The capsula propria was incised longitudinally, exactly in the median line to within about three-fourths of an inch from either pole. A pair of closed curved, blunt-pointed scissors was introduced beneath this capsular incision, and the capsule was carefully separated from the kidney substance for an area corresponding to the longitudinal capsular incision in length and to the lateral borders of the kidney in width. The free capsule was now raised by mouse-tooth forceps; two flaps were formed with blunt-pointed scissors by slitting the capsule laterally at each end of the longitudinal incision, as shown in the diagram.

The flaps were secured in the grasp of T-shaped forceps, while two silkworm retention sutures, equidistant from each other and from either pole of the kidney, were passed through skin, superficial fat, the tendons of the abdominal muscles, the cut and trimmed edges of the perirenal fatty capsule, the fibrous capsular flaps, and the parenchyma of the kidney, at a depth of about three-fourths of an inch from its surface, and left untied for the time being.

The object of these sutures was not only to aid in relieving tension but to obliterate any possible hollow spaces, thus obviating the necessity for drainage, and at the same time securing firm coaptation of broader surfaces for subsequent cicatricial union.

Longitudinal slits, corresponding in location and length to the position and width of the fibrous capsular flaps, were next made through the adjacent muscular tissue, and the flaps drawn through these slits were secured in place by a running suture of fine chromicized catgut.

Three interrupted sutures of No. 3 chromicized gut were next passed so as to embrace muscle and kidney substance at a level with and equidistant from the above-mentioned silkworm sutures, and tied.

The final suture included skin, superficial fat, and fascia, after which the silkworm sutures, originally left hanging loose, were drawn taut by means of shot and plate. Primary union occurred, the removal of the silkworm sutures being effected on the eighth day.

It would seem unnecessary to state that it is not the case but the method employed which is here submitted. From all theoretical considerations based upon a study of the results of the most approved methods of nephrorrhaphy, the operation depicted above should secure results the permanence of which is guaranteed in proportion to the integrity of the capsular flap; for by this method we obtain not only all of the advantages of cicatrical adhesion, but, in addition, the effectual retention secured by what might be termed an artificial suspensory ligament.

106 East Sixty-second Street.

Two Cases of Acetanilid Poisoning in Children from Absorption from External Wounds.—Jacob L. Manasses reports two cases in which the use of acetanilid as a dusting-powder on wounds caused poisoning which was manifested by cyanosis, subnormal temperature, feeble and shallow respirations, dilated pupils, weak, rapid heart, cold extremities, and cold perspiration, with marked prostration. Treatment in the first case consisted of hot baths every four hours, followed by hot applications to the extremities, with the internal administration of whiskey in ℥ v. doses every hour. The patient was an infant of six weeks, and recovered in three days. In the second case, which was less severe, acetanilid was continued, as an artificial scab had formed, and the depressing effects were counteracted by strych. sulph. gr. ¼; spiritus ammon. aromat., spts. vini gallici, āā ʒ ii.; elix. aromat. q.s. ad ℥ iii. One teaspoonful every hour. The child, a boy of two and a half years, recovered in two days.—*International Medical Magazine.*

Puerperal Influenza and its Differential Diagnosis.—M. Stolz bases the following conclusions on forty cases of epidemic influenza complicating childbed, observed during the spring months of this year. The course run by the disease is usually mild, a circumstance perhaps depending on the fact that the patients are in the reproductive age and therefore have good powers of resistance. The influenza usually appears on the third or fourth day after the supposed exposure to infection, though sometimes not until as late as the ninth day. Three general types could be separated—light, medium, and severe—but all had in common the tendency to multiple relapses which appear to be particularly frequent in the puerperium. The pulse rate follows the temperature, but becomes abnormally high only when serious pulmonary complications supervene, and usually does not exceed a frequency of 100–120, even with the highest temperatures.

The differentiation between influenza and puerperal fever is not always possible when the local manifestations are not pronounced, and the two affections, especially their milder forms, are easily confused. The occurrence of relapses and the relative slowness of the pulse are often of assistance in the diagnosis, but slight local symptoms, malodorous lochia, incomplete involution, and tenderness frequently appear in influenza and are not to be depended on, so that in the absence of bacteriological examinations the presence of an epidemic or pandemic is often the sole guide.—*Monatsschrift für Geburtshülfe und Gynäkologie.*

Cornu Cutaneum Auris.—J. C. Lester reports a case of this rare affection. His patient was a man of fifty-eight years who presented an attachment to the upper half of the left ear of a horny excrescence, measuring in length a little over one and one-fourth inches and in width, at its base, one inch. The attachment included at its base the helix, fossa of the helix, and antihelix. In shape it resembled a pyramid, slightly twisted upon itself, with the apex turned toward the head. The distal end was found to be peculiarly square and blunt. This was due to the fact that a portion had been cut off by the patient with a pair of ordinary shears just five weeks prior to examination. According to the patient's testimony, since he excised the tip the growth had rapidly increased in size. A second attempt was made to excise another portion, but unsuccessfully, owing, as stated, to the hardness of the tumor. The growth at and near its base was soft and spongy, and its fleshy characteristics extended to about one-fourth inch from the point of attachment. Almost the entire cartilaginous portion of the ear, on further examination, was found to be practically ossified, being very rigid and having a bony feel, no amount of force used causing the slightest change in the conformation of this structure. The ear was loosely attached to the head and was otherwise normal. Immediate removal was advised, and was accomplished in an unexpected manner. The growth came away *en masse*. Hemorrhage was severe, necessitating the use of ligatures, and the immediate closure of the irregularly depressed wound by several sutures. The wound healed by granulation after a period of two weeks. The point of attachment was cauterized a few times by c. p. nitric acid, and the subsequent history of the case was uneventful.—*The Laryngoscope.*

The Pathology of Asthma.—G. N. Jack believes that many asthmatic attacks are due to intestinal indigestion and toxæmia with resulting abnormalities of the bodily fluids, especially the blood, lymph, and chyle. A prolonged treatment, lasting from two to three years and consisting of fresh animal and green vegetable diet, will often effect a cure. The urine and stools must be closely watched as a guide to dietetic procedures, and we may advantageously combine cold-water baths and regulated exercise with the dietetic regulations. Jack divides asthmatic blood conditions into three groups—asthmatic lymphocytosis, asthma due to an intestinal toxæmic leucocytosis, and asthma due to anæmia. Under the second heading he calls attention to the large percentage of eosinophile cells seen during an acute attack. He says that while it is as yet an undecided question as to the relation that the eosinophiles have to the other white blood corpuscles or their exact significance when occurring in either normal or abnormal numbers in the peripheral blood, nevertheless occurring as they do in such excessive numbers in a condition like this, in which the mortality of the leucocytes greatly exceeds their nativity, owing to a toxic and ill nourished condition of the blood, the said toxæmia originating from one of the breeding-places of the eosinophiles in the intestinal canal, would forcibly indicate that the leucocytes have an eosinophilic origin. This hypothesis would afford two rational explanations for their appearing in such excessive numbers in the blood of the asthmatic. First, that they had migrated into the blood substance to hasten the formation of new leucocytes; and, second, that they had been forced to abandon their normal breeding-places in the lymph tissue of the intestinal canal, from its toxic condition. Thus it will be seen that all of the pathological constituents found in this variety of asthmatic blood are directly due to the rapid completion of the life cycle of the leucocyte, with its consequent pathological representation of all of its life-cycle phases, as its origin, existence, death, and remains, which would be respectively represented by the eosinophiles, leucocytes, uric acid, and possibly Charcot-Leyden crystals.—*Buffalo Medical Journal.*

The Etiology of Adenoids.—In an analysis of three hundred and seven cases of adenoids, Macleod Yearsley says that the affection is essentially one of childhood, although it may persist to a very much later period of life. While it cannot be said to be hereditary, it often shows a distinct tendency to run in families, or, more correctly, to affect several members of the same family. The predominant causes are catarrhal inflammations and those of the exanthemata in which the upper air passages suffer most. The prevalence of adenoids in damp, cold countries is the outcome of this liability of the pharyngeal tonsil to become hypertrophied by catarrh.—*Treatment.*

An Unusually Large Polypus Presenting in the Pharynx.—A. V. Milholland reports the case of a woman in whose throat was a large tumor, occupying almost the entire pharyngeal cavity, pushing the velum palati forward, dependent from the rhino-pharynx, and reaching below the base of the tongue to the tip of the epiglottis. It was removed by cutting it through with a wire, and a nasal polypus was also extracted which formed part of the same growth. The seat of origin was distinctly located in the middle meatus, well up under the middle turbinate, at about the junction of its anterior and middle thirds.—*Maryland Medical Journal.*

A New Technique for the Reduction of Turbinal Hypertrophies.—The method is essentially a submucous cauterization effected by a special trocar with sharp-pointed obturator. With the obturator in position the trocar is thrust into the hypertrophied tissue for the necessary distance; the obturator is then withdrawn and replaced by a probe, on which is fused chromic acid or other cauterizing agent projecting beyond the end of the trocar. The whole is then withdrawn, and in this way the entire area to be cauterized is brought in contact with the acid. The operation is done under cocaine and followed by the use of a camphor-menthol spray. The advantages claimed are: 1. Simplicity of technique and the short time consumed in the performance of the operation. Any portion of the hypertrophied area along the entire line of the turbinal body, either anterior or posterior, can be reached by submucous cauterization with but one small point of incision. 2. Freedom from pain to the patient, either during or after the operation. Many patients object to the more formidable operations by galvano-cautery or turbinotomy, and the deleterious and nervous influence on the patient is sometimes considerable. 3. No untoward after-effects. There is no post-operative hemorrhage. The possibility of infection is reduced to a minimum. 4. No destruction of physiologically vital tissues. There is no formation of synechia, as all inflammatory exudate is submucous.—M. A. GOLDSTEIN, *The Laryngoscope.*

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SOME FURTHER REMARKS CONCERNING SUICIDE.

THE subject of suicide possesses a morbid interest for a large number of individuals. Indeed, as has been pointed out frequently, many cases of self-destruction have been shown to be due to the effect upon ill-balanced and emotional natures, of reading lurid accounts in the lay journals of such occurrences. Man is essentially an imitative animal, one of the legacies doubtless of his organization.

In consequence of this human weakness some people strongly deprecate investigations into the darker problems of life; especially are they opposed to such kind of researches being made public, declaring that by so doing the evil is intensified rather than diminished. There is, however, another and more sensible way of regarding the question. All are agreed that it would be of the greatest benefit to the race if means could be found to decrease criminality in general, of which suicide may be looked upon as a branch. The only sure method of accomplishing this object is by endeavoring to obtain as clear a comprehension of the matter as possible; for without this knowledge nothing practical can be accomplished. Taking this view of suicide, it will be understood that an examination of its phenomena is as necessary as other forms of criminal investigation, and will carry as great a sociological value.

Statistics reveal the fact that the act of taking one's own life is greatly on the increase in the various countries of the civilized world; and there also would seem to be no doubt that this is owing largely to advancing civilization. In the MEDICAL RECORD, October 20, 1900, some of the most probable causes of suicide were briefly touched upon; and the opinion was expressed that one of the most potent reasons for this modern weariness of life is the decadence of religious belief in all parts of the world. Of course it would be impossible to tabulate correctly the different causes of suicide, but in any such list compiled agnosticism, alcoholism, and misery due to want and the stress of life would occupy prominent positions.

Morselli, who has been the most voluminous writer and is perhaps the greatest authority on the subject, believed in a law of continued increase, and showed by a table that the percentage of increase from 1827 to 1852 was from one hundred to two hundred and thirty-eight. He also, referring to the fact that in the combined central and southwestern states of Germany the proportion of one hundred and fifty suicides in the million was given, sets forth the following ingenious theory: "The synthetic and most certain law which springs out of these facts is that in the centre of Europe, from the northeast of France to the eastern borders of Germany, a suicidigenous area exists where suicide reaches the maximum of its intensity, and around which it takes a decreasing ratio to the limits of the northern and southern states." Nevertheless, with all fitting respect to the opinions of so eminent an authority as Morselli, the importance of this suppositious law would appear to be greatly minimized when it is considered that Germans who emigrate are as prone to suicidal impulse as in their own country. This seems to point to racial idiosyncrasies as a dominating cause rather than to the effect of climate or to the neuropathic state of the system, which is said to impel those living under similar influences to self-destruction.

Reginald A. Skelton, writing in the *Nineteenth Century*, September, 1900, refuses to entertain the view that variations in the number of suicides in countries separated by purely artificial boundaries are owing to racial or climatic differences; he likewise brushes aside many other popularly assigned causes, and is tempted to think that emigration is a factor which has not been sufficiently considered in this connection.

In support of this argument, he cites the two countries of Europe having the least proclivity to suicide, Ireland and Italy, which also supply more emigrants than any other country in Europe; whereas Switzerland shows a large immigration and a high rate of suicide; the same rule applying to Belgium, where emigration is wellnigh counterbalanced by immigration.

However plausible this argument may appear, it does not, to our mind, upset the assumption that racial characteristics tend to suicide, for Mr. Skelton himself allows that valid objections can be brought against the emigration theory, and that after all it may be purely accidental. In truth, the complexity of the suicide problem is so great that with our present knowledge it would be absurd to assert that to any given factors can be assigned definite determining causes for the act.

As to locality, statistics plainly show that the suicide habit is much more prevalent among the inhabitants of large towns than among the dwellers in rural districts. The explanation of this is not far to seek. The "sons of the soil" lead a healthy outdoor existence. Their nerves are not unstrung and shattered by the wear and tear of the strenuous and ofttimes unhealthy life which must be led by the majority of the people of large cities, and the brains of the countrymen are not developed as are those of the townsmen. For example, in Berlin, according to Legoft, in 1877 there was an average of 309 suicides per million, against 141 per million in the rural districts of Prussia; in Rome a rate of 123 as against 30 in the country; and other large European cities, with the striking exception of London, exhibit similar figures. Accu-

rate statistics of suicide for the United States as a whole are not available; but assuredly, as in Europe, it is more frequent in the cities than in the country.

Dr. F. S. Crum, of East Orange, has recently written an article mainly dealing with the suicide question in Newark and in four other large American cities. Some most instructive facts are recorded in this contribution. The statistics of Newark, which are given from 1869–1900, indicate an increasing tendency to suicide in that city's population. The following table summarizes the suicide figures for Newark for a period of thirty years, and compares them with similar figures for four other large American cities:

SUICIDES FOR 100,000 OF POPULATION BY QUINQUENNIAL PERIODS FOR FIVE CITIES.

Period.	Newark.	New York.	Chicago.	Philadelphia.	San Francisco.
1871–75	11.8	14.1	12.6	7.3	30.0
1876–80	9.3	12.3	11.4	6.9	41.4
1881–85	12.3	14.9	13.7	8.9	31.8
1886–90	15.7	16.4	16.3	9.1	27.3
1891–95	15.9	19.4	23.7	10.0	34.7
1896–1900 ..	16.5	23.5	23.0	11.8	47.2

The most noteworthy points in this table are the steady progressive increase in suicide in all the above-mentioned cities, the exceedingly high rate in San Francisco, and the comparatively low rate in Philadelphia. Dr. Crum is of the opinion that the large number of cases of self-destruction perpetrated in the Pacific coast city may be attributed to a great extent to the cosmopolitan nature of its people, to the exceptional social and economic conditions which exist there, to the large excess of male over female inhabitants, and to its relatively small juvenile population.

From the mass of evidence collected it will be gathered that suicide is increasing *pari passu* with advanced civilization, and that the inhabitants of the large cities of this country are as susceptible to the suicidal impulse as are those of similar cities on the European continent.

While, as remarked before, no definite cause or causes can be singled out to account for this increase, it is at the same time judicious to give ear to every hypothesis calculated to aid in the elucidation of the difficulty. Dr. Haig, the well-known exponent of the ills resulting to health from the uric-acid diathesis, has recorded his belief that mental depression and suicide are due to errors of circulation in the nerve centres, these errors being due to excessive uric acid in the system, this excess being present from errors of diet. It might be worth the while of some investigator to follow this train of reasoning and to ascertain the kind and quantity of food consumed in the countries where suicide is most prevalent.

So far as remedies for the prevention or checking of suicide are concerned, it is to be feared that the suggestion of efficient measures to attain these ends would be impossible, at any rate until a clearer knowledge has been gained as to the cause. The fear of severe punishment following an attempted suicide might deter some, but it does not seem likely that any legislation which could be planned would be both effective and just. Perhaps, after all, the motives leading to self-destruction have their origin mainly in the pessimism produced by the existing social and economic conditions, and this will be eliminated only when society has become regenerated. If this be so, "we must possess our souls in patience" and await that happy time.

LIGATURE OF THE ABDOMINAL AORTA.

IN the course of a very interesting paper published recently (*American Journal of the Medical Sciences*, September, 1900), Keen, of Philadelphia, reports a remarkable case of ligature of the abdominal aorta just below the diaphragm, for aneurism. In addition to the account of his own case, the author gives a review of the reported cases, all of which are of importance in the history of this grave operative procedure. Ligature of the aorta will never be a common operation for more reasons than one, but cases of aneurism in the iliac arteries are occasionally seen, and in some of these it seems that benefit and perhaps cure can be accomplished by shutting off the circulation in the aorta. It therefore becomes necessary to consider the feasibility and possible results of this operation, even though cases suitable for it will rarely be encountered. The case reported by Keen is remarkable in several ways. Two operations were done, the first of which disclosed an enormous retroperitoneal hæmatoma, to interfere with which was evidently very dangerous. When the wound from this operation was healed, gelatin injections were tried without success, and then the second operation, ending in the ligature of the aorta just below the diaphragm, was carried out. The original idea had been to introduce wire into the sac, but this did not seem advisable. The patient lived forty-eight days, and the autopsy showed that the ligature had cut through the walls of the aorta, so that hemorrhage had occurred.

There have been twelve other recorded instances of ligature of the abdominal aorta during the last century, and in all the patients have soon succumbed, though in several instances death has not occurred for a number of days or even weeks. From this we are able to see at once that the restoration of circulation in the legs and lower abdomen is not the difficulty which is most serious. In some of these recorded cases this restoration has been extraordinarily prompt, when we think of the apparent difficulties to be overcome. The technical difficulties and dangers of the operation in competent hands have rarely been described as very great, and shock has not seemed to have contributed much to the fatal results. The chief danger and the most unsatisfactory aspect of this question are made very clear by the study of the clinical history of the cases reported, both before and after the introduction of antisepsis. This danger is secondary hemorrhage. When suppuration was the rule in wounds, it is easy to understand how readily ligatures would slip and erosion of the walls of the vessels occur. In every instance except the ligature of the largest vessels these dangers have been removed, and we must therefore

look for some special reason for their persistence in such operations, and if possible find a way to safety.

As the arteries increase in size, the relative proportion of the yellow elastic tissue in their walls increases, until in the case of the greatest vessels it forms by far the largest part of the vessel wall. This elastic tissue is singularly inactive in its healing properties, and is poor in lymph vessels, through which its nutrition is maintained. The blood current, moreover, in the great vessels is very powerful; it cannot be held by the mere adhesion of the intima, and the muscular coat is too insignificant to cause any satisfactory contraction, so that we have to depend upon the unsatisfactory elastic tissue to form a barrier before the ligature is absorbed or displaced. With our present methods and ligature materials we have not been successful in getting proper closure of the largest arteries, and we may perhaps attribute our failure to this slowness of the elastic tissue in forming a safe cicatricial barrier to the impulse of the blood current, and to its tendency to undergo necrosis under pressure. The instrument suggested by Keen, in his paper, may prove valuable by bringing together broad areas of arterial wall by means of pressure which can be regulated, and by preventing too much pressure on the vessel wall where the arterial impulse is very strong—that is, just above the point of closure. This prevention of late hemorrhage seems to be the only thing necessary to insure success in some cases of aneurism of the largest vessels, and it seems as if this improvement in results ought to be attained. The question seems to depend upon the inactive physiological character of the walls of the great arteries, for which, so far, we seem not to have made due allowance.

THE PHYSICIANS' STRIKE IN GERMAN CITIES.

The physicians employed by certain medical bureaux in Leipsic and Munich are reported to have struck some weeks ago in a body. The cause of the strike was the paltry pay allowed by the associations, and failing to obtain better terms the physicians combined and formed an organization conducted upon similar principles to those of a trade union. That the medical men of Munich were fully justified in refusing to continue their work, the statement that the pay after an increase reached the generous amount of fifteen cents a case will afford sufficiently convincing evidence. It seems, however, that the Munich doctors were not dissatisfied with this rate of payment for ordinary cases, but contended that it was not a satisfactory remuneration for performing surgical operations, or for cases requiring long attendance as childbirth. The bureau held a contrary opinion, and in consequence the physicians declined one and all to work for it. In Leipsic the circumstances resembled those of Munich except that the bureau was willing to hear complaints from physicians in its employ, but refused to recognize the organization. The strike in Leipsic, therefore, was for the principle of unionism. It is declared that there have been faults upon both sides, and that the patients are not one whit better satisfied with the treatment accorded them by the physicians than are the physicians with the conduct of the bureau. But what can be expected from a professional man who is paid at less than the rate of a hod-carrier in this country?

The co-operative system is being pushed to absurd lengths on the European continent and even in Great Britain, and there have been ominous signs of late that the "thin edge of the wedge" is being inserted in this direction in the United States. Physicians have a perfect right to combine to avoid being imposed upon, and those of the German cities who have thus asserted themselves will undoubtedly have the sympathy of the medical fraternity in America.

News of the Week.

Inspection of the New York Quarantine Station.—The consulting board of the New York quarantine, consisting of Drs. Bryant, Derby, Janeway, Biggs, Polk, Girdner, Peabody, McLane, Kinnicutt, and Prudden, recently made a careful inspection of the station and the methods of administration. The opinion of the board as to the conduct of this most significant element in the public health systems of the country is indicated in the following expression of approval: "The consulting board expresses its gratification at the admirable condition of the quarantine station; congratulates Dr. Doty on his success in so fully promoting the welfare of the port with such careful consideration of the interests of commerce; and cordially approves his aims and plans for the administration of the quarantine during the coming season."

War on Mosquitos.—The Italian authorities, says *The Sun*, are preparing this year to continue their war upon mosquitos in the Campagna, so as to give further proof that malarial fever is not only spread but propagated by these insects. Experiments along this line have been made for two years, and they have proved that in nearly every case the railroad employees, who have been protected from mosquito bites, have escaped malarial fever. The constant susceptibility of the railroad workers to malarial fever has always crippled these transportation lines. Practically the entire force has had to be changed several times in a season. The first attack on these mosquitos began in 1899. Prof. Angelo Celli conducted it. He worked on two railroad lines, the Prenestina Cervara and the Ponteglara systems. He selected five cottages on the first line, occupied by workmen, and three on the second line. Every known precaution to protect the inmates was adopted, with the result that in the protected cottages only four out of the twenty-four persons inhabiting them were attacked by malaria; and these four did not follow out the professor's instructions. In one cottage the residents would adopt no precautions, with the result that twelve out of its fourteen inmates contracted the fever. The experiments upon other lines were equally successful. Of a certain ex-

periment Professor Celli says: "Of a whole community of persons, all subjected to the same conditions, those whom we defended from mosquitos have remained free from fever, while those left unprotected have nearly all been attacked. It is as if we had a book with its pages alternately white and black, the white pages corresponding to our protected houses and families, the black pages representing those unprotected."

The Rockefeller Institute for Medical Research was incorporated on June 13th with the Secretary of State at Albany. The purpose of the corporation is stated to be "medical research with special reference to the prevention and treatment of disease." The directors are: William H. Welch, of Baltimore; Simon Flexner, of Philadelphia; Theobald Smith, of Boston; T. Mitchell Prudden, L. Emmett Holt, Hermann W. Biggs, and C. A. Herter, of New York City.

A Municipal Sanatorium for Consumptives.—An appeal was made last week by representatives of various taxpayers' organizations in Manhattan and the Bronx to have the city establish outside of the city limits a public hospital for the care of consumptive poor. The Henry law, passed by the last legislature, gives authority to the city to establish such an institution, and Mayor Van Wyck and Controller Coler are now investigating the subject.

Testimonial to Dr. Briddon.—On Friday evening, June 14th, the Alumni Association of the Presbyterian Hospital of New York City, Dr. W. K. Simpson presiding, gave a complimentary dinner to Dr. Charles K. Briddon at the University Club, presenting him at the same time with a loving-cup and an illuminated parchment testimonial, signed by the members of the association, in commemoration of his service of twenty-five years as attending surgeon to the hospital. The presentation address was delivered by Dr. Ben. Hedges, of Plainfield, N. J. Responses were made by Dr. Briddon, by the members of the attending staff, and by each alumnus present, as the loving-cup was passed.

Rival Lupus Cures in London.—The surgeons at the London Skin Hospital have been experimenting for some time with the use of the Roentgen rays in the treatment of lupus vulgaris, and have claimed more or less good results. Recently an apparatus has been set up in the London Hospital, an entirely distinct institution, for the treatment of the same disease by concentrated electric light, after the Finsen method, and still better results are claimed for this. The Queen has given her patronage to the London Hospital experiments, and the public is consequently subscribing liberally to defray their great cost. Certain newspapers of the baser sort, however, have assumed that the surgeons of the London Skin Hospital are envious of the success of their colleagues, and will not see that both are animated solely by a desire to arrive at the truth, and they are publishing alleged interviews in which the partisans of one method are made to express opinions very unfavorable to the methods employed and statistics published by their supposed rivals.

Adulterated Milk.—Many dealers in this city have recently been arrested and fined $25 to $50 for having watered milk for sale in their shops. In addition to their fines they were warned that if they were convicted again on a similar charge they would be sent to the penitentiary.

The Harlem Medical Association.—At the annual meeting of this society, held on June 10th, the following officers were elected: *President*, Dr. Joseph E. Lumbard; *Vice-President*, Dr. Edmund L. Cocks; *Secretary*, Dr. William H. Lockett; *Treasurer*, Dr. William H. Stewart; *Trustees*, Drs. Montrose R. Richard, Henry W. Mooney, and Henry J. Wolf. The association contains about three hundred members.

St. John's Guild Seaside Hospital.—The Seaside Hospital of St. John's Guild, at New Dorp, S. I., was opened for patients a few days ago, and the same afternoon the trustees and officers of the Guild visited the institution to open formally the Lewis Memorial Cottage, erected last fall by Mrs. Frederic Elliott Lewis in memory of her son.

Surgeon-General Sternberg has started on a visit of inspection of the army medical corps in the Philippines, and during his absence Col. William H. Forwood will be in charge of the medical department headquarters at Washington. Dr. Forwood has for some time been in charge of the medical depot station at San Francisco.

Smallpox in this city seems not to have decreased appreciably with the advent of warmer weather, four new cases and seven deaths having been reported in one day this week. Almost every steamer arriving at this port from Naples brings one or more cases among her steerage passengers. These, of course, are detained at quarantine and do not go to swell the list of the New York cases. In Indiana smallpox is so prevalent and resists so obstinately all attempts to suppress it, that the State board of health is considering the advisability of general free vaccination as the only practical means of limiting the further spread of the disease.

The Status of Christian Scientists in Georgia.—Judge J. H. Lumpkin, of the superior court of Georgia, recently denied the application for a charter for "The Atlanta Institute of Christian Science," the effect of his decision being that Christian Scientists cannot treat diseases in the State of Georgia without having been regularly graduated in medicine or passed an examination before the medical examining-board, the same as other physicians. The object of the institute, as stated in the petition, was to treat and heal according to the principles of Christian Science, as found in the Bible, and also in "Science and Health, with Key to the Scriptures," by Rev. Mary Baker Eddy. Judge Lumpkin held that, according to the decision of a case in the supreme court of Nebraska, Christian Science is the practice of medicine, and that medicine in Georgia can be legally practised only by persons who have complied with the requirements of the existing State law. This law provides that no person shall practise medicine within the State of Georgia unless he

has been heretofore legally authorized so to do, or shall hereafter be so authorized by a diploma from an incorporated medical college, medical school, or university, or has, after attending one or more full terms at a regularly chartered medical college, been in the active practice of medicine since the year 1866, or who was by law authorized to practise medicine in 1866, or shall have been licensed by the medical board.

Sir William Hingston, of Montreal, is the recipient of many well-deserved honors. He was not long since knighted by the Queen. Recently he received a beautiful testimonial from his former hospital patients and colleagues; and now the Pope has bestowed upon him the Papal Cross.

A Successor to "Vratch."—It is announced by the publishers of *Vratch*, the leading Russian medical weekly, which is to be discontinued in accordance with the will of the late proprietor, that the journal will be continued under the name *Russki Vratch*. The editors will be Drs. Padvysotski, now editor of the *Russki Arkhiv Patologii*, etc., and Vladislavleff.

Association of American Medical Colleges.—At the annual meeting of this association in St. Paul, on June 3d, the following officers were elected: *President*, Dr. Victor C. Vaughan, of Ann Arbor; *First Vice-President*, Dr. William M. Rodman, of Philadelphia; *Second Vice-President*, Dr. H. Bert Ellis, of Los Angeles; *Secretary*, Dr. Bayard Holmes, of Chicago; *Judicial Council*, Dr. Thomas Hawkins, of Denver, Dr. E. C. Dudley, of Chicago, and Dr. W. J. Means, of Columbus, Ohio. There are seventy-five medical colleges in the association.

Christian Science in Jacksonville.—A man in Jacksonville suffering from typhoid fever was under medical treatment during the greater part of his illness, and was apparently progressing toward convalescence when his physician was discharged and a Christian Scientist was called in. The man died in four days after this change was made, and the physician formerly in charge signed the death certificate, stating that "the deceased had typhoid fever, and it is my belief that the patient died of neglect and the interference of a Christian Scientist, and that the patient would not have died had he taken the medicine prescribed." The health officer of the city will take the matter before the courts.

The National Health League is an association recently started here, having for its very legitimate object the promotion of public health. Whether the means proposed for the attainment of this object are equally commendable is a question to be decided according to the individual point of view. Among those means are the doing away with physicians and druggists and a return to the health-giving properties of nature. A meeting of the league was held here recently, and the various speakers recommended the discontinuance of vaccination, vivisection, drug-taking, and surgical operations, the living on raw food, the wearing of hygienic clothing, cooling the abdomen, whatever that may mean, Christian Science, and anti-imperialism. A chairman of one of the sections of the American Medical Association spoke in favor of the aims of the league, but said he feared the spirit of commercialism governing the medical profession and the drug business would prove to be too strong for the league to overcome.

A Centenarian Park Laborer.—Barney Morris, an employee in Prospect Park, Brooklyn, celebrated last week what he claimed to be the one hundred and ninth anniversary of his birth. He was born in Ireland and came to this country seventy-nine years ago.

Dr. Theodore Walser has been appointed sanitary superintendent for the Borough of Richmond, an office made vacant by the death of Dr. John L. Feeny two weeks ago. The salary attached to the office is $3,500 per annum. Dr. Walser is a graduate of the Jefferson Medical College in the class of 1851 and is one of the visiting staff of the S. R. Smith Infirmary.

The American Institute of Homœopathy was in annual session at Richfield Springs, N. Y., this week.

The Plague at Cape Town has, from the beginning of the epidemic up to June 19th, claimed 342 victims. The total number of cases in the same period has been 715.

The American Orthopædic Association.—At the meeting of this society held at Niagara Falls, May 11, 12, and 13, 1901, the following officers were elected: *President*, Dr. H. Augustus Wilson, Philadelphia; *First Vice-President*, Dr. William J. Taylor, Philadelphia; *Second Vice-President*, Dr. G. G. Davis, Philadelphia; *Secretary*, Dr. John Ridlon, Chicago; *Treasurer*, Dr. E. G. Brackett, Boston. Philadelphia was chosen as the place for the next meeting, to be held in May, 1902.

Dr. John H. Coughlin has been appointed visiting physician to the Gouverneur Hospital, New York City.

Dr. Fr. Neugebauer, of Warsaw, has been elected corresponding member of the Academy of Medicine of Paris.

Address in Medicine at Yale.—The annual address in medicine at New Haven will be delivered by Prof. Edmund B. Wilson, Ph.D., of Columbia University, at 12 o'clock on Tuesday, June 25th, in College Street Hall. The title of the address is "The Higher Claims of Minute Research in Biology and Medicine."

Proposed Slaughter of the Innocents.—A Denver despatch states that a prominent member of the Colorado State Medical Association introduced at the annual meeting of that society, held this week, a proposed legislative enactment providing that, on the application of the parents, imbecile children be painlessly put to death. The proposed law is too wishy-washy. The children should be killed, whether the parents consent or not, and the latter also had better be put out of the way lest they procreate other children of feeble intellect.

The Class of 1876 of the Department of Medicine of the University of Pennsylvania held its first annual banquet at the University Club, Philadelphia,

on Alumni Day, June 11th, and effected a permanent organization for the benefit of its Alma Mater. The following officers were elected: *President*, Charles A. Oliver; *Vice-President*, William H. Klapp; *Secretary*, Francis M. Perkins; *Treasurer*, Benjamin F. Baer; and an executive committee of twelve members who will meet at the call of the president.

Health Officer Charged with Neglect of Duty.—Dr. Obed L. Lusk, deputy sanitary superintendent for the Borough of Queens, was indicted by the grand jury on Wednesday of this week. The charge is of neglect of duty, in allowing a man with smallpox to remain in his home in a crowded tenement and in not removing the body until more than two days after his death. The grand jury severely criticised the conduct of the health officer in the borough, and demanded that the board of health should institute needed reforms.

Dr. D. Bryson Delavan has been appointed consulting surgeon in the department of laryngology, St. Luke's Hospital, New York, in place of Dr. George M. Lefferts, resigned.

Complaints against the Management of a Consumptives' Home.—The residents of the upper part of the city have made complaint to the municipal authorities that the managers of the Seton Hospital for patients suffering from tuberculosis do not keep the patients within the grounds of the institution, and that patients are a menace to the health of the neighborhood on account of their disregard of the rules regarding expectoration. The authorities say that the nuisance complained of is in violation of the rules of the hospital, which are that the patients must keep within the grounds.

The American Christian Hospital at Cæsarea.—This hospital, started in a very humble way fifteen years ago by the Rev. Dr. William S. Dodd, an American medical missionary, now occupies a specially erected three-story building with seventy beds. The board of trustees of the hospital was recently incorporated. At its first meeting, held in Albany, N. Y., Mr. Allison Dodd was elected president, Samuel T. Carter, Jr., vice-president, Charles E. Manierre, secretary, and James M. Spears, treasurer.

"Malarium."—A Bon Ami, La., contributor to a Philadelphia contemporary, in the course of an argument demolishing the mosquito doctrine of the spread of malaria, suggests that the protection afforded by mosquito netting is due to the exclusion of the early morning air by the latter. "If so," he says, "people living under netting may be freed from malaria, or, as I prefer to use the singular number, from malarium." He probably reserves the "plural number" to designate a double tertian.

In Favor of a Psycho-Physical Laboratory.—In addition to the American Medical Association, the State societies of Connecticut, Indiana, Kansas, Kentucky, Nebraska, and Texas have passed resolutions favoring the establishment of a psycho-physical laboratory in the Department of the Interior at Washington. It is hoped that similar resolutions will be passed by the other State societies when the matter is brought to their attention at the annual meetings.

An Investigation into the Relative Merits of Baking-Powders.—The *Boston Medical and Surgical Journal* says that the Massachusetts legislature has ordered the State board of health to make a thorough investigation of the healthfulness of baking-powders, employing such tests as will demonstrate whether or not any brands of baking-powder on sale in that State are prejudicial to health, or whether the introduction into food of any of them in small quantities, which ordinarily would be harmless, would, when taken by a person suffering from some digestive disorder, injure the health. The board of health is ordered to make such recommendations to the next general court as the result of this investigation shall in its opinion warrant.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending June 15, 1901. June 7th.—Assistant Surgeon G. M. Mayers appointed assistant surgeon from June 1st. June 8th.—Assistant Surgeon J. F. Murphy ordered to naval academy June 15th. June 9th.—Surgeon A. R. Wentworth detached from the *Solace* and ordered to the *Albany*. Surgeon H. N. T. Harris detached from the *Albany* and ordered to the *Monocacy*. Passed Assistant Surgeon S. G. Evans detached from the *Monocacy* and ordered to the *Solace*. June 11th.—Assistant Surgeon J. W. Backus ordered to the *Vermont* June 17th. Assistant Surgeon F. A. Asserson ordered to the naval hospital, New York, June 17th. Assistant Surgeon G. M. Mayers ordered to the Pensacola navy yard June 18th.

Obituary Notes.—Dr. Hugh Stockdell died at his home in Petersburg, Va., on May 23d. He was the son of a physician and was born in Petersburg in 1835. He studied medicine first at the University of Virginia, and later at the Jefferson Medical College in Philadelphia, receiving his degree from the latter in 1859. He served as surgeon in the Confederate Army during the civil war.

Dr. Robert J. Martin, of Augusta, Me., was drowned on June 16th. He was graduated from the New York University Medical School in 1887. He was a member of the State medical board, and during the Spanish war was surgeon to the Marine Artillery.

Dr. Maurice B. Perkins, professor of chemistry in Union College, died suddenly on June 18th, aged sixty-five years. He was born in New London, Conn., March 14, 1836. He studied chemistry in Germany, and on returning to this country in 1862 he was appointed assistant professor of chemistry at the College of Physicians and Surgeons in New York City, and in 1863 at the Lawrence Scientific School of Harvard. He was called to the chair of chemistry in Union College in 1865, and held the place up to the time of his death. Harvard University granted him the degree of A.M. and the Albany Medical College that of M.D. In 1886 he was appointed a member of the State board of health.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 13, 1901.

Iodophilia.—Theodore Dunham coins this word to designate a reaction which occurs in the blood under certain pathological conditions. A spontaneously dried blood smear is treated with a solution made of three parts potassium iodide dissolved in one hundred parts of water; in this is dissolved one part of iodine. The resulting solution is thickened to a syrupy consistency by the addition of lumps of gum arabic and occasional shaking until they are dissolved. The blood smear is mounted in a drop of this syrup and a bit of filter paper placed at the edge of the cover glass to absorb the excess of fluid. The specimen is then ready for examination by an oil-immersion lens. When one or more leucocytes are stained a reddish-brown we have the condition called iodophilia, which is apparently always present in progressive suppurations and progressive pneumonias. It would therefore give aid in the diagnosis of doubtful cases.

Some Observations on Chronic Seminal Vesiculitis.—Arthur L. Chute and Richard F. O'Neil found sixty cases of this affection among five hundred and forty patients presenting various sorts of genito-urinary disease. The treatment which has given them the best results is massage of the vesicles and ducts and of the prostate per rectum. At first the time of massage should be very short, and at intervals of from five days to a week. Later the intervals are longer and the massage is more thoroughly done. In some cases of long duration, dilating with Oberlaender's or Kollmann's dilator seems to have a beneficial effect.

Medical News, June 15, 1901.

A Study of Some Complications and Sequelæ of Typhoid Fever.—H. A. Hare and H. R. M. Landis state that complications and sequelæ in typhoid fever do not seem very frequent among children. Among those noted are: Varicella, parotitis, bronchitis, pneumonia, hemorrhage, otitis media, furunculosis, periostitis, vomiting, subcutaneous abscesses, dysentery, cholecystitis, aphasia, cancrum oris, laryngeal stenosis, typhoidal meningitis, and chorea. Typhoid fever is more and more fatal as life progresses. Chills may occur at the onset or at intervals throughout the attack. Diarrhœa is present in not more than half of the cases at the present time. Anorexia is generally present. A very important initial symptom is abdominal pain. Bronchitis has not infrequently been found at the onset. Headache is a very frequent nervous manifestation at the onset. Meningitis is often simulated in the beginning. Renal lesions at the onset are not usual.

The Treatment of Scarlatinal Nephritis.—Charles Gilmore Kerley believes that these cases should not be approached with fear and force, but with gentleness and therapeutic moderation. The first step in the management of a case of average severity should refer to the diet. Milk, broths, and thin gruels only should be given. The plain milk diet is not necessary. There should be two or three stools daily. Calomel gr. $\frac{1}{10}$ per hour till gr. i. has been given, every third or fourth day, with ʒ ii. to iv. of citrate of magnesia the intervening days if necessary. Aconite is a very useful drug. When aconite fails, hot air is used. Hot-water flushing of the colon is most valuable. For a child three years of age, 16 to 24 ounces of decinormal salt solution at 110° F. is introduced into the bowel by a rectal tube, which should be inserted at least ten inches. A pint to a pint and a half every six to eight hours answers best in the majority of cases.

American Medicine, June 15, 1901.

Pulsation of the Uvula in Aortic Insufficiency.—David Riesman states that investigation of this subject requires much caution, since muscular movements like retching or swallowing may simulate pulsatile phenomena. It is well to make the examination both with and without a tongue-depressor. There are two types of pulsation: a communicated movement connected with the throbbing of the carotids, and usually affecting the tonsils and faucial arches, and an independent movement, brought about by a systolic increase in the volume of the tissues. The phenomenon is of the same nature as the capillary pulse, and possesses no greater significance. Its existence adds only one more point to be looked for in the study of a case.

Excessive Eosinophilia in Trichinosis.—A. J. Patek reports the case of a young man aged twenty-one years, who ate pork sausage that was not thoroughly cooked. He soon thereafter suffered from gastro-intestinal disturbances and severe muscular pains. The sausage showed trichinæ. The blood was examined late in the progress of the disease and showed thirty per cent. of the leucocytes to be eosinophilous.

Journal of the American Medical Ass'n, June 15, 1901.

Round Ligament Ventrosuspension of the Uterus.—D. Tod Gilliam thus describes his operation: (1) Make a median abdominal section from three to four inches long between the umbilicus and the pubis. (2) Break up the adhesions and bring the fundus forward. After this the patient may be placed in the Trendelenburg position. (3) Seize the round ligament on one side and bring it to the opening. The ligament may be picked up between the thumb and finger, or by the aid of a bullet or blunt forceps. (4) Carry a silk thread under the ligament at a distance of about one and one-half inches from the uterus. This can be most conveniently done with an aneurism needle, though an ordinary needle answers the purpose very nicely. This forms a loop under the ligament, which is not to be tied, but after withdrawal of the needle the two ends are brought out of the abdomen and secured in the bite of a snap forceps. (5) The other round ligament is secured in the same way and the ends of the thread are brought out of the abdomen and held in the bite of another snap forceps. (6) Catch up with a volsellum the fascia, muscle, and peritoneum at the margin of the incision and an inch or so from the lower angle of the same, and make traction. This pins the layers together, prevents retraction of the muscle, and facilitates the next step. (7) Thrust the perforating forceps (specially devised for the purpose) through into the peritoneal cavity and seize the thread which holds the round ligament. The perforation is made slantingly, the forceps entering the fascia one-half inch from the edge and emerging on the peritoneal surface from one-half to three-fourths of an inch farther from the edge. The handle of the forceps is next tilted outward, which everts the lip of the incision and brings into view that end of the forceps which is in the cavity. The jaws are opened and the thread is placed between them. (8) Remove the clamp forceps from the thread and withdraw the perforating forceps. This brings with it the thread, and the thread in turn brings the ligament through the perforated wound in the abdominal wall. (9) While the ligament is held taut fasten it into the wound. This is done by a catgut suture which is passed through its base including the tissues on either side, then back again where it is tied. The thread which held the ligament is cut close to the ligament on one side and withdrawn. This is to prevent infection by pulling through the ligament that portion of the thread which had been exposed. (10) Treat the opposite side in the same manner and close the median abdominal incision. The projecting free ends of the ligaments are gathered up en route by the running catgut suture which closes the fascia and drawn to the middle line.

Surgical Shock.—W. H. German says the symptoms of shock are of two general kinds, those due to a dulling or blunting of the vital powers, or torpid shock, and those attributable to mental terror or disturbance and called erethistic shock (typical cases are narrated). Permanent impairment of health occasionally follows ordinary uncomplicated shock. A predisposition to shock may exist in persons of sensitive, nervous condition, or in the subjects of organic disease, especially of the heart and kidneys. In those cases of sudden death formerly classed as secondary or delayed shock, an explanation may be found in pulmonary œdema, in renal congestion, in concealed hemorrhage, or in septic collapse from the sudden absorption of poisonous material from a large serous surface such as the peritoneum. Or it may be due to fatty embolism in the small arteries of the lungs and other organs. As to treatment in this class of cases, the measures suitable to true shock are of most value, as heat, opium, strychnine, digitalis, alcoholic stimulants, and intravenous infusion or hypodermoclysis of decinormal saline solution. When fracture or crushing injury of large bones has occurred, it is very important that the limb be immobilized as soon as possible, so that the freeing and absorption of fat cells may be prevented.

Variability of the Tubercle Bacillus.—C. Ramus concludes his article as follows: (1) Tubercle bacilli are not always so easy to demonstrate as is commonly believed, even though present in large numbers. (2) The fuchsin solutions, like those of other dyes, cannot at all times be absolutely depended upon. (3) Tubercle bacilli from different patients, and from the same patient at different times, will not invariably stain by one method. (4) The bacilli exhibiting these varying staining properties are genuine tubercle bacilli, and not other species of acid-resisting germs. (5) The staining variations probably depend on physical and chemical changes in the bacterial substance, instituted either by antitoxic action or by the products of associated organisms, or by a combination of both. (6) In the absence of demonstrable tubercle bacilli, when physical signs of tuberculosis exist, a prompt diagnosis of that disease should be confidently made in the interest of the patient, and no valuable time be lost in waiting for typical bacilli to appear.

The Relation Existing between Diseases of the Conjunctiva, Nose, and Throat.—H. H. Brown believes that not enough attention is paid to this subject in our text-books or in current teaching. Relatively speaking, conjunctivitis in all that the term implies embodies as large and perhaps a larger variety of manifestations than any other disease in the domain of ophthalmology. Mere mention of the classification of conjunctivitis found in our text-books to-day is sufficient to emphasize the above. There is an intimate anatomical association between the nerves, blood, and lymph channels of the parts mentioned, and diseased conditions in each require a careful search for causative factors existing in the others. We must bear in mind that in all special work we are not dealing with isolated tissues.

New York Medical Journal, June 15, 1901.

A Modified Urethral Dilator Handle.—By F. C. Valentine. The instrument is described and illustrated. The advantages claimed for it are thus summarized, it being premised that the improvement in the handle of the instrument consists essentially in having the dial at the top of the instrument and two heavy metal projections for the easy grasp of the operator's left thumb and index finger. The technique of the employment of this modification and its action in nowise differ from those of the Oberlaender and Kollmann dilator. (1) While being guided by the amount of resistance for each increase of dilatation, the dial is continually under the operator's eye, positively guarding against any excess of dilatation and making any change of position unnecessary. (2) Having no dial or shield at its sides, this modified dilator is more easily introduced and more easily held in position during its employment. (3) The dial, being beyond the patient's range of vision, offers him no inducement unnecessarily and even dangerously to increase the calibre of the instrument. (4) The improved mechanism of this dilator handle simplifies the construction of the instrument without increasing its cost.

Paramyoclonus Multiplex.—L. J. Morton gives the clinical history of a fatal case and also a description of another case now under his care. The latter patient, a young Irish woman, was much overworked in domestic duties, and in addition nursed a brother who died of pulmonary tuberculosis. Her twofold duties impaired her health very much, combined with the loss of her brother, to whom she was greatly attached. Within a few months of his demise a sister became ill of the same form of lung disease, and she attended her until she broke down and began to have these clonic spasms, which involved first the muscles of the right side of the body, viz., the muscles of the right arm and leg. The spasms then passed over to the muscles of the left arm and left leg, then to the muscles of the neck and lower face. For a time the muscle spasm in the legs was much greater than at present, and both limbs were feeble and she could not walk without assistance. The patient and her attendant stated that when she was alone and not observed the spasms were not so great as when she was trying to perform some task in the presence of observers.

Penetrating Wounds of the Abdomen.—By R. S. Fowler. The paper is a plea for early operation after injuries of the nature alluded to in the title. The main point is to decide whether or not the peritoneal cavity has been entered. If the existence of such entrance is determined, no time should be lost in making an exploratory incision.

Philadelphia Medical Journal, June 15, 1901.

The Topical Treatment of Focal and Jacksonian Epilepsy.—J. William White describes the following method: The affected centre is determined in advance and its relation to the cranium indicated by a mark upon the shaven scalp two days before the operation. The scalp is sterilized and re-sterilized; a horseshoe-shaped flap is raised and a half-inch button of bone removed with a small trephine. The dura is left intact. Thirty minims of a sterile two-per-cent. solution of eucaine is injected into the brain substance at the centre of the trephine opening, the needle's point being introduced about three-quarters of an inch. This is gradually withdrawn as the last ten minims of the solution are injected. The flap is replaced and the patient returned to bed. On that day and the following he should receive full doses of bromides. At intervals, determined by experience, the injection is repeated. The patient should be kept in bed at least four hours after each injection and should take bromides for from one to two days. The writer does not claim that his results are noticeably better than those which seem to have followed many other operative procedures. But he believes that there are possibilities of benefit by this line of treatment which justify him in placing it conservatively before the profession.

A Case of Abdominal Pregnancy.—Augustus C. Behle describes this case. The patient was twenty-eight years old, healthy and well nourished. The abdomen was uniformly enlarged. Striæ were found all over the abdomen and on the side. A tumor was noted which extended a hand's-breadth above the umbilicus. It was elastic, semi-solid, and non-fluctuating. A hard, globular mass was made out in the right iliac fossa, which was smooth with the exception of a slight depression at one side. Above the umbilicus and toward the left an irregular mass resembling fœtal limbs was palpated. The rest of the tumor seemed somewhat vague and difficult to outline. Neither heart sounds nor placental souffle could be heard. The cervix was soft, round, and not shortened. The fundus could not be outlined definitely. Ectopic gestation was diagnosed. Operation was performed. The fœtus weighed six and one-half pounds. The head lay in the right iliac fossa, the dorsum toward the right. The patient made an uneventful recovery.

Specialism and Some of its Relations to the General Practice of Medicine.—Henry Wallace believes that the specialist should develop by years of general training. A general physician need not fear in these days that he will lose the confidence of his patient by referring him to a specialist when necessary. The public is too intelligent so to misjudge a conscientious physician. It is perfectly proper and possible for a medical man not only to be a pure specialist, but to practise a specialty while attending to a general practice.

The Lancet, June 8, 1901.

An Explanation of the Vulnerability of the Apices in Tuberculosis of the Lungs.—E. H. Colbeck and E. Pritchard conclude that the vulnerability of the apices of the lungs to tuberculosis is largely determined by an alteration in the shape of the chest in conjunction with misplacement and deficient musculature of the shoulder girdle. Woods Hutchinson, who has worked at the subject from the side of comparative morphology and pathology, expresses similar views. The importance of the alteration in the shape of the chest and of the abnormal condition of the shoulder girdle lies, according to their view of the matter, in the modification which these changes induce in the dynamical relations of the superior aperture of the thorax, whereby the movements of the apices become inverted in their relation to the normal respiratory rhythm. It is in the altered dynamical relations of the respiratory mechanics at the apex that they find the conditions which favor the lodgment of extraneous matter in the upper lobes of the lungs. The exact position of the site of deposit is determined largely by the distance the apex rises above the border of the first rib, inasmuch as it is this extra-thoracic portion of lung which is acted upon by the forces that give rise to the inverted movement. Since the apex rises from an inch to one and a half inches above the border of the first rib they conclude that the site of deposit will be situated from an inch to one and a half inches below the summit of the lung. This mechanical explanation of the vulnerability of the apices of the lungs to tuberculosis in the human subject is the more interesting by reason of the fact that the proclivity to tuberculous disease of the basal lobe of the lung in cattle is in all probability likewise due to mechanical causes. The practical bearing of the theory which they have advanced is the enormous importance of developing the muscles of the shoulder girdle with the object of "pulling the chest into shape," as Woods Hutchinson so ably and graphically puts it. To this end tree climbing, ball throwing, horizontal ladder and bar exercises—indeed, any muscular manœuvre which brings into play the great pectoral muscles should be sedulously and systematically carried out.

The Morbid Anatomy and Origin of the Various Presystolic Murmurs Heard at the Apex.—C. C. Gibbes says that the presystolic murmur has been proved to be present under the following circumstances: (1) Obstruction of the mitral orifice by sclerosis and adhesion of the cusps or by invagination of an auricular thrombus. (2) Dilatation of the mitral orifice with normal cusps and chordæ. (3) The mitral orifice of normal size but roughened margins. (4) Insufficiency of the aortic valves, with (*a*) normal mitral orifice and curtains; (*b*) dilated mitral orifice but normal cusps and chordæ; and (*c*) mitral orifice dilated and cusp and chordæ thickened. It is also found to be equally present when the regurgitant current is directed toward the anterior mitral cusp and when it is directed toward the septum, when the regurgitation is free and when it is limited, and when there is no aortic or mitral regurgitation at all, the only morbid condition common to all being dilatation and hypertrophy of the heart. The author feels justified in saying that the presystolic murmur cannot entirely arise from the auriculo-systolic blood-current as the supporters of the Gairdner theory claim. When writing on mitral stenosis he has contended that partial asynchronism of the ventricles caused the muscle tones to be audible during the diastolic period. If the cases are carefully studied when the presystolic murmur has been present in spite of the absence of mitral stenosis, it will be seen that

the two conditions common to the whole of them are: (1) hypertrophy of the heart muscle and therefore increased muscle tones; and (2) loss of compensation, producing partial asynchronism and thereby causing the muscle tones to be heard during the diastolic period, the intensity of the presystolic murmur varying in proportion to the amount of hypertrophy present.

Vitality after Severe Injury.—W. H. Clayton Greene relates the case of a man aged forty-nine years, who fell on to an area railing and impaled his left side and died in nine hours. Autopsy revealed the following injuries: There were a large irregular wound in the left hypochondriac region with fracture of the sixth, seventh, eighth, ninth, and tenth ribs, complete perforation of both walls of the stomach from before backward, perforation and laceration of the diaphragm, extensive collapse of the left lung, and perforation of the pericardium and of the left ventricle of the heart (this latter organ is now in the museum). The pleural cavity on the left side was full of blood and the stomach had been pushed right up through the opening in the diaphragm. There was a small amount of blood-stained fluid in the peritoneal cavity but very little in the pericardial cavity. Saline infusions had been used in the interval between injury and death, and to the benefit derived therefrom the author attributes the continuance of life for the period named.

An Early Experience Concerning the Therapeutic Virtues of Iodide of Potassium in Asthmatic Affections.—W. T. Gairdner quotes from a number of old letters which show that iodide was used in asthmatic affections by Barclay as early as 1850 or thereabouts.

British Medical Journal, June 8, 1901.

A Case of Cervical Rib.—T. E. Gordon reports this case. The patient was a farm laborer aged thirty-two years. His first symptom was an attack of pallor and numbness in the fingers of his right hand when he got up in the mornings. Finally, gangrene supervened. Examination had shown the presence of a cervical rib. This was removed. The cervical rib was in some way the cause of the arterial obliteration. The circulation through the subclavian was not obstructed. The cause of the arterial disease was probably, in part, the carrying of heavy weights. If the rib acted directly on the artery, it must have done so in some way upon which present pathology throws no light. It may have acted indirectly on the artery through the nerves. A nerve lesion is capable of causing gangrene, or structural changes in the blood-vessels. The absence of clear signs of a peripheral neuritis is a striking argument against the theory of nerve origin. This case resembles the local phenomena of Raynaud's disease, which is almost certainly a neurosis. The abnormal rib may have exerted its evil effects not at its distal but at its proximal extremity. Here the rib is in intimate relation with the seventh and eighth cervical and first dorsal nerves and with the inferior cervical sympathetic ganglion and its branches.

Note on the Pathology of Toxic Amblyopias.—J. Herbert Parsons states that since 1880 it has been known that the papillo-macular bundles of the optic nerves are degenerated in cases of tobacco amblyopia. The paralyzing effect of nicotine is obtained whether it is injected into the circulation or whether applied to the cells locally. The writer believes that the drug acts, not essentially upon the nerve cell, but upon the branchings (synapse) of the pre-ganglionic fibres around the cell. It is possible that there may be changes in the cell itself, but even the delicate Nissl method is not sufficiently delicate to show this. The action of nicotine may be reasonably supposed to be: (1) Vascular, causing vaso-constriction of the arterioles, which would explain the selection of the sparsely supplied macular region; (2) paralytic, upon the synapses either of the cone fibres, or of the inner granules, or of both.

A Case of Wandering Œdema.—Bernhard Smith describes this case. The patient, a man aged twenty-eight years, has irregular attacks of œdema which generally occur two each week, for three weeks, followed by a month's interval. The lesions are translucent, painless swellings. They generally involve the face, but have occurred on the ear, forearm, prepuce, etc. They start at night, and have completely faded by the following afternoon. The patient is of a sedentary, rather dyspeptic disposition, of regular habits. When in the tropics a few years ago, he never suffered from prickly heat or the bites of mosquitos.

The Effect of the Roentgen Rays in a Case of Chronic Carcinoma of the Breast.—Andrew Clark relates the remarkable improvement in a woman aged sixty years suffering from cancer of the breast, since the regular employment of the Roentgen rays, which has been done for some weeks. The treatment has been continued five days a week, the surface being exposed to the rays for fifteen minutes at a time. The induration has gradually been getting less and the patient has but little pain. The glands in the axilla are smaller, and her general condition is improving.

Cinnamon in Influenza.—Joseph Carne Ross is convinced that if influenza is treated with cinnamon within twenty hours from the appearance of its first symptoms, the patient will be able to return to his usual work within three or four days. The earlier the treatment is begun, the better will be the results. A delay of over twenty-four hours renders the treatment inefficacious. The cinnamon is in tablet form, and two should be taken every half-hour for the first two or three hours, and after that two every hour till the temperature becomes normal.

Quinine as a Prophylactic to Influenza.—W. Habgood believes that the administration of small doses of quinine—gr. ii. each morning taken with breakfast—will protect the individual against the influenza poison. He has tried it in his own case with success, having previously suffered five attacks in four years.

The Sore Throat in Measles.—John Haddon reports several cases of measles, the first symptom of which was sore throat. The throat was covered with white patches and the typical body eruption appeared a few days later.

French Journals.

Tuberculosis of Mesenteric Ganglia.—G. Carrière, in speaking of the prognosis of this affection, states that it ought to be reserved as in all tuberculosis. Nevertheless, it is one of the most curable forms of the disease. So many serious complications are possible, such as breaking through into the peritoneum and causing generalized tuberculous peritonitis, that the patient has indeed the sword of Damocles always hanging over his head. The treatment should be hygienic, alimentary, and medicinal. All fatigue should be avoided. Climate should be equable. The diet ought to be most nutritious. Milk, eggs, butter, rare meat, purées of beans and peas are to be given. As to the medicinal treatment, cod-liver oil, and during the summer preparations with an iodine base, should be given.—*Le Nord Médical*, June 1, 1901.

Localized Analgesia by Cocaine.—J. V. Laborde concludes that the dose should be reduced to as small an amount as possible, for if the limit of local anæsthesia is passed, general effects are provoked by consequent absorption from a large amount. Experimental work seems to indicate that the medium dose for an adult is from 2 to 4 cgm. There is nothing to hinder a repeated injection if the first dose proves insufficient. The intra-muscular injection is comparatively more efficacious to produce the analgesic effect and to give relatively a little more local extension for the field of operation.—*La Tribune Médicale*, May 29, 1901.

Transverse Rupture of the Aorta.—M. Letulle has discovered at autopsy a rupture of the aorta at two different points. The subject was a woman aged seventy-two years, who died suddenly. One rupture was transverse, embracing almost the complete circumference of the aorta a few millimetres from the origin of the vessel; the second was of less extent, not taking in the whole thickness of the wall, and having determined the formation of a dissecting aneurism. The aorta was thin without apparent atheroma. —*La Presse Médicale*, May 15, 1901.

Deutsche med. Wochenschrift, May 30, 1901.

Cerebral Hemorrhage in Verrucose Endocarditis.—M. Simmonds believes that an important relationship exists between these two conditions, and details seven instances in which verrucose endocarditis terminated fatally owing to the occurrence of cerebral hemorrhage. The patients were mainly children or youthful individuals, in whom other vascular or renal disease was not present, and who were also free from luetic, alcoholic, or other toxic taint, so that the usual causes of apoplexy could be safely excluded. In some of the cases on autopsy it was possible to determine positively that the cardiac lesion was the cause of the hemorrhage, and in the others the connection appeared very probable, so that it seems justifiable to draw the inference that verrucose endocarditis is more frequently a cause of cerebral bleeding than is usually suspected. In two of the cases it was possible to demonstrate (Gram-Weigert stain) in the vascular wall, at the site of rupture, micrococci apparently identical with those found in the valvular vegetations, so that it is likely that a mycotic embolus lodges against the vessel wall and produces degenerative changes, which favor the development of the miliary aneurisms constantly found, and terminate in rupture and apoplexy. The diagnostic value of these observations may not be very great, since in most cases in which cerebral symptoms accompany endocarditis the numerical probabilities are overwhelmingly in favor of the existence of embolism, but if the presence of hemorrhage seems possible it should be

borne in mind that this condition may be a direct consequence of the cardiac lesion.

The Treatment of Contractures of the Knee.—L. Heusner has applied to the knee joint the principle of tendon transplantation which proved itself so useful in other regions. The preponderating strength of the flexors of the thigh makes contractures of the knee, which are very intractable and often painful as well as disabling, comparatively frequent, and the author thinks that his operation offers the best hope of success in a large number of cases. The muscles that are available for this purpose are the biceps externally, and internally the gracilis, sartorius, semimembranosus, and semitendinosus. Of these the semimembranosus and sartorius are least suitable owing to anatomical reasons, but the others do not present great difficulties to transplantation. The incisions through which the tendons are dissected out should be made ample and carried halfway up the thigh in order that the structures to be freed may be thoroughly liberated from surrounding parts, after which they are subcutaneously to be drawn into another incision in the patellar region through which they are sutured to the quadriceps tendon. The cases operated on gave excellent functional results, the pain being relieved and deformity corrected, though the most scrupulous asepsis is necessary to avoid infection, which, if it occurs, is likely to cause sloughing of the transplanted sinews and jeopardize the success of the operation.

Berliner klinische Wochenschrift, May 27, 1901.

The Functional Significance of the Pyramidal Tract.—M. Rothmann says that the older view that the pyramidal tracts afford the medium of communication between the cortical centres and the spinal segments probably needs a certain amount of revision. Experiments on animals in whom the pyramidal decussation has been destroyed showed that there must be other means of connection between the upper and lower regions of the cerebro-spinal axis, for dogs so operated were able after two days to run about as usual, and though at first a moderate degree of weakness and ataxia was manifested this may have been due to unintentional additional injury to adjoining bundles and is quite imperceptible after two to three weeks have passed. While it is true that, particularly in the case of the pyramidal tracts, results obtained from animals cannot be unreservedly transferred to man, observations on monkeys and also on human hemiplegics leave little doubt that the pyramids are not the only carriers of voluntary impulses. In general it may be stated that so far we are unable to limit any function to the pyramidal tracts alone, and that for the motor function a number of other fibre-bundles come into consideration, but neither can we deny that the pyramids have an important share in this office. The progressive increase in size of this tract as we trace it through successively higher species seems to indicate the gradual assumption of power by the cortical over the inferior centres, and it is possible that in the course of development it will wrest from accessory bundles this function, as has already been the case with other of the phylogenetically older tracts.

Albuminuria and Casts in Artificial Coprostasis.—P. S. Wallerstein offers experimental proof of the older observation that simple constipation, if protracted for several days, can cause the appearance of both casts and albumin in the urine. By simply occluding the anus of rabbits the author was able to secure absolute constipation without any complicating by-effects, with the result that within twenty-four hours albumin and casts in small numbers began to appear, increasing from day to day, until finally the casts (hyaline, granular, and epithelial) were present in great abundance, as well as degenerated epithelium and red blood cells, and the animals died on the fourth day. In dogs, although casts appeared in moderate numbers after the second day, albumin could never be detected. The microscopical examination of the kidneys removed from such animals indicates that the epithelial cells of the uriniferous tubules are the seat of the cast production.

Münchener med. Wochenschrift, May 28, 1901.

Prolapse of the Female Urethra.—Glaevecke reports a case coming under his own observation and then discusses what is known about the affection in general. The prolapse of the urethra is an ectropion of the mucosa alone, which is separated from the submucosa, leaving the deeper parts undisturbed. The entire circumference of the canal, or only either the right or left wall, may be involved, and the site of relaxation may be either in the upper or lower third. In size great variations are met with, the tumor ranging from pea to hen's egg size, while the exposed mucosa may be simply hyperæmic, œdematous, cornified, or ulcerating and necrotic. The causes most often adduced, such as cystitis, vesical calculus, sexual excess, and masturbation, do not constitute the only etiology of the affection, which is most probably simply a local manifestation of a general relaxation of all the tissue, since it most frequently occurs in either children or senile individuals, the subjects of some debilitating condition, and is only exceptionally observed in those enjoying vigorous health. Acute prolapse, sequent on sudden exertion, has been described, but usually some long-standing form of strain is present, chronic constipation, chronic bronchitis, etc. The symptoms depend largely on the degree of mechanical insult to which the exposed mucosa is subjected, as well as on the obstruction to the flow of urine caused by the pressure of the little tumor, whereby difficult and painful micturition is produced. The diagnosis is easy if the base of what often appears like a vaginal polyp is accurately located and the meatus urinarius found, though this latter is frequently hidden deep in some fold of mucous membrane. The prognosis is good. Acute cases are often relieved by instrumental reposition, with or without the use of astringents, while in chronic prolapse ablation, followed by interrupted catgut suture of the ring-shaped wound, is more satisfactory than are the various plans of chemical or actual cauterization that have been described, and which, like Emmet's button-hole operation, often leave disagreeable sequelæ behind.

Agnathia and the Accompanying Lingual Conditions.—Kuse reports in detail on the pathological findings in five specimens of agnathial monsters forming part of the collection of the Pathological Institute of Göttingen. His results may be summarized as follows: (1) In four cases of human agnathia remnants of inferior maxilla, varying in size, were found, a confirmation of Winckel's observations. In the fifth case, that of a lamb, the jaw was entirely absent. (2) In two cases, in addition to the degeneration of the lower maxillary arch, the hyoid arch was also defective and there was a sacculated dilatation of the pharynx. This was also present in the lamb, though in this monster the hyoid arch was complete, an evidence of the independence of these two formations of each other. (3) The copula of the hyoid bone, as well as the greater cornua and the larynx, were well developed in all the cases. (4) Winckel's theory, referring the deformity to pressure through amniotic bands, does not seem tenable, for simultaneous pronounced anomalies of internal organs point to an early disturbance of the entire rudimentary organism. (5) In all instances in which the hyoid bone was well developed the lingual growth was also foreshadowed, the evidence tending to show that it was only the posterior segment that was present, while the anterior lingual body was not found. In those cases presenting a defective hyoid lingual structure was not indicated. (6) The thyroid may be normally developed in spite of serious malformations of the pharynx and hyoid.

The Edinburgh Medical Journal, June, 1901.

The Treatment of the Cough in Pulmonary Consumption.—Arthur Latham would first determine the direct cause of the cough, *i.e.*, whether it be from reflex irritation, especially from sources other than the air passages, without any need for expectoration; from accumulated fluid, or from other conditions such as catarrh of the pharynx, tracheitis, laryngitis, bronchitis, etc. The patient must be placed as far as possible under ideal conditions, and never subjected to any sudden change of temperature, or to any source of irritation, reflex or other. Drugs should not be given until all other measures have failed, and then never without considering the question whether in treating the symptom we are not aggravating the disease. The author gives a number of prescriptions to be applied in various conditions. The cough which occurs in the morning and is accompanied by expectoration is useful, and must never be checked by a sedative, but may be aided by a warm drink.

A Case of Acute Tuberculosis.—Noel Dean Bardswell reports the case of a boy aged sixteen years suffering from acute tuberculosis. He was admitted to a sanatorium, although in apparently a hopeless condition. For five months his improvement was slow; then it became more pronounced, and after eleven months the disease was apparently arrested in one lung and much improved in the other. He then returned to his home in the slums, and at the end of three weeks was readmitted to the sanatorium in a collapsed condition and died. The post-mortem gave proof of the great amount of arrest and repair which had taken place in the lungs, and was of interest as showing how much tuberculous material may be lying quiescent embedded in fibrous tissue, and give little or no indication of its presence.

On Enlargement of the Spleen in Cancer of the Liver.—C. O. Hawthorne reports several cases which go to prove that, although enlargement of the spleen is not to be expected with cancer of the liver, yet occasionally cancerous tumors may be present in the spleen as well as in the liver; that malignant disease in the left lobe of the liver may

counterfeit a splenic enlargement; and that similar appearances may be presented by a cancerous growth either in the wall of the stomach, or originating in connection with a malignant ulcer which has penetrated the gastric wall.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BIRMINGHAM INSTITUTE AND THE COLONIAL SECRETARY—ERASMUS WILSON LECTURES—INGLEBY LECTURE—CHOREA—TWO ANNUAL MEETINGS—OBITUARY.

LONDON, May 31, 1901.

THE Birmingham Consultation Institute is advertising for five specialists to take the place vacated by Dr. Irvine. Meantime the late consultant has been appointed an inspector of schools. This appointment led to a scene in the House of Commons, where attention was called to the fact that the general medical council had pronounced the charges against him proved, and ordered him to come up for judgment at the next session. The colonial secretary thereupon lost his temper, treated the matter as a personal attack on himself through his brother Arthur, denied that Dr. Irvine's conduct was under the consideration of the general medical council, and declared the charge against him was merely "breaking the rule of the professional trades union." It is a pity Mr. Chamberlain was not more accurately informed of the facts and thus saved from stating in the House the thing that is not. His brother Arthur knows well enough that Dr. Irvine's sentence was postponed to give him the opportunity of reconsidering his position in connection with Arthur's scheme of setting up a cheap consultation shop. It is quite possible the council may not excuse Dr. Irvine from appearing because he has been somehow pitched into an office under government. There are plenty of people who look upon this appointment as a piece of gross jobbery, and it looks "fishy," as others say. They think Arthur's recent lawsuit did not shed a very brilliant light on his doings, and regret that Joseph should have put another weapon into the hands of his enemies. He was not bound to mix himself up with Arthur's folly.

Sir W. Foster followed the colonial secretary and declined to treat the matter as a personal one, and declared it was a public scandal to appoint any one to a distinguished position in the public service while he was under remand by the judicial statutory body appointed to regulate his professional conduct. He was much interrupted by the excited House, which, though it loves a scene, was impatient, for it was just the dinner hour. Sir J. Goust declared in the usual way that the president had appointed the most fit person. Mr. Balfour closed the discussion, and the dinner hour was saved.

It remains now to be seen whether the medical council has dignity enough to resent the snub administered to it by the education department and endorsed by the government.

The Erasmus Wilson lectures at the Royal College of Surgeons were concluded on the 22d inst. The lecturer this year was Mr. Walter Edmunds; his subject, "The Pathology and Diseases of the Thyroid Gland." It is only ten years since Mr. James Berry lectured on goitre at the same college, his Hunterian course for 1891 being on the pathology and surgical treatment of that disease. But these ten years have seen considerable advances in our knowledge of the thyroid and its diseases, so that Mr. Edmunds had much to say that is to some extent new. The effects in animals of excision of the thyroid, with and without the parathyroids, and of the removal of a lobe or part of the thyroid proper, were first described, and Mr. Edmunds was able to confirm the results of previous observers. With respect to the condition of the eyes in dogs from which the thyroid had been removed, he only noticed a change in one. After some months the eyes seemed sunken and the palpebral fissures narrower. Experiments on rabbits to test this point proved there was a marked tendency to this narrowing, and if the animals eventually died from thyroid symptoms the eyes became very narrow. Further experiments were made to determine the effects of removing the parathyroids in dogs, rabbits, and monkeys. The general result as to the eyes appeared to be that excision of the thyroid and the parathyroids was followed by enophthalmos with narrowing of the palpebral fissures. Total removal of the parathyroids seemed to produce the same; so did excision of the thyroid proper, when it gave rise to symptoms. But some operations not fatal at the time, especially those in which the parathyroids were interfered with, were followed by exophthalmos with widening of the palpebral fissures. The same operation might be followed first by widening and later narrowing, but Mr. Edmunds had never met with the reverse—at least not as a permanency. These eye changes seem to support the suspicion that the parathyroids are involved in the pathology of Graves' disease. Interference with the innervation of the thyroid was next considered, and then the result of excess of the gland in the system which may be produced theoretically, either by grafting or by the administration of the gland. Grafting seems unsatisfactory, and no physiological conclusions can be drawn from experiments at present recorded, but the results of thyroid feeding have been carefully investigated, and the lecturer gave details of its effects on animals.

In the third lecture, concluding the course, Mr. Edmunds dealt with Graves' disease and the operative methods by which it has been treated. Incidentally he considered the occurrence of sudden death, which has sometimes immediately, or within a day or two, followed operations. Whatever the explanation, he thought these cases need not turn us wholly from the idea of operating. After full consideration of the fatal cases recorded, he concluded, in fact, that the lesson to be learned from them is not that operations should not be performed, but that they should be performed earlier.

Dr. W. J. Smyly went to Birmingham and delivered at the new university, on the 14th inst., the Ingleby lecture. He took for his subject "The Lower Uterine Segment and the Contraction Ring," thus launching himself on the troubled waters of two debatable questions, viz., What is that segment? What is that ring? Yet he made no attempt to grapple with them from an anatomical or physiological standpoint, but treated the subject from that of the practitioner; and none is more competent in that respect than the ex-master of the Rotunda. The nearest approach he made to a definition of the segment was to quote Bayer's words: "A portion of the uterus which before parturition resembles the body and after it the cervix." The lower segment is most frequently involved in rupture, and plays an important part in all cases of placenta prævia and prolapse of the funis, so that apart from the part it takes in strictly normal labor it deserves careful study. Dr. Smyly dealt with all these, and concluded that his task would be accomplished if he convinced his hearers of the importance of the lower segment and the contraction ring, and impressed them with the serious dangers of neglecting them.

Dr. L. Guthrie lately read a paper at the Medical Society on chorea, which he divided into sthenic and asthenic forms, with subvarieties and mixed forms. Some interesting facts were related and useful suggestions made. Fright, he said, was only another name for shock. The results are the same whether shock be physical or mental. The symptoms of chorea suggested a history of fright; those of articular rheumatism, exposure to bad weather; but he held that, if such connection were established, a history of fright in rheumatic fever and of chill in chorea would be equally forthcoming; but shock alone he regarded as only one of several factors. After a description of the several forms he came to treatment, on which two points call for remark. First he condemned the practice of pushing arsenic until constitutional symptoms are produced, as mischievous, useless, and unjustifiable. Many have been made extremely ill by this plan. Arsenic, he said, was no specific in poisonous doses, and he pointed out its dangers. But though opposed to its routine use in heroic doses, he found it useful in moderate amount in mild cases. This opinion will be widely indorsed. But the other point to which I have referred will surely excite more protests than were put forth at the meeting. This relates to alcohol. In asthenic chorea the treatment recommended by Dr. Guthrie he called recuperative and stimulant. In severe cases, he said, absolute rest in bed is essential with abundant nutritious diet. So far most will agree with him, but he went on to say "brandy should be freely given." Considering the patients are children, and the change in the convictions of the profession as to the use of alcohol which the last few years have witnessed, this is sufficiently startling. But Dr. Guthrie added that "four to six ounces in twenty-four hours are not too much for a child eight to ten years of age." He added that it is necessary to reduce the amount when improvement begins, "otherwise a low state of semi-stupor" occurs. Would you consider it too harsh a criticism to describe such treatment in plain language—as making children drunk? One speaker at the meeting asked whether such large doses of brandy would not be detrimental in other ways to the children, even if they did good in the disease. But he received no satisfactory assurances. How could he? The other speakers gave this point the go-by and directed their remarks to the other suggestions as to treatment contained in the paper, which were certainly more in accordance with modern views.

The annual oration of the Medical Society was delivered on the 20th by Mr. Richardson Cross, of Bristol. He devoted it to "Some Landmarks in the Progress of Medical Science." Naturally such a retrospect opened with a reference to the close of the Victorian era, the longest and most remarkable reign in our history, and a tribute to the late Queen, whose influence had always been directed to purify the life of the nation. Then the orator passed in review certain landmarks selected from the history of medicine, beginning with a reference to the early Egyptians and Babylonians, but rapidly passing on to Hippocrates and the Greeks. He mentioned the Jews, whose guiding principle he thought to be cleanliness. Greece was the motherland of rational medicine, and from Hippocrates to Harvey alone commended attention. Aristotle founded a school of anatomy at Alexandria, the focus of the intellectual life of the world. His plans and classification were copied two thousand years afterward by Cuvier. Galen (A.D. 131 to 202) was a Greek, but went to Rome, and subsequent Greek and Roman authors were mainly compilers from his writings. The orator mentioned other landmarks in the following centuries down to our own times. A vote of thanks was accorded by acclamation, and the meeting resolved itself into the *conversazione*.

The annual meeting of the Clinical Society was held on Friday last. The report was adopted and some changes were made in the rules. The president elected for the ensuing year is Mr. Howard Marsh.

Dr. J. D. Williams, gynæcologist to Cardiff Infirmary, died on the 21st inst. of typhoid fever, contracted during a continental holiday. He was only thirty-seven years old, but had achieved a very high reputation and is deeply lamented.

Dr. Robert Watkins, J.P., of Towcester, died on the 20th, aged seventy-eight years. His brother Edwin, also a doctor and retired naval surgeon, preceded him in death by a month.

LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

DEATHS FROM CHLOROFORM—THE NEW SOUTH WALES REPORT ON THE PLAGUE.

AUCKLAND, May 6, 1901.

DEATHS from chloroform have been rather frequent here—that is, in New Zealand—of late. We had two last week. Inquests are of course held on all these cases, and the evidence is always of the same character—that every possible precaution was used, and that no skill, care, or attention would have prevented the fatal issue. It is rather curious that, during more than a quarter of a century that I have been practising in this colony, there has never been a single death from anæsthetics that could in any way be attributed to the ignorance or negligence of the anæsthetist! Considering that Lord Lister says that the majority of deaths from anæsthetics are caused by maladministration, this is rather remarkable.

A case occurred here last week, in which the post-mortem revealed a heart weighing fifteen ounces, dilatation, and fatty degeneration of the right side alone—there was no microscopical examination—and sudden death shortly after anæsthesia was produced. This inquest will be notable throughout the colony on account of the verdict, which was death "from misadventure." This reminds me of the stories of the pioneer days in your Western States, when a gentleman found dead on the side path with three or four bullets in him was declared by the coroner's jury to have "died from accidental lead poisoning."

But the most amazing part of the evidence was that of the gentleman who made the post-mortem, and who declared on oath that it would have been impossible to detect the existence of any disease before death, and that even if he had known the state of the heart he should not have hesitated to give chloroform! Comment is needless.

I have just received from the chief medical officer of the state of New South Wales a copy of the official report on the outbreak of bubonic plague which occurred there last year. The report is a most valuable and interesting one, a perfect model of an official report, without, I believe, one superfluous sentence in it. It contains a number of appendices, with much valuable information in them, and a number of diagrams and maps of Sydney and the suburbs drawn to a scale of four inches to the mile. These maps are beautifully executed, and do the greatest credit to the government printing-office in Sydney. They show by colored dots the exact locality where every one of the three hundred and three cases which constituted the epidemic occurred. The centre and business part of Sydney (the capital of the state) is situated near the water-side, and consists of irregular narrow streets and courts built after the fashion of the old European towns. All modern colonial towns are laid out on the American plan. It was in this old centre that the disease originated, and to it the greater part of the patients belonged either by occupation or residence. Only one defect I see on a hasty perusal of this report, and that is that we have no information as to the previous habits or health of the plague patients. I suppose the tyranny of a democracy would not allow the truth to be told, but I strongly suspect that it would be found that the vast majority of the patients were either of drunken habits or the children of drunkards. Many of the laboring class in Sydney are very heavy drinkers and eat enormous quantities of meat.

The following are the conclusions formulated in Dr. Ashburton Thompson's report: "(1) That the disease was not directly communicated from the sick to the well—in other words, was not 'catching.' (2) It was not communicated, in any important degree, at all events, from the sick to the well by mediate channels (clothes, household goods, merchandise, excreta). (3) The infection attached to localities, and spread to others adjoining and continuous with that in which it was first manifested. (4) It also spread in a fashion which betokens the possibility of its being transported mechanically from an existent focus to a considerable distance, and then initiating an independent focus. (5) In the buildings on any infected localities cases occurred irregularly, and showed no special proneness to occur in adjoining houses. (6) When the occurrence of one case among the inhabitants of a building showed that the infection was present in it, secondary cases rarely followed. Irregularity of incidence on houses was accompanied with irregularity of incidence on the inmates. (7) An epizoötic disease among rats preceded the first case which occurred in man. (8) This epizoötic disease was plague. (9) The area over which the epizoötic extended was practically co-extensive with that on which cases of plague in man were observed. (10) The epizoötic died out, as far as can be learned, at the same time as the epidemic ceased. (11) The epidemic was caused by communication of the infection from rats to man" (Report, p. 41).

Of course these conclusions apply only to Sydney and to the late epidemic. It is difficult to reconcile No. 2, for instance, with the universal fear, wherever plague is frequent or endemic, of touching anything that has belonged to the sick.

SPLASHING SOUND AND ATONY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue for May 25 I find the extract of an article from the *Berliner klin. Wochenschr.*, 1900, No 16, by Hans Elsner, Plätschergeräusch und Atonie (Splashing Sound and Atony), which extract gives an interpretation which is exactly the opposite of what the author of the original has said.

Elsner enumerates under which conditions the presence of the splashing found may be of pathognostic significance; he says that all authors unanimously are of the opinion that the topographic extent of the splashing sound may, under certain circumstances, be of value to judge the size and the position of the stomach, and again, "by establishing the extent of the splashing sound we are enabled to know approximately the position and anomalies of size of the stomach without being obliged to introduce a sound or to inflate the organ." He repeats again: "In regard to this point there exists no difference of opinion among the authors." At the conclusion of the article he emphasizes and has printed in large type: "Das Plätschergeräusch ist das constanteste Element der Enteroptose" (The splashing sound is the most constant element of enteroptosia).

In the extract in the MEDICAL RECORD we read: "H. Elsner is inclined to deprecate the value of this sign," but worse of all is that Elsner is represented as having said, "In gastroptosis absolutely no value attaches to the sign."

This extract reminds me of the reports which the medical journals brought of a paper which I had read before the American Gastro-Enterological Association on Atonia Gastrica; none of those journals gave a conception of the ideas I had presented.

A. ROSE.

NEW YORK.

[The abstract which our correspondent criticises conveys with absolute fidelity the meaning of the author. "H. Elsner is inclined to deprecate the value of this sign as an indication of gastric atony," for he says: "Es geht ferner aus unseren Fällen hervor, dass die Beziehungen zwischen Plätschergeräusch und motorischer Magenfunction nur sehr lockere sein können"; also, "Diese Fälle sprechen direkt gegen einen Zusammenhang von Plätschergeräusch und Atonie"; and, again, "Mit dem Tonus der Magenmuskulatur hat das Plätschergeräusch wenig oder gar nichts zu

thun." "Elsner is represented to have said, 'in gastroptosis absolutely no value attaches to the sign,'" because he said: "Bei Gastroptose hat das Plätschergeräusch niemals irgend welchen diagnostischen Werth." It would be interesting to learn how our esteemed correspondent would render these passages.—ED.]

A STRANGE REQUEST.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Physicians are constantly meeting with curious cases, but the following is certainly a new one:

About 10 A.M. a young man called at my office and asked if I would inject a fluid (which he had in his pocket) into his bladder, at precisely one o'clock. He said he had some prostatic trouble and his doctor had given him the solution. He claimed to have just arrived in New York City. I refused, and asked him what the solution was, and he said it was a solution of glucose, but refused to say why he wanted it injected, stating that that was a private matter.

As an insurance examiner, glucose in the bladder is especially objectionable to me, so I advised the gentleman to be content without filling his bladder with glucose and showed him the door. Can you solve this mystery? If any one meets this man I would be obliged if he would let me hear from him. WILLIAM MOORE, M.D.

320 BROADWAY, NEW YORK.

THE TRANSPORTATION OF MOSQUITOS IN BAGGAGE—A POSSIBLE EXPLANATION OF SOME EPIDEMICS OF OBSCURE ORIGIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Concerning the part played by the mosquito in the transmission of malarial fever and yellow fever, the following extract from a letter recently received is interesting and throws a side light on what sceptics call the difficulties of the doctrine. The writer of this letter (Dr. L. S. Harvey, U.S.A.) is a very intelligent, well-informed observer, and, I believe, entirely trustworthy:

"In regard to the possible carrying of infected mosquitos in baggage I had an experience last fall, which, while perhaps frequently observed, may be of interest at this time. A chest packed by me was left open for many days prior to my leaving Baracoa, in a room where there were many Culex mosquitos. The chest was closed, covered with a tightly fitting canvas cover and roped, and was not opened until my arrival in Washington some sixteen or seventeen days later. When the chest was opened, I distinctly saw at least three mosquitos of the well-known Baracoa variety fly out of the trunk. This may be a common experience, but since the mosquito theory has been promulgated, I have frequently thought how easy it would be to account for the outbreak of yellow fever at Fort Monroe by just such an experience as mine."

This observation is particularly interesting to those of us who have followed Major Reed's experiments in Havana and have become convinced that the mosquito, or rather one species of mosquito, is the usual and probably the only transmitter of yellow fever, at least in Cuba. It explains the breaking out of this disease in places not known to have been infected, and those rare cases occurring at points far removed from foci and attributed to tainted clothing or other fomites.

This observation also invites attention to our own experience of the physical endurance and resistance of mosquitos, especially in tropical or semi-tropical regions where they exhibit a nimbleness, swiftness, and longevity unknown in more northern climes. Thus, who has not slapped a mosquito with such force as to break one or more of its legs and bruise the abdomen, and, on lifting hand or finger, has not been surprised, and not a little provoked, to see the insect wriggle off and fly away? If, while a trunk is being packed and left open for that purpose, mosquitos light in it, it is not unlikely they may become caught between the folds or layers of clothing, and I doubt very much whether the usual amount of pressure put upon the contents of a trunk, when closing it, will destroy those which have found refuge in the many spaces existing in corners, inside the trays, or between garments.

It then clearly behooves all who live in or near foci of yellow fever, malarial fever, or filariasis to exercise some caution in packing trunks, chests, and boxes, so that the existence of these diseases may not constitute a sufficient reason for the continuation of the very troublesome and more or less destructive process of steam and formaldehyde disinfection. VALERY HAVARD, M.D.,
Surgeon U. S. Army.

HAVANA, June 10, 1901.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-sixth Annual Meeting, Held in Chicago, May 30, 31, and June 1, 1901.

THE society met in the Assembly Hall of the Fine Arts Building, under the presidency of Dr. Ely Van de Warker, of Syracuse, N. Y.

An address of welcome was delivered by Dr. Fernand Henrotin, of Chicago, which was responded to by the president.

Intraligamentous Cysts; their Diagnosis and Treatment, was the title of a paper by DR. CHAUNCEY D. PALMER, of Cincinnati, Ohio. This paper had special reference to the diagnosis and treatment of these tumors. Dr. Palmer spoke first of the classification of ovarian tumors in our text-books as being unsatisfactory. What was needed, he said, was a classification that was helpful in the way of diagnosis and treatment. He then spoke of oöphoritic, paroöphoritic, and parovarian cysts. The oöphoritic cysts were the hydrops folliculorum, and the unilocular and multilocular cysts. The oöphoritic had a Graafian follicular origin, and were not papillomatous, except very rarely. The paroöphoritic cysts started from the hilum of the ovary, and were papillomatous. All kinds of cysts, whether oöphoritic, paroöphoritic, or parovarian, might grow into the folds of the broad ligament and become intraligamentous. The paroöphoritic cyst was most apt to take on this special course of movement in its progressive development. The speaker then referred to the symptoms and signs before removal, which would enable the operator to differentiate intraligamentous cysts. All ovarian cysts of whatever kind, he said, should be removed by surgical procedures, the sooner the better. But the removal of intraligamentous cysts demanded the most correct knowledge of the parts and surroundings and superior skill. Intraligamentous cysts were, as a rule, easily peeled out of the broad ligaments. Enucleation, first suggested by Dr. Mynter, of Buffalo, could be done, but it ought to be attempted only when the attachments were superficial. Dr. Palmer referred to the danger of wounding the ureters or the uterine arteries, and earnestly advocated the advisability of completely excising the uterus as well as the appendages, when the cysts were bilateral and when they were deeply embedded within the surrounding textures. He spoke highly of irrigation of the peritoneal cavity with gallons of hot salt water after section, and also of a continuous peritoneal irrigation with hot sterilized water, used for hours or days, in many cases of post-operative septic peritonitis.

Improved Technique in the Surgical Treatment of Uterine Myomata.—By DR. WILLIAM H. WATHEN, of Louisville, Ky. The perfection of technique in operations for the removal of uterine or pelvic myomata, the speaker said, was the result of the application in these operations of the variety of details suggested and practised by different surgeons, and operators no longer spoke of hysterectomy as an operation peculiar to any one, nor could they in many instances outline in advance the complete technique to be observed in an operation. The dangers during the operation were hemorrhage and injury to the bladder, ureters, or intestines, and if the surgeon was prepared to avoid these, and operate rapidly, there was hardly a condition that might not be successfully treated. Unless there was some contraindication, myomata not larger than a fœtal head might be easily removed per vaginam, and with the use of well-constructed forceps no successful operator would wound the bladder, the

intestines, or the ureter. Experience would aid in the selection of cases suitable for the vaginal method. The conditions most favorable for the vaginal method were a large pelvis, a large and easily dilated vagina, and a soft variety of tumor that could be easily morcellated. The author emphasized the value of well-constructed forceps in both the vaginal and suprapubic methods as a means of speedily and successfully completing the operation, and urged that, with few exceptions, no ligatures should be applied until the tumors were removed.

Painful Menstruation as a Factor in Determining the Character of Operations on the Uterine Appendages.—Dr. Philander A. Harris, of Paterson, N. J., divided dysmenorrhœa into primary, and acquired or secondary. The primary form included all cases in which dysmenorrhœa dated from the commencement of the menstrual function. Acquired or secondary dysmenorrhœa was not present at the onset of menstruation, but came into existence in the course of menstrual life, menstruation having been previously painless. Extra-uterine suppurations so commonly resulting from gonorrhœal infection of the uterus, and from the ordinary infections of childbirth and abortion, were of such frequent occurrence as quite to overshadow in importance all other causes of acquired dysmenorrhœa. Not all cases of suppuration in the uterus or tubes, however, caused painful menstruation. In a small percentage of such cases, even in the presence of extensive and long-continued suppuration, menstruation was painless. Tubal suppurations might, and usually did, cause painful menstruation before the development of ovarian abscess. This was proven by the fact that surgeons often had exsected both suppurated tubes, at the same time leaving both ovaries which appeared healthy, with the arrest of all pelvic pains and restoration to health, including a cure of the dysmenorrhœa. Ovarian abscess frequently developed from tubal suppuration, with the effect of increasing, modifying, or localizing not only intermenstrual pains, but also the pains of menstruation. Pronounced and persistent primary dysmenorrhœa would probably not be cured by the simple excision of diseased tubes, unless, as in certain rare instances, it was due to gonorrhœal infection prior to the beginning of menstruation, in which even it would be curable by excision of the tubes, vaginal incision, and drainage, or by the removal of the pyogenic sacs in the ovaries. By excision of a tube was meant its removal to the uterine mucosa by making an elliptical incision in the uterus about the tube and closing the chasm with sutures. In a very small percentage of cases of painful menstruation, the dysmenorrhœa was really a pelvic neuralgia, occurring at the menstrual period, with just enough coincident tenderness and pain over the sciatic or other nerve trunks to direct attention to its real character. Menstrual pelvic neuralgia was probably seldom complained of until menstruation was established, and should, therefore, be entered in the group of cases of acquired dysmenorrhœa. The author could not say that he had ever removed either one or both ovaries for the single purpose of curing dysmenorrhœa. He had excised ovaries which he felt were undergoing serious non-suppurating structural changes without reference to a previous dysmenorrhœa. In more doubtful cases, and in the absence of tubal suppurations, he would regard painful menstruation as a result of the suspected ovarian degeneration, and on that account would excise an ovary which possibly would have been allowed to remain, had the history shown an absence of ovarian pain or of dysmenorrhœa. In exsecting suppurating tubes, he believed that we should spare the apparently healthy ovaries in all cases of acquired dysmenorrhœa, for in such cases the function of menstruation was retained, which contributed so much to the moral and physical well-being of woman. If less radical measures of operation on the tubes than their excision could be relied on to terminate extra-uterine suppuration, then he would substitute such operations for the more mutilating excisions.

Status of Menstruation.—Dr. E. C. Gehrung, of St. Louis, Mo., said that menstruation was not, as had been supposed, a special function of the generative organs of woman, but only the perverted counterpart of the œstruation of the lower animals. This transformation into a monthly "hemorrhage" (menorrhagia) had generally been brought about by the necessities and results of the social, moral, and connubial life of mankind, as well as by the transmission by inheritance of certain debilities of the generative apparatus, and more especially by the erect position and its natural consequences. This fact being admitted, the profuseness and prolongation of the sanguineous loss were a proof that it was now a physiologico-pathological condition, predisposing to anæmia and disturbances of the nervous system. In the great majority of cases the quantity of blood lost during so-called normal menstruation was an unnecessary and, therefore, pathological waste of the very essence of life. It stood to reason that in all cases of depressed vitality this loss should be reduced as much as possible. The best means for controlling the waste was the vaginal (not uterine) tampon, applied *secundum artem*. Whenever curettage was not indicated or applicable, and when it had failed in producing the desired result, the tampon was the means indicated. Chronic and acute inflammations of the pelvic organs were contraindications. Unless the waste was restricted, tonics were useless because they simply increased the pressure and consequently the waste; but if given after the repression or simultaneously with it, they seemed to work wonders. The superstitions surrounding menstruation, as well as the misunderstanding of its true character by the medical profession as well as by the public, had caused a world of trouble and suffering by the neglect of the necessary advice and treatment.

The Age of First Menstruation in the United States.—Dr. G. J. Engelmann, of Boston, Mass., read a paper on this subject. The period of pubertal development, he stated, was an important epoch in girl-life, as the crest of one of the three great waves of functional activity, during which susceptibility to morbid influences was at its highest; much of woman's functional irregularity and suffering was due to neglect at this time; hence the pubertal period claimed the attention of the physician as a promising field for preventive gynæcology. To the physiologist and ethnologist the age of first menstruation in the United States, but little studied as yet, was of interest, as the extent of territory, with its variety of climate and the many races presented, offered exceptional advantages for the solution of still open problems as to the causes which influenced pubertal development, and which hastened or retarded the appearance of the menstrual flow. Over ten thousand observations as to the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, gave him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, were many, and the identity of results obtained in far distant points, Montreal and New Orleans, St. Louis, Cincinnati, and Boston, vouched for their correctness. Furthermore, they were corroborated by all previous records, a total of six thousand, in such points as these might cover. The mean age of first menstruation in this country was 13.9, or 14 years, the same in the United States and Canada. Climatic differences in no wise influenced pubertal de-

velopment within the bounds of the North American continent; the American-born, be they of American (14.1), German (14.5), Irish (14.5), or French (13.6) parentage of the same class, attained puberty at the same age in Montreal, St. Louis, or Boston; the negro did not vary (14.05), whether in New Orleans or St. Louis. The greatest variation caused by the extremes of all influences was one year, from 13.5 in the girl of highest refinement and education to 14.5, which was the period for the American-born of the laboring classes, of German and Irish parentage; in other countries the difference between the extremes of social classes was from two to three years. Refinement, education, city life, nerve stimulation, determined precocious puberty; ignorance, poverty, and manual labor retarded; social status in itself meant very little; heredity and race had a slight determining influence. The American-born were more precocious than the women of other countries in the same zone; 14 was the age of puberty in the United States and Canada; 15.5 in the temperate zone of Europe. The native American was more precocious than the American-born of foreign parents, but the latter closely approximated the American of American parentage, even in the first generation. Racial characteristics faded rapidly away; the age of puberty in Germany was 15.5 to 16, in Ireland 15.3, and for the girl born in America of German or Irish parentage 14.5, in St. Louis as in Montreal. The Canadian-French were the only exception; the age of puberty was between 14 and 15 in their native land, and these alone of all races were more precocious than the American of the same class when born in this country; 13.7 was the mean age. Climate here had absolutely no influence; race very little; mentality, surroundings, education, and nerve stimulation stood out prominently in this country as the factors which determined precocity.

Cancer of the Uterine Fundus.—A paper with this title was read by DR. J. M. BALDY, of Philadelphia, who stated that carcinoma in any part of the body was so well known for its virulence that there could be no surprise at the results of this disease recently reported from so many sources, when the uterus had been the organ attacked. It must be admitted that carcinomata of the same variety were intrinsically much the same as far as the disease itself was concerned, but the location of the disease rendered the practical aspect of the case widely different; and of all portions of the body in which it was safest for cancer to occur—if the word safe could be used in this connection at all—the fundus uteri was that portion. It was with the object of calling the attention of the profession to, and emphasizing as emphatically as possible, the wide practical difference between cancer of the cervix and cancer of the fundus, that this paper was presented. It had been said that practically all patients with cancer of the cervix eventually died of the disease; that practically all with cancers of the fundus remained well if operated upon. This statement was more generally true than one would suppose at first glance. It had been his own experience and that of other surgeons. Less than five per cent. of patients with cancer of the cervix were cured, no matter what line of treatment was followed. Twenty-four cases of cancer of the fundus had passed through his hands, a fairly large experience for one man. Of these, three were either too far advanced for operation or refused operative treatment. In the remaining twenty-one cases hysterectomy was performed by the vaginal method, the abdominal method, or the combined vagino-abdominal method. Two of the twenty-one patients died of the operation. Of the nineteen remaining patients, all were alive and well to-day, with two exceptions. One of these died of pneumonia seven years after operation. It was strongly suspected from the reports that the other one had recurrence. Making all allowances for mistakes and the general unreliability of statistics, the fact stood out strongly that about seventy-five per cent. of these patients were well and free from signs of cancer, as against five per cent. or less of cancer of the cervix.

The Status of Hysterectomy for Uterine Cancer.—By DR. CYRUS A. KIRKLEY, of Toledo, Ohio. The paper was a plea for conservatism in the surgical treatment of uterine cancer, and contrasted its pathology and treatment of half a century ago with that of the present. While we had a revised nomenclature as to the varieties of uterine cancer, actual knowledge of the disease had not materially advanced. Old truths might have been made a little clearer as to its pathology, but its etiology was still unknown, and notwithstanding the advantages of asepsis and perfect operative technique, its treatment was still unsatisfactory. Due credit was given the advocates of vaginal hysterectomy for their skill and for whatever pathological fascination had made it too general; but it was maintained that the proper indications for it were too often disregarded and as often misunderstood. Instances were given pointing out this truth. With these discordant views as to the propriety of so serious an operation, the primary mortality of which was at least ten per cent., we might well hesitate in its adoption. The operation should be done at the early stage, when microscopical examination was necessary for a correct diagnosis. Most cases had passed the limits of a radical operation when the surgeon's aid was invoked. The paper took the view that adeno-carcinoma of the body of the uterus in its early stage, while yet localized, was the only form of cancer clearly indicating vaginal hysterectomy. Hysterectomy gave the best results in this variety of cancer. Dr. Cullen's and other tables were quoted showing average primary and remote results, but little was found in them to recommend vaginal hysterectomy as a general rule of practise. The paper then discussed the Rumpf-Ries-Clark operation, in which Dr. Pryor had reported in a total of ninety-eight cases by different operators a primary mortality of 11.2 per cent. When the disease had extended so far as to require it, little could be expected from any radical operation, because in most cases it was impossible to know whether all the diseased glands and infiltrated tissue had been removed. From the paper's viewpoint, the only indication for abdominal hysterectomy for cancer was when the disease was strictly confined to the cervix and body, or to the body alone. Electro-cauterization, as practised by Dr. Byrne, was given the preference over all the other methods of operating. It had not received the recognition it deserved. Dr. Byrne's skill in its application could be acquired only as in other operations. Freedom from danger and longer period of exemption were its strongest recommendations. An old table published by Dr. Byrne in 1889 was referred to, so that in comparison vaginal hysterectomy might have the advantage. In a total of three hundred and sixty-seven cases, there was not a single death from the operation. The position held by our fathers fifty years ago, that hysterectomy for cancer had its narrow limitations, that it should be done early if at all, and that only temporary relief could be hoped for, was just as true to-day. The parasitic theory of cancer might yet evolve something. One or two investigators were already agreed that they had found the parasite. The antitoxin of diphtheria was unknown a few years ago. Ovarian pregnancy, once generally considered impossible, had now been quite conclusively proven, and might we not as reasonably hope for a cure for cancer based upon the parasitic theory of its origin? Personally, the author was almost convinced of its truth, and had confidence that bacteriology would at least

point out the rational treatment for this terrible and incurable malady.

Prolapse and Procidentia of the Uterus.—By Dr. Henry T. Byford, of Chicago. Dr. Byford held that the essential feature of prolapse was the want of supporting-power of the pelvic connective tissue. To suture the uterus to the abdominal walls was to support the pelvic connective tissue by means of the uterus, and was wrong and inefficient. The best and most rational method was to draw up and attach the periuterine tissue and thus keep the uterus up by means of its natural supports. In addition to the ordinary operations for lacerations and relaxation at the vaginal outlet, the following method was proposed: First, the round ligaments were shortened intraperitoneally, making one large loop of each ligament, and then the loop was stitched to the parietal peritoneum a little above, and internal to, the internal inguinal ring, which was plainly marked by the entrance of the ligament. The uterus was now held in a nearly normal position, and the relationship of the other ligaments, as well as the effect of the work done upon them and upon the position of the uterus, could be gauged at every step. Second, the infundibulo-pelvic edges of the broad ligaments were sutured forward to the parietal peritoneum, external to the internal inguinal rings, as high as they could be drawn without much resistance. Then any available relaxed part of the broad ligament was sutured forward over or beside the round-ligament loops. Third, a suture was put through the base of each round ligament at its junction with the uterus, and it was sutured to the peritoneum over and beside the bladder. Fourth, the sacro-uterine ligaments were examined. If the peritoneum corresponding to their location was not drawn up and made somewhat taut by the new position of the uterus, or if the cervix sagged far forward toward the vaginal entrance, a short fold or tuck was made in it and it was sutured to the broad ligament beside the cervix, and perhaps lightly to the edge of the cervix, getting as broad a peritoneal apposition as possible. Fifth, the remains of the urachus were searched for at the lower end of the abdominal incision. A slit in the peritoneum was started an inch above the lower angle, and half an inch on either side, and extended downward and outward to the bladder wall. A transverse incision was made on either side, uniting the upper end of the slits to the abdominal incision. The peritoneum was separated between these slits, including as much connective tissue as possible, from the underlying fascia, and there would be formed a partly divided flap of connective tissue and peritoneum with the urachus near its centre. This was folded or twisted loosely into a sort of cord and attached to the rectus fascia at the edge of the incision, and high enough up to draw the bladder and anterior peritoneal wall well up. This suspended the bladder somewhat after the manner described by Dawson (*British Medical Journal*, July, 1898). The external sutures should catch hold of the newly formed vesical cord, or artificial urachus, and the lower one might even engage a few fibres of the vesical wall.

Panhysterokolpectomy, a New Prolapsus Operation, was the title of a paper read by Dr. George M. Edebohls, of New York. The very multiplicity of operations heretofore proposed for the cure of complete prolapsus of the uterus and vagina, he stated, was proof, if such were needed, that no operator of larger or longer experience was entirely and absolutely satisfied with the results of all his prolapsus operations. There was room, in the treatment of complete prolapse of the uterus and vagina, for an operation which, properly and successfully performed, would guarantee a certain and permanent cure of the prolapse. Such an operation was panhysterokolpectomy, the essentials of which consisted in complete removal of the uterus and vagina, followed by operative obliteration or columnization of the bed of the genital tract. The tubes and ovaries were not disturbed if they were healthy; if diseased, they were removed with the uterus and vagina. Obliteration and columnization of the bed of the removed uterus and vagina were effected by means of from seven to nine buried pursing sutures of chromicized catgut placed about 2 to 2.5 cm. apart, and running parallel to each other. Each suture gathered the raw surfaces from the periphery in circular fashion, and drew or pursed them together in the median line. It was buried by being pushed upward toward the abdomen, while the next suture was being tied beneath it. The effect of the completed operation was to build a solid pelvic floor 10 to 15 cm. in depth, and to establish broad apposition of the base of the bladder and the anterior surface of the rectum—conditions similar to those obtaining in the male pelvis. The patient was kept in bed for a week after operation. Recurrence of the prolapse was impossible after a correctly and successfully performed panhysterokolpectomy. The operation was indicated in the severest cases of total prolapse, and more especially when other operative procedures had been tried and failed. The interference with further marital relations must be explained, and accepted by the patient prior to operation. In the case of a married woman, the husband must also be consulted. Four patients had thus far been operated upon in this way by the author, all with perfectly satisfactory results.

Pus in Abdominal Operations.—By Dr. Hunter Robb, of Cleveland. As a result of the author's observations during the past seven years, he had become convinced that operators not infrequently erred in carrying out radical abdominal procedures when the patient's resistance was in such a lowered condition that she was very apt to succumb to the shock of the operation *per se*. Such a condition must always be given careful consideration in the decision for or against operative interference during an acute attack of a localized or more or less generalized pelvic peritonitis. Believing that this factor had a very important significance in influencing results, the speaker had made it a rule during the acute stage of a pelvic abscess to defer an operation as long as it seemed safe to do so. In the mean while, the patient was kept perfectly quiet on her back in bed, and heat in the form of flaxseed poultices or turpentine stupes was applied to the abdomen. In addition, a vaginal douche of a gallon of a warm one-per-cent. solution of carbolic acid, or a saturated boric-acid solution, was given twice daily. For nourishing the patient he depended upon nutritive injections entirely. Anodynes and heart stimulants were given if necessary. The micro-organisms that were most frequently met with in cases of suppurative disease of the tubes and ovaries were the staphylococcus pyogenes aureus, the streptococcus pyogenes, the gonococcus, and the colon bacillus. Other forms were occasionally met with, such as the tubercle bacillus and the proteus Zenkeri. After briefly discussing drainage in pus cases, the author gave the clinical and bacteriological analyses of seventy-two consecutive, unselected abdominal sections for suppurative diseases of the tubes and ovaries, with two deaths.

Removal of the Female Urinary Bladder for Malignant Disease.—A paper with this title was read by Dr. Matthew D. Mann, of Buffalo, N. Y., who stated that the operation for removal of the bladder had not received enough attention in this country, there being very few cases on record. Cancer of the bladder was rare, but was the commonest form of growth found in the bladder. The diagnosis could be made by the symptoms, the use of the cystoscope, palpation, and the examination of the urine. The treat-

ment might be removal through the urethra, through the vaginal septum, or by suprapubic cystotomy. The operations were the removal of the growth and its base; resection of part of the bladder; or cystectomy. Indications for total removal were multiple growths; return after removal; extensive involvement of the base; and extension of cancer of the cervix uteri into the bladder. The ureters needed no attention at the time of the operation, as by the removal of a portion of the anterior vaginal wall they would discharge into the vagina. If possible, the ureteric openings into the bladder should be left intact, but this would rarely be feasible. He did not believe in uretero-intestinal anastomosis. The vagina could be used as a receptacle for the urine, as was done by Pawlik. If this was done, there would be little danger of infection travelling to the kidneys, as the newly made bladder could be kept clean. The operation was done in the Trendelenburg position. The peritoneum over the bladder having been cut, the bladder was enucleated with the fingers, and the base, with the anterior vaginal wall still attached, was removed. The uterus was then removed, and the peritoneum closed over the floor of the pelvis. Mann reported two cases, in both of which the patients recovered from the operation, and he had collected from the literature fourteen cases more. He concluded that in certain malignant disease of the bladder, total extirpation was a justifiable operation, offering no serious difficulties to an experienced abdominal surgeon, and giving the patient a chance for a comfortable continued existence.

Total Extirpation of the Urinary Bladder.—This paper was read by DR. J. WESLEY BOVÉE, of Washington, D. C. He said the wonderful strides in operative surgery were typically represented in surgery of the urinary organs. He gave an epitome of the history of operative procedures in partial and complete removal of the bladder, and a digest of ninety-six cases which he had collected from the literature. He discussed the methods of disposal of the ureters, the indications and contraindications, and the results of all operations up to date, and presented the following conclusions: "1. Until a more satisfactory plan of disposal of the ureters is found, cystectomy should never be undertaken for conditions other than exstrophy, when partial extirpation of the organ is possible. Even a very small portion of the bladder into which the ureters may be debouched is practically free from danger of infection incident to bowel grafts, and, further, such disposition of the ureters is more easily executed. 2. For exstrophy of the bladder the Maydl and the Pozzi operations are quite satisfactory, though the danger of infection seems ever present. 3. Rectal graft of the ureter in its continuity and skin-grafting of this duct are highly dangerous. 4. Uretero-vaginostomy is practically free from ascending infection, though it gives far from perfect results. 5. Urethral graft of the ureter seems free from infection, but the constant dribbling of urine is but slightly ameliorated by the use of a urinal. 6. The Mauclaire-Gersuny operation is worthy of further application, inasmuch as it provides for both sphincter bladder and bowel." Accompanying the paper was a table of extirpations of the urinary bladder, comprising ninety-six cases.

Shock, from a Clinical Standpoint.—DR. EUGENE BOISE, of Grand Rapids, Mich., read a paper with this title. The generally accepted idea, he maintained, that the pathology of shock was essentially a paresis of the vasomotor nerves, did not seem to be borne out by the clinical manifestations, when analyzed according to undisputed physiological facts. The basis of the theory of paresis was the thought that the extremely low arterial tension of shock was inconsistent with vasomotor stimulation, which, by causing arterial contraction, should give high tension. On the contrary, the symptoms of shock could, in reality, be explained only by the theory of extreme stimulation of the entire sympathetic system. Laboratory experiments had demonstrated that extreme stimulation of the cervical sympathetic would cause cardiac and arterial spasm with consequent low arterial tension by reason of incomplete diastolic relaxation of the heart. Post-mortem records showed that in fatal cases of shock the heart was found contracted and empty, even ruptured, showing a condition of extreme stimulation of the vasomotor system, rather than paresis. In shock, then, there was arterial and cardiac spasm, with consequent low tension. This caused the peculiar pallor and the condition of mental and physical lethargy. The perspiration of shock was caused by stimulation of the secretory nerves of the sweat glands, branches of the sympathetic system. Experiments had shown that the secretion of perspiration was independent of vascular conditions. The other clinical manifestations of shock could readily be explained by this theory of hyper-irritation of the entire sympathetic system, and only by this. Moreover, those remedies which were of benefit in shock were such as acted as sedatives to the vasomotor nerves. Nitrite of amyl and nitroglycerin were noted arterial relaxants, and yet they were very beneficial in shock. So, also, with strychnine. The opinion of operators of large experience was that to be of benefit it must be given in very large doses. And yet all therapeutists agreed that in such doses strychnine paralyzed the vasomotor centre and the intracardiac ganglia, and therefore was absolutely contraindicated if the vasomotor nerves were already paretic. So also with decinormal saline infusion. To derive the greatest benefit it should be used intravenously and at a temperature of 118° or 120°. Thus, when diluted by the mass of blood in the vena cava, the temperature was so reduced as to be sedative to the irritated cardiac and arterial nerves and muscles, and their spasmodic condition was relieved. Therefore, shock was essentially a hyper-irritation of the entire sympathetic system of nerves.

Resections and Exsections.—This paper was read by DR. FERNAND HENROTIN, of Chicago. The author presented the salient points concerning the questions involved in resection of the ovaries and tubes, as there was still much doubt regarding the results obtained, and as to the proper methods to pursue. He considered the subject of resection and exsection under three heads: 1. Diseases involving the tubes. Salpingotomy and tubal resection were most undesirable operations, and only the most formally expressed desire for offspring on the part of the patient, after explanation of the uncertainty of results, would warrant their performance. Pyosalpinx always demanded exsection, and any tube materially damaged by any disease should be removed in its entirety. 2. Ovarian disease. All diseases of the ovaries, adjudged to be non-malignant, could be cured, and should be treated by resection of the diseased portions only. Recent ovarian abscess could be cured more quickly, more certainly, and with less danger by vaginal incision when this was practicable. When the abscess was of long standing, the sac should be removed, but even then some healthy ovarian tissue could almost invariably be preserved. 3. Chronic composite diseases. In most diseases of a composite nature in young women, when the tubes and ovaries were materially and equally involved, salpingectomy with ovarian resection was the most satisfactory operation, the uterus being retained. These three topics were taken up seriatim and discussed at great length. The author had performed at least two hundred and fifty operations which might be classified as salpingotomies, salpingectomies, and ovarian resections. He could safely state that forty per cent. might be termed delayed and par-

tial cures, or failures. Of this forty per cent., the heaviest proportion by far came from such as had had salpingotomy or tubal resection performed. The next most complaining class were those in which the ovaries alone had been resected, and the least suffering and the best health were found among those in whom the tubes when affected had been entirely exsected and the whole or portion of the ovaries removed. He had not had to reoperate more than five or six times. By salpingotomy the author meant opening into the lumen of the tube, and by tubal resection was meant the removal of a portion of a tube including the mucosa, and his statement presumed a material pathological alteration in the portion removed or incised. Under such conditions, he had no hesitation in stating that for every baby born there would be forty uncured or partially cured patients.

The Future of Gynæcology as a Surgical Specialty.—This was the title of the president's address, delivered by DR. VAN DE WARKER. Its general scope was given in an anecdote of a noted ovariotomist, who was invited by the president to contribute a paper to the section on obstetrics and gynæcology of the American Medical Association, at the session at which he presided as chairman. The ovariotomist declined on the ground that he was not a gynæcologist; that ovariotomy and hysterectomy and other abdominal operations were general surgical procedures, and were more in the line of the general surgeon than of the gynæcologist, and wound up his letter of refusal by predicting that the time was not far distant when these operations would be by general consent of the public in the hands of the all-round surgeon. The speaker asked the question if that time had not arrived. The public consulted the general surgeon as frequently as they did the special surgeon. A large proportion of the major pelvic operations were now made by men who were not specially recognized as gynæcologists. Surgery in general had made as marked advances in all directions as that which was at one time by common consent relegated to the specialist. The lay public had become more familiar with serious abdominal operations performed by the general surgeon, than those made by the gynæcologist. The great frequency of operations for appendicitis, on the gall bladder, for intestinal injuries, and for other intra-abdominal conditions, had educated the public to place as much reliance upon the surgeon at large in a field of surgery which at one time was regarded as the exclusive domain of the specialist. The same woman who would apply to the general surgeon for the removal of her ovaries would seek by chance the specialist for the performance of a genito-plastic operation. In her choice of a surgeon she was guided more by her senses than by her knowledge of her physiology. This evolution, for so the speaker regarded it since it involved the diffusion among the many of skill and knowledge which was at one time the property of a few, had already had a marked influence upon gynæcology as a surgical specialty, an influence which would have still wider effects in the future. This result was already to be detected in gynæcological literature. The old operation, ovariotomy, was but rarely seen in the title of a paper, and was relegated from the current journal to the pages of the text-books. The same might be said of the removal of the tubes and ovaries, the removal of pus sacs, Battie's and Tait's operations. Great international reputations were made in these fields, which was no longer possible. By making these operations common property, to be practised by all surgeons and all made on general surgical principles, they had to that extent ceased to be special operations confined to a few men. The influence of the gynæcological surgeon would, however, always be felt. To him as a man of last resort would always be left the question of methods and expediency. Total hysterectomy for cancer was yet on trial. It was already abandoned by able men, while others were hopeful of good results. Would the final verdict upon this question be given by the general or the special surgeon? The latter was trained in dialectics; he would bring to bear on the ultimate solution of such a problem qualities which the former could not possess, because he could not have universal knowledge and be the possessor of unlimited technique. All the great abdominal operations which were so eagerly exploited by the surgeon at large passed through this ordeal at the hand of the gynæcologist, and were turned out finished procedures both in expediency and method into other hands. The day was nearly passed when great gynæcological reputations could be made by the exploitation of a few operations. That belonged to the formative period of the art. A continent could never be discovered more than once, nor a new star give honor to more than one by its discovery in this alert age. But there was enough yet left for gynæcology to explore and add to the sum of its literature. The subject of pelvic dynamics was still left to research. We knew little of the subject of genital ptosis in women; our treatment of uterine displacements was rank empiricism. The physiology of the pelvic organs must at last be given its true value by the gynæcologist rather than by the physiologist in his laboratory, as it must be studied functionally rather than structurally. Questions of sociology, the insane, the criminal, social and industrial feminism, appealed to the gynæcologist with greater force than to other physicians. The question of coeducation into which eductors have rushed without heed of consequences must ultimately come before him for discussion. Many other fields of investigation, yet unexplored or only imperfectly known, still remained invitingly open. Gynæcology would always have its future, possibly brighter, more generally fraught with usefulness from the fact that its best minds were no longer concentrated upon matters purely mechanical, and which appealed to a comparatively few unfortunates, but because it would embrace in a broader scope all humanity. These were a few of the problems which the gynæcology of the future must meet, and with which men trained as the members of this society were ought to feel a profound interest. They not only studied the diseases peculiar to women, but they must also study social conditions that might tend to disease. There was no other department making such imperious demands upon its advocates as the gynæcology of the present, and they might be sure that it would not diminish in the future. There was nothing that contributed to the mental equipment of a man that the gynæcologist could do without. The ascendency of gynæcology as a surgical department would in no manner diminish because it shared its surgical triumphs with all who had the skill and knowledge to follow its lead; on the contrary, it would have a greater moral power when its advocates could find a field, broad and in close touch with humanity all about, beyond the limits of the operating-room. Would not the gynæcologists of France be doing a better service to their country and to science if they were to find the cause and conceive the remedy for the decadence of the birth rate, rather than bend their energies in finding a new way to perform an operation? If surgery had its limits, there were no limits to higher gynæcology. Either the word was badly constructed, or its meaning only half understood among those who attempted to limit it to surgical lines.

Indications for Cæsarean Section as Furnished by Pelvic Contractions.—By DR. J. W. WILLIAMS, of Baltimore, Md. In 2,123 cases delivered in the obstetrical department of the Johns Hopkins Hospital, 278 (13.1 per cent.) had contracted pelves. The pelves were measured both externally and internally, and desig-

nated as contracted when the conjugata vera was 10 cm. or less in generally contracted, and 9.5 cm. or less in flat, pelves. Of the patients 941 were white and 1,182 black. Contracted pelves occurred in 6.91 per cent. of the former, and 18.1 per cent. of the latter; that is, in every fourteenth white and every sixth black woman. Of the 278 cases 199 ended spontaneously (71.58 per cent.). The number of spontaneous labors decreased with the increase in the pelvic contraction, as shown by the following table:

Conjugata vera	10–9	cm.,	77.28 per	.. spontaneous.
"	8.9–8	"	61.54	"
"	7.9–7	"	33.33	"
"	6.9–5.5	"	0	"

The cases requiring operation were delivered by high forceps, version, symphyseotomy, Cæsarean section, craniotomy upon the dead child, or embryotomy, according to circumstances, giving a gross fœtal mortality of 12.96 per cent., and a gross maternal mortality of 2.88 per cent., which, by deducting the cases in which the death of the child or the mother was not due to the operators, gave a corrected mortality of 4.32 per cent. and 0.72 per cent. respectively. In view of the markedly improved results following Cæsarean section, the author stated, the indications for its performance should be widened. Thus we found that Zweifel, Olshausen, Reynolds, Bar, Charles, and Cragin had performed 162 operations with 5 deaths, a mortality of 3 per cent. He therefore believed that in uninfected cases the upper limit for the absolute indication for Cæsarean section should be advanced from 5.5 to 7 cm., and the relative indication from 7 or 7.5 to 8.5 for flat, and 9 cm. for generally contracted, pelves. With the absolute indication the operation should be done either at the end of pregnancy or at the onset of labor; but when the relative indication was present, the woman should be allowed to go into the second stage of labor, and have bearing-down pains for one hour, when, if the head did not show signs of moulding or descending, Cæsarean section should be performed, instead of forceps upon the movable head or version. So that at present Cæsarean section for the relative indication should compete with high forceps or version, instead of with craniotomy upon the living child, as in the past. On the other hand, if the patient was infected, or her surroundings were such that an aseptic operation could not be performed, high forceps or version should be attempted, followed by craniotomy in case one failed to deliver the child by their means, and Cæsarean section reserved for those cases in which an absolute indication was present on the part of the pelvis.

Circumstances which Render the Elective Section Justifiable in the Interests of the Child Alone.—This paper was read by DR. EDWARD REYNOLDS, of Boston, in which the author summed up his experience and study of the subject in the following propositions:

"1. The Cæsarean section performed late in labor, or in the presence of infection of the uterus or other complicating constitutional conditions, has been shown, by the experience of almost every operator who has tried it, to have so high a mortality as to be totally unjustifiable when performed in the interest of the child alone.

"2. When a Cæsarean section is performed on a healthy woman, early in labor, and under otherwise favorable circumstances, for merely mechanical indications, it has, in skilled hands, no mortality other than the fractional percentage incidental to all considerable operations *per se*.

"3. The inconveniences and high morbidity rate of symphyseotomy render it distinctly inferior to the section as an operation of choice, but it is an operation which, as compared to craniotomy, or prolonged and forcible high forceps work without it, involves almost no increased risk to life. I therefore believe it to be the operation of choice in the somewhat limited number of neglected cases, *i.e.*, those for which the Cæsarean is ruled out, in which the pelvic contraction is within the range where the extraction of a living child without symphyseotomy is difficult or impossible, but after symphyseotomy is safe or easy.

"4. The induction of premature labor for contracted pelvis results in so high a fœtal mortality as to be unwarranted when placed in opposition to the performance of the Cæsarean section at the beginning of labor and in favorable cases."

After giving a brief justification of his position upon each of the above propositions, the author proceeded to discuss their application to practice. In conclusion, he urged his personal belief that no man was justified in performing Cæsarean section as a last resort late in labor, or upon infected or otherwise constitutionally ill women, for the sake of the child alone; but that he who attained to the fullest possible knowledge of his cases beforehand might do the section at the beginning of labor on healthy women, with even less risk to both mother and child than was involved in the performance of unusually difficult high forceps operations through contracted pelves. A statistical report of all the author's major operations accompanied the paper.

The Technique of Cæsarean Section.—By DR. MATTHEW D. MANN, of Buffalo, N. Y. The author first discussed the relative merits of the Saenger and Porro operations. He concluded that there was no rivalry, but that each had its proper place. The classical operation should be done in all elective cases, when the woman was in good health, the operation was done in time, and all the conditions were favorable. The Porro operation should be done when the uterus was septic; when gonorrhœal infection was known to exist; when the uterus refused to contract; when there were large fibroids or ovarian tumors which could not be removed without injury to the uterus. Small fibroids usually disappeared after pregnancy. Other indications for the Porro operation were: disease of both ovaries; when the uterus was torn or ruptured in labor; in cancer of the cervix; when the patient was greatly reduced and bearing the operation badly; in osteomalacia and extreme degrees of atresia of the vagina. The uterus should not be removed simply to sterilize the woman, as this could be done, if thought best, by removal of the tubes. In this way the woman's sexuality was not destroyed. The question of sterilizing the woman was a hard one to decide, as ethical questions were involved. She might be sterilized in the interests of possible future offspring and of society, as well as to prevent possible future Cæsarean sections; but this only at her own request.

Technique of Cœliohysterotomy: a median incision is made into the abdomen and uterus, and the child and placenta are removed. The uterus is sutured with catgut. The Fritsch incision seems to be better if the placenta is in front. The uterine tourniquet is to be tightened when needed. A hypodermic injection of ergot is given and hot applications are made to the uterus, while the ether is withdrawn, to induce contractions. Careful toilet of the peritoneum follows.

Technique of Cœliohysterectomy: Same as before. Then the vessels are tied on each side of the uterus, and the uterus is removed, all but the cervix. The peritoneum is closed over the stump.

Vaginal Cæsarean Section: This is done for cancer of the cervix, and for rupture of the uterus. Few cases are on record.

Reports: Six operations have been done in Buffalo, by four operators, with the loss of one child. One

mother died, six weeks later, of carbolic-acid poisoning.

The Place of Symphyseotomy as Contrasted with Section.—This was the title of a paper by Dr. Charles Jewett, of New York. He presented the following conclusions:

"1. Symphyseotomy is still a useful operation within a very limited range of pelvic contraction.

"2. It is suited to conditions in which only very little additional pelvic space is required for delivery.

"3. It is a valuable recourse, therefore, in cases in which forceps unexpectedly proves inadequate.

"4. Axis-traction forceps, with the aid of posture, should always be tried before resort to symphyseotomy.

"5. Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm. (three inches).

"6. Under equally favorable conditions its total mortality should be no greater than that of Cæsarean section.

"7. When the pelvic space permits, it should replace Cæsarean section in the presence of exhaustion.

"8. It may be elected primarily as an alternative of Cæsarean section, when the operator can be assured that the degree of obstruction is well within its safe limit. Here the choice of operation is largely a matter of individual preference.

"9. Within its proper field symphyseotomy is better than Cæsarean section for an operator of little experience in abdominal surgery."

The Relative Merits of Bipolar Version with Slow Extraction and Accouchement Forcé in the Treatment of Placenta Prævia; Report of Fourteen Cases.—A paper with this title was read by Dr. Henry D. Fry, of Washington, D. C. Podalic version, he stated, was discovered by Ambrose Paré in the sixteenth century. The method was practised and prompt delivery recommended in all cases of placenta prævia. Until the discovery by Braxton Hicks, in 1861, of the bipolar method of version, subsequent literature added little of value except the use of the tampon; rupturing of the membranes; and separation of the placental attachment as far as the finger could reach. The mortality of these methods of treatment was from twenty-five to fifty per cent. for the mother, and from fifty to eighty per cent. for the infants. The main cause of death was loss of blood during the dilatation of the os, and from laceration of the site of the placental attachment. The advantage of bipolar version was the ability to perform it successfully with very little dilatation and the consequently less loss of blood. Statistics based on the collection of a large number of cases treated after this method were wanting until the publication of the work of Lomer, Behm, and Hofmeier. The result was astonishing when reviewed in contrast with the mortality of the old method. Seventeen years had elapsed, and the brilliant results obtained by these operators had not popularized the treatment. Suppose, he said, we compare theoretically the bipolar method with accouchement forcé, and see if there exists any reason why the former might be considered safer in the hands of the inexperienced operator. In placenta prævia a fatal result was usually due to hemorrhage or sepsis. The hemorrhage was unavoidable and incident to dilatation of the os. Consequently the method requiring the least degree of dilatation necessary to perform version would naturally be expected to give the least hemorrhage. After dilatation was obtained in sufficient degree to permit the insertion of several fingers, further continuance of the process by manual means was likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version was comparatively safe, while that necessary for the insertion of the hand and internal version was dangerous. The rapid delivery of the infant in accouchement forcé added additional risk of rupture. There was one serious objection to bipolar version and slow extraction: the infantile mortality was greater. When interference was necessary before viability, or when the fœtus was dead, slow delivery was certainly indicated. If the life of the child be endangered during slow extraction, the obstetrician must decide between it and more rapid delivery with its increased maternal risks. The author gave briefly the histories of fourteen cases of placenta prævia which had come under his personal observation.

Scratch-Marks on Wax-Tipped Bougies in the Diagnosis of Ureteral and Renal Calculi.—Dr. Howard A. Kelly, of Baltimore, exhibited nine drawings made by Mr. Becker, showing scratch-markings made in wax-tipped bougies by calculi in the kidney and ureter; also pictures of the calculi and the bougies used were shown. A mixture of melted dental wax and olive oil, equal parts, was used to tip the renal catheters. This substance produced a smooth and highly polished surface, which on coming in contact with a stone was scratched or gouged in longitudinal striæ. The mucous membrane of the urinary tract could not possibly affect the waxed surface. In the method there were three sources of error: "1. Rubbing on the side of the speculum during the introduction of a catheter produces a flat facet, which in no way resembles a scratch-mark. 2. A to-and-fro movement in the effort to introduce the tip into the ureteral orifice may gouge the wax at the end of the speculum. This is avoided by keeping the end of the catheter free in the lumen of the speculum, skilfully carrying it into the ureter at the first effort. 3. Another source of error is drawing out the catheter and pulling it through the vulvar hairs; this is avoided by separating the labia and careful withdrawal." The evidences of stone in the urinary tract furnished by a catheter were as follows: 1. A sense of obstruction when the stone was struck by the tip of the instrument. 2. A free flow of urine, often turbid and purulent as soon as the catheter had passed the obstruction. 3. The injection of a weak solution of hydrochloric acid (15 c.c. of a one-half-per-cent. solution), withdrawn in ten minutes, had shown in one case calcium and magnesium phosphates, coming down subsequently in excess of the urine of the opposite kidney. 4. On the withdrawal of the catheter it might be held by the stone as if in the bite of a stricture. 5. The stone might yield a grating sensation as the catheter was withdrawn. 6. A bit of stone might be brought in the eye of the catheter, or be washed out by the injection of fluid into the kidney. 7. Bits of débris of the stone, little black specks, might be brought down by the urine, subsequent to the withdrawal of the catheter.

Surgical Treatment of Tuberculous Kidney.—Dr. Beverly MacMonagle, of San Francisco, read this paper. He drew the following conclusions: "1. All cases with vesical symptoms should be put through an exhaustive examination to exclude tuberculosis in the beginning of their symptoms. 2. This examination should embrace staining and animal inoculation with urine taken from each kidney. 3. In all cases of primary tuberculosis, the other kidney being healthy, nephro-ureterectomy is indicated and will give good results. 4. In advanced cases, involving one kidney and ureter, nephro-ureterectomy is indicated and preferable to nephrotomy. 5. In cases in which but one kidney is involved, early nephro-ureterectomy promises good results in a high percentage of cases."

Injuries to the Head in the New-Born.—By Dr. Andrew F. Currier, of New York. The importance of this class of injuries, the author stated, was measured not merely by the immediate damage to the skull or the soft parts of the head, but by the possibility of death

as a near or remote result, by the possibility of life-long defect or deformity, and especially by such detrimental effect upon the structure of the brain that development was arrested or prevented, the individual manifesting mental incompetence in any degree between slight backwardness and hopeless idiocy. Unfortunately, post-mortem examinations in fatal cases from this cause were seldom made, hence our pathological knowledge of the subject was incomplete. The free use of the obstetric forceps had, on the whole, produced favorable results, but it was equally true that its untimely, injudicious, or unskilful application had caused injury to many mothers and destroyed the lives of many children. The injuries in question might be received: (1) During natural labor; (2) during artificial or assisted labor. They might involve: (1) The parts external to the cranium. (2) the bones of the cranium; (3) the structures within the cranium. They might result: (1) In immediate death; (2) in death after a few days or months; (3) in recovery with lesions of the skull, and possibly such injury to the brain that mental development might be permanently retarded or wholly checked and paralyzed, rendering certain areas of the body useless or ineffective; (4) in recovery with disappearance of all evidence of the injuries received. The cause of these injuries during natural labor was usually a disproportion between the fœtal head and the maternal pelvis, or the sacro-vertebral angle might be too prominent, or the pelvis might be the seat of some variety of deformity. Rarely the injury might be transmitted through the pelvis of the mother to the fœtus during pregnancy or labor. Compression might affect a large head in a small pelvis, or a normal head might be retained too long in a normal pelvis. A skull thus compressed might resume its proper contour and show no outward evidence of injury, but long-continued compression often meant imbecility or idiocy. The effect of hemorrhage might be disastrous, the blood escaping through or into the scalp under the pericranium, or into the skull and its contents. Injuries in artificial labor might be unavoidable with the given conditions, or they might result from carelessness or ignorance. The high application of the forceps was responsible for many of the serious and fatal accidents to the fœtus. The forceps was also a frequent cause of fatal injury from compression, even when properly applied and skilfully used. Fissures and fractures were often present without outward evidence, and might be recovered from entirely, or might cause serious or fatal injury. After version or rotation of the head with the hand, serious injury might occur to the skull and brain. The injudicious use of ergot might result in fracture of the skull, the labor being precipitate or compression being excessive. These injuries involved:

1. The parts external to the cranium. The simplest form of those injuries was the caput succedaneum, which consisted in an engorgement of the tissues from interference with the circulation, followed by transudation of serum. This lesion passed away in a few days, and usually left no trace behind it. When the labor was severe, the blood-vessels might be ruptured, and the resulting tumor upon the scalp might contain blood. This might be absorbed, or it might result in suppuration and sloughing, with necrosis of the bone. The tumor might continue to develop during several days, and might be on the face, scalp, or any other presenting part. The eyes, ears, nose, or lips might be bruised or crushed, with resulting deformity, which might be permanent. Birth palsies from injury to the facial nerve were not infrequent, but their duration was usually transient.

2. The bones of the cranium. The bones might be indented, fissured, dislocated, or fractured. The frontal and parietal bones were most frequently involved. The bone might be indented to the extent of half an inch or more. Depressions which were produced slowly were not usually so serious as those which were produced quickly. The bone might be depressed alone, or fissured and fractured also. An injury to the bones might take place even when the labor was almost painless. Fractures might be simple, compound, single, multiple, comminuted, or depressed. Fracture might be caused by sudden and precipitated labor, the child being hurled into the world and dashed head-first upon the ground or any other hard substance. Fissures frequently started from a projecting ridge or boss. Indentations varied in their limits and their seriousness; they were often spoon-shaped, and might be caused by a projecting outgrowth in the pelvis, or a prominent sacral promontory along which the head was scraped.

3. Injuries within the cranium. These were the most serious of all the injuries to the head. If not immediately fatal, they might result in insanity, epilepsy, idiocy, or imbecility. Trismus and tetanus were often due to injuries received during labor. Hemorrhage within the cranium might be limited to this locality or it might extend into or through the scalp. Still-birth was very often the result of hemorrhage.

The results of these injuries might be: 1. Immediate death. This was often the result in long and severe labors, and often in those which were precipitate, the head being crushed during delivery or by contact with a hard body after birth. 2. Death after a few days or months. This occurred in the hopelessly injured, in the septic, in those whose vitality was defective, etc. 3. Recovery with permanent lesion of the skull or brain, or both, and with paralysis, convulsions, etc. All these conditions showed the importance of a careful examination of the head after birth, especially if the labor had been in any way unusual. 4. Recovery with disappearance of all evidence of the injuries received. The number of cases in this class was very large. It included all those in which slight injury was sustained, whether bruises, effusions of serum into the scalp, or even fissures, fractures, and depressions of simple character.

In regard to treatment, it was probable that life could very often be saved in cases in which injuries had been overlooked. In many other cases hopeless diseases might be averted by proper care and treatment at the beginning. The treatment should be instituted as soon as possible after birth, and if of a surgical character should be conducted along the same lines, and with the same attention to detail, which would be appropriate at any other period of life.

Tetanus following Cœliotomy: with a Report of Two Cases.—Dr. Henry C. Coe, of New York, contributed a paper on this subject. In his introductory remarks he stated that tetanus was such a rare complication of abdominal section that many operators of large experience had never had a case. Confident in the power of thorough asepsis to overcome the most virulent germs, we were apt to forget that there still remained some which resisted the ordinary methods of sterilization, and against which we seemed to be powerless to act, because as yet we did not understand their mode of development and the nidus most favorable for their growth. Statistics had shown that the disease was especially fatal after ovariotomy and hysterectomy. Tetanus was a rare cause of death after aseptic operations, as shown by reviews of various hospital records. Environment seemed to make little difference. In Bellevue Hospital, where conditions were apparently most favorable to the development of tetanus, this was almost unheard of, except as the result of wounds received before the patient was admitted. In the General Memorial Hospital, on the contrary, where the conditions were infinitely better, two fatal cases had

occurred since the hospital was opened (1887), and both in the service of the author. In both cases tetanus followed clean operations, after a normal convalescence, and under conditions which were quite inexplicable.

CASE I.—Double salpingitis and cystic ovaries removed. The operation was perfectly simple. The convalescence was afebrile, though the patient was very nervous. Primary union of the wound ensued. The patient was out of bed in sixteen days. She complained of slight sore throat and trouble in swallowing. On the twenty-first day she was up and about. Slight stiffness of the neck was present. On the twenty-sixth day, slight spasm of the muscles of the jaw occurred. On the thirty-second day, the diagnosis of tetanus was made, and 25 c.c. of serum injected under the skin. The patient swallowed with some difficulty, but had no other symptoms. No rise of temperature was present and her general condition was good. On the thirty-fourth day she still took nourishment. An additional injection of serum was given. During the next two days general convulsions occurred, and death ensued on the thirty-sixth day.

CASE II.—Pan-hysterectomy for fibroid uterus and diseased ovaries and tubes. The convalescence was absolutely normal until the ninth day, with primary union of the wound, when the patient had slight stiffness of the neck. On the tenth day she could not swallow. Serum (50 c.c.) was injected into a vein. General convulsions occurred during the night. A second intravenous injection was given. Death ensued on the eleventh day. In neither case were specific germs found in the blood or in the neighborhood of the wound.

In commenting on the cases, stress was laid on the difficulty of diagnosis, as both patients were hysterical and had no rise of temperature or other symptoms. Treatment was of no avail, though it was begun too late in the first case. The cases occurred eighteen months apart. No others had occurred in the hospital before or since. No cause was discovered, either in the technique or in the condition of patients before operation (both were in good health before and had been long under observation), or in the climatic conditions.

Questions for discussion were: (1) Could the development of the disease be prevented, and how? (2) Could the fatal result be averted by prompt resort to the use of anti-tetanus serum or other treatment? The answer to these questions in the class of cases under consideration was thus far a negative one. It seemed to be impossible to discover and act directly upon the focus of infection when it was within the abdomen.

Myomectomy during Pregnancy with Delivery at Full Term.—DR. J. DUNCAN EMMET, of New York, read a paper with this title.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. S. C. Gordon, of Portland, Me.; *First Vice-President*, Dr. George M. Edebohls, of New York City; *Second Vice-President*, Dr. Edward Reynolds, of Boston; *Secretary*, Dr. J. Riddle Goffe, of New York City; *Treasurer*, Dr. J. Montgomery Baldy, of Philadelphia.

Atlantic City, N. J., was selected as the place for holding the next annual meeting.

Accidents after Adenoid Operations.—C. E. Holmes reports two cases in which the curette used for the removal of adenoids broke off just at the beginning of the sharpened portion of the loop. In one case the piece was removed without incident. In the other it was swallowed, but proper diet prevented any untoward consequences, and the piece was passed in the stools three days later.—*The Laryngoscope.*

New Instruments.

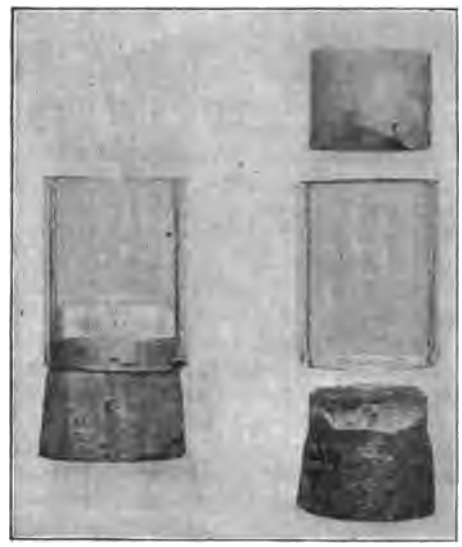
CUPS FOR PARAFFIN EMBEDDING.

BY E. L. OATMAN, M.D.,

BROOKLYN, N. Y.

IN the process of embedding tissues in paraffin, some difficulty and loss of time are experienced in pouring melted paraffin from the bath to the moulds, at the low temperature of 50° C., which is essential to the success of this method.

I now avoid this part of the technique entirely by using the same cup for heating and moulding. The cup is made by tightly corking one end of a thick



glass tube, about one and one-half inches in length and from one-half to one inch in diameter. The end of the cork which enters the tube should be covered with paper to prevent the paraffin adhering, while the other end should be weighted with lead to hold the cup upright while cooling. The tissue and paraffin are put in the cup and placed in the oven. After remaining the usual time the cup is removed and instantly placed in cold water. When the paraffin is solid, the cork is removed and the block pushed out. All the old paraffin should be carefully wiped from the inside of the tube, otherwise the next casting will not push out as easily as the first. Besides the saving of labor, this method gives a better cutting block than one which is slowly cooled.

82 REMSEN STREET, BROOKLYN, N. Y.

The "X" Fever of the South from a Biological Standpoint.—Hayden A. West reports thirty-seven cases of a fever ushered in by not more than three days of discomfort. The temperature rose suddenly, and remained between 100.2° and 104° F. for from two to eight weeks. The thermal curve was irregular. The bowels were usually constipated, but nervous symptoms were absent. Examinations of the blood gave the following results: The hæmatozoon of malaria was never found. The Widal reaction was not positive at any period during the course of the fever. Typhoid bacilli were never isolated from stools or urine. No growth resulted from inoculations made with the patient's blood. The fever was evidently neither malaria nor typhoid, and it remains for a more refined technique and further research to bring out the cause of the "x" fever.—*The Southern Practitioner.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 15, 1901:

	Cases.	Deaths.
Tuberculosis	243	141
Typhoid fever	28	8
Scarlet fever	466	40
Measles	270	8
Diphtheria and croup	244	39
Smallpox	102	11
Chickenpox	81	0
Cerebro-spinal meningitis	0	4

History of Anopheles.—Nuttall and Shipley, writing in *The Journal of Hygiene*, say: "The first reference to Anopheles which we have found in the literature is that of Joblot (1754), of Paris, who describes the larva as rare, under the heading 'Description d'un Nouveau Poisson,' or 'Chenille Aquatique.' He gives a fairly good figure of the larva, considering the instruments he must have used. Fischer (1812–1813) figures 'Culex claviger,' the larva being those of Corethea. Meinert mentions that Gercke refers briefly to the larva in his 'Zur Metam. d. Dipt. Gatt. Dixa.' Brauer (1883) mistook the larva of Anopheles for that of Dixa, his figure being poor, while his enlarged figure of the head shows that he mistook the ventral for the dorsal aspect. Meinert (1886) gives fairly good figures of the larva of A. maculipennis and A. nigripes, the figures showing the whole larva, as also various parts studied in detail. Descriptions have been published more recently by Ficalbi (1899) and Giles (1900). The various stages in the evolution of A. maculipennis (syn., A. claviger, A. quadrimaculatus) have been described and figured by Grassi and by Howard (1900). It cannot be said that any of the descriptions hitherto published give a full and satisfactory account or entirely accurate figures showing the development of Anopheles. As to the representations which have appeared in medical literature, they have been either incomplete or very inaccurate."

Musical Dentistry.—The Paris correspondent of the London *Daily Telegraph* is quoted by the New York *Tribune* as follows: "Musical dentistry is the latest discovery here. Although your readers might believe the contrary, the idea is quite a serious one. It has been taken up by a well-known physician, who expounded it before the Paris Academy of Medicine, and it has thus received the sanction of high scientific authority. The method consists of drawing teeth to the sounds of sweet music. A usually trying operation becomes, it is stated, not only painless, but quite pleasant, when conducted in this way. The physician addressed the Academy meeting on behalf of a Paris dentist, who has already applied the musical method with success. The idea of the new process was first suggested by observation of patients under the influence of anæsthetics, the drug used being nitrogen peroxide in vapor. As is known, the incipient effect of the latter is to produce in nearly every case disagreeable, sometimes almost unbearable, sensations, resembling those experienced in nightmare. The dentist in question came to the conclusion that this preliminary ordeal of bad dreams at the beginning of the anæsthetic influence was caused by the perception of noises around by the mind when in a state of still partial consciousness. Why not soothe patients into the required condition of temporary oblivion by sweeter sounds? The dentist tried the experiment, and he and his patients were alike charmed with the result. The latter were as good as gold; the tooth-pulling operations, not being interfered with by the groans or contortions of the sufferers, were performed with the greatest ease, and on recovering consciousness all that patients remembered were bars of the "Lohengrin" overture, for example, still softly singing in their ears. The new method having been invented, nothing remained but to bring it to its greatest possible pitch of perfection. The obvious difficulties in the way of dentists keeping bands, solo singers, and choirs on the premises were avoided simply by means of powerful phonographs. Now the operator, whose new method has been revealed to the Academy of Medicine, regularly uses a machine of this kind. The patient puts the tube to his ears, the music is started, the gas administered, and shortly afterward the occupant of the once dreaded dental chair awakes from pleasant dreams to see the smiling surgeon showing him his tooth. Of course, a varied choice of musical selections can and, indeed, should be made to suit different temperaments and teeth. Without going into these particular questions, the physician spoke quite enthusiastically about the new process to the assembled academicians. He is eager to apply the musical method to surgical operations in general. He intends making experiments of his own in this direction, and he hoped that some of his hearers would do likewise."

The Diminishing Prevalence of Phthisis.—Mortality statistics collected in different countries seem to concur in giving evidence of a steady reduction in the number of deaths from consumption during the past half-century. It may be plausibly suspected that the whole of the apparent gain is not real, and that greater exactitude of diagnosis and a more precise use of the term "phthisis pulmonalis" may explain away some of it. Still, we may thankfully believe that a large part is real. We obtain support in that conclusion by the general impressions formed by intelligent old people, who, almost without exception, assure us they hear and see far less of "consumption" now than they did in the days of their youth. It is of great interest to determine the influences which have been at work in bringing about this result. It may be said at once that attention to the now so fashionable doctrine of contagion has had no material share in it, since, until the last few years, no sort of precautions on that score had been taken. It is possible, but, perhaps, not very probable, that the inspection of butcher's meat may have been influential in some slight degree. By far the most probable hypothesis is that the gain has accrued from the improvement in the general prosperity of the race, which the nineteenth century witnessed. During it mankind were, on the whole, prosperous, and in most civilized countries the houses, the clothing, and, above all, the food of the community were improved. To speak of England alone, those who can remember what it was sixty years ago assure us that the advance in the condition of the working classes has been very great. The food which is now obtained by all is more nutritious, more varied, and less exclusively vegetable than it formerly was. The clothes are better, and the houses are better. In spite of the fact that the age has witnessed the influx of population into cities and large towns and a partial abandonment of the country, the facilities for locomotion and the cultivation by both sexes of athletics and out-door pursuits have probably secured without diminution the advantages of fresh air. As regards the use of alcoholic beverages, the age has witnessed vast improvement. While there has been no diminution in the quantity taken, it has been spread over a larger number. Excess has become disgraceful, and is far less common than it was, while what may be called

the dietetic use has been maintained. Thus, then, we seem to come to the conclusion that the reduction in the prevalence of tuberculosis has been due to improvement in general stamina and advancement in the arts of civilized life.—*London Polyclinic.*

Liverpool School of Tropical Medicine.—The gratifying announcement has been made, says *The Medical Press*, that a prominent citizen of Glasgow has placed at the disposal of the Liverpool School of Tropical Medicine a sum of money sufficient to meet the cost of one year's exhaustive experiments in the pathology and prophylaxis of malarial fever. Scientific work in that direction has yielded such brilliant and practical results that there should be henceforth no lack of monetary support. There is no case in which funds are devoted to abstract scientific researches, which may or may not blossom and bring forth fruit for the good of mankind in a more or less distant future. The stamping out of malarial fever is an immediate benefit to the enormous number of our fellow-men who live in tropical and subtropical climates; yet that result is within the grasp of preventive medicine, thanks mainly to the classical investigations of Major Ross, who has recently received the honor of being made a fellow of the Royal Society. That step will meet with the cordial approval of those who are not inclined to the advisability of conferring the fellowship upon men whose only claim to distinction is some obscure physiological investigation of an interest limited to a small knot of advanced scientists in one particular branch of medical work. To relieve humanity of so terrible a scourge as malaria is to achieve the highest aim of philanthropic man. In a sense, it is comparable to Lister's feat.

Mr. Carnegie's Proposed Gift of Free University Education.—*The Lancet's* Scotch correspondent speaks as follows of Mr. Carnegie's enormous offer of $10,000,000 to pay the fees of students at Scotch universities: "After a period of calm, the Scottish universities have been startled by Mr. Carnegie's municipent proposal to throw their doors open to free education. When a man proposes to spend $10,000,000, in doing something, it is a mere platitude to enlarge on his generosity, so more need not be said on that point. So far as can be made out, the gift is not proposed as a gift to the universities, but to the public of Scotland, and the object is to place university education within reach of all Scottish youths of ability, free of cost so far as fees are concerned. This is not the place to examine critically the mouth of this gift-horse, but it may be said that there is a very wide and strong feeling that, while Mr. Carnegie's munificence is great and his intentions are admirable, he has not been well advised as to the direction in which higher education can be most benefited, or the means by which it can most advantageously be brought within the reach of able but impecunious youths. It is a pity if munificence on this scale should not be directed into suitable channels, there is so much to be done and so little money for the doing of it."

Hypnotism Extraordinary.—The Italians appear to be peculiarly susceptible to hypnotic suggestion under slight provocation, and failing any external influence they are prone to a kind of auto-hypnotism, which spreads until it assumes an epidemic form. We can recall an instance in which a whole village, or at any rate the feminine inhabitants thereof, became the subjects of maniacal excitement, which was appeased only by the despatch of a regiment of dragoons, whose presence had the desired effect of restoring peace to their troubled souls. Quite recently, a similar outbreak took place at a small village near Udine, where some twenty persons of both sexes and of all ages became hypnotized, after watching the contortions of a professional exorcist, and gave themselves up to more or less violent destructive antics. Although these manifestations are seen to the best advantages among the impressionable population of Southern Italy, it must not be forgotten that in a modified form they characterize crowds in all parts of the world. The influence of a crowd collectively on the individuals of which it is composed is a factor with which authorities have to reckon, and history shows that such a crowd will do things and commit deeds at which its units individually would be ashamed and even terrified. All commanding personages exert a similar influence over those who come within their sphere. Great preachers, and even mere demagogues, possess the power of galvanizing their audiences, dominating their intelligence, and subordinating their reasoning powers for the time being. There is no strict line of demarcation between this influence and that to which at a more advanced stage we apply the term hypnotism.—*Medical Press.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended June 15, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
Alaska, Douglas City	May 25th	5	
California, San Francisco	May 25th to June 1st	4	
District of Columbia, Washington	May 30th	1	
Illinois, Chicago	June 1st to 9th	6	
Indiana, Michigan City	June 3d to 10th	2	
South Bend	June 1st to 8th	1	
Kansas, Wichita	June 1st to 8th	7	1
Louisiana, New Orleans	June 1st to 9th	5	1
Shreveport	May 25th to June 1st	2	
Maine, Portland	June 1st to 8th	1	
Maryland, Baltimore	June 1st to 8th	1	
Massachusetts, Boston	June 1st to 8th	1	
Fall River	June 1st to 8th	1	
Marlboro	June 1st to 5th	1	
New Bedford	June 1st to 8th	27	1
Somerville	June 1st to 8th	1	
Michigan, Detroit	June 1st to 8th	33	
West Bay City	June 1st to 8th	1	
Minnesota, Winona	June 1st to 8th	1	
St. Louis	May 26th to June 2d	32	
N. Hampshire, Manchester	June 1st to 8th	4	
New York, New York	June 1st to 8th	86	16
Ohio, Cincinnati	May 31st to June 7th	5	
Cleveland	June 1st to 8th	30	
Toledo	June 1st to 8th	1	
Pennsylvania, Lebanon	June 1st to 8th	1	
Philadelphia	June 1st to 8th	..	1
Pittsburg	June 1st to 8th	5	
Rhode Island, Providence	June 1st to 8th	1	1
Utah, Ogden	May 1st to 31st	11	
Salt Lake City	June 1st to 8th	4	
Washington, Tacoma	May 26th to June 2d	1	
Wisconsin, Green Bay	June 2d to 9th	2	
Philippines, Manila	April 13th to 20th	9	
Porto Rico, San Juan	May 10th	8*	
* Extinct on island.			
Smallpox—Foreign.			
Austria, Prague	May 18th to 25th	3	
Belgium, Antwerp	May 18th to 25th	3	1
Brazil, Pernambuco	April 1st to 15th	..	27
China, Hong-Kong	April 22d to 27th	7	5
Colombia, Panama	May 27th to June 3d	5	1
France, Paris	May 18th to 25th	..	5
Great Britain, Glasgow	May 25th to 31st	42	1
Greece, Athens	May 18th to 25th	2	
India, Calcutta	May 4th to 11th	..	34
Karachi	April 28th to May 12th	9	3
Italy, Naples	May 19th to 26th	161	28
Japan, Nagasaki	May 6th	1*	
Tokyo	May 11th	3	
Manitoba, Winnipeg	May 25th to June 1st	2	
Mexico, Mexico City	May 19th to June 2d	..	3
Russia, Odessa	May 11th to 26th	9	1
St. Petersburg	May 4th to 18th	24	5
Warsaw	May 4th to 11th	..	8
* On United States steamship *Indiana*.			
Yellow Fever.			
Mexico, Vera Cruz	May 18th to 25th	..	1
Cholera.			
India, Bombay	May 7th to 14th	..	3
Calcutta	May 4th to 11th	..	47
Plague—Foreign and Insular.			
Africa, Cape Town	To April 5th	412	181
China, Hong-Kong	April 20th to 27th	65	55
India, Bombay	May 7th to 14th	..	289
Calcutta	May 4th to 11th	..	134
Karachi	April 28th to May 12th	657	563
Japan, Formosa	May 3d to June 1st	2,157*	
Philippines, Manila	April 13th to 20th	27	16
* Increasing from May 19th.			

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Original Articles.

CLINICAL ANNOTATIONS ON FIVE CASES OF RIGHT-SIDE ABDOMINAL DISEASE.[1]

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I THOUGHT it would be of more interest to the majority of the members of this association to present for their consideration a clinical rather than a technical or theoretical subject. The trend of medicine and surgery of the present century will be toward perfecting our diagnostic methods and improving our therapeutic procedures, and we can further these ends only by rehearsing, reviewing, and discussing the cases that have come under our observation and treatment. These reasons constitute my apology for giving at length the clinical records of the following five cases. Outside of their intrinsic value all of them present features that are of interest from diagnostic and therapeutic standpoints. The histories are:

1st. Of a case of typhoid fever, with intestinal perforation; suture of the perforation; recovery.[2]

2d. Of a case of tuberculous purulent peritonitis; cœliotomy; recovery.

3d. Of a case of empyema of the gall bladder, with impacted stones in the cystic duct; cholecystostomy; recovery.

4th. Of a case of suppurative appendicitis, complicated with a large ovarian cyst and pyosalpinx; abdominal section, removal of the appendix, cyst, and pus tubes; recovery.

5th. Of a case of lymphosarcoma of the intestine, simulating appendicitis; laparotomy; recovery from the operation.

Before proceeding to the recital of the individual cases, a few general remarks might be in place. All these patients were sent into the Mount Sinai Hospital,[3] by competent practitioners, with a diagnosis of appendicitis. In all the head and front of the disease appeared to be located in the right iliac fossa, and hence the errors in their diagnosis. I had occasion some time ago, in a communication published in the *Philadelphia Medical Journal*, May 20, 1898, on the "Differential Diagnosis of Appendicitis from other Affections in the Right Iliac and Pelvic Fossæ," to call attention to the frequent mistakes that are made in ascribing inflammatory diseases in these regions to the appendix. The causes of these rather frequent errors are to be sought, first, in the overwhelming frequency of appendicular as compared to other diseases in these parts of the abdomen, and secondly, in the close anatomical relation of the appendix to the other organs of the right side. While we should be able to guard ourselves against errors due to the first factor, by carefully excluding all the organs disease of which might simulate appendicitis, still frequent errors are bound to arise. Often a differential diagnosis is utterly impossible. A close investigation, however, into the antecedent history of the patient, combined with a carefully conducted abdominal, rectal, and, if the patient be a woman, vaginal examination, will render such errors very infrequent, and will serve to remove from the already overtaxed appendix a large part of its burden as a factor in diseases of the right side of the abdomen.

CASE II.—Tuberculous purulent peritonitis in a girl fourteen years of age; abdominal section; evacuation of the exudate, drainage, recovery.

Minnie R—— was admitted to the medical service of Dr. Manges, July 10, 1900. Her family and previous histories were negative. Four days before her admission she had a chill and severe headache, and vomited twice; the stools were soft and black. The headache and vomiting ceased after two days, but she commenced to complain of pain in the right iliac fossa. The pain remained local for two hours, and then became general over the abdomen. It was sharp and cutting. There was no chill subsequent to the one at the onset of the illness. Physical examination at the time of the child's admission showed her to be poorly nourished, her tongue moist, her expression anxious but not typhoidal; there was no eruption on the body; temperature, 103°; pulse, 124; respirations, 30. The heart and lungs were normal, likewise the liver and spleen. The abdomen was markedly distended and everywhere tender, but especially so in the right iliac fossa; the abdominal muscles were rigid and tense. There was dulness in both flanks, varying with change of posture. No obliteration of the liver or splenic flatness could be detected. Rectal examination revealed a slight fulness in Douglas' cul-de-sac. The pulse was small, not dicrotic. Blood examination showed no Widal reaction, but a leucocytosis of 25,000. Urine, negative.

On July 11th the temperature varied between 99° and 103°; the leucocytosis was more marked, being 36,000; the abdomen was more distended; the pulse was small and 104 to 124 to the minute; no Widal reaction was obtained.

July 12th. Resistance was felt in the right iliac fossa; leucocytosis about the same. There was some vaginal discharge, but no gonococci could be found in it. The diagnosis of appendicitis with peritonitis being made, Dr. Gerster was asked to see the patient. Her extremely wretched general condition rendered so probable an immediate succumbing from the shock attending a laparotomy, that delay was counselled until her general condition would become somewhat improved, and she be thus enabled better to withstand operative interference. The girl was therefore kept under expectant treatment, being freely stimulated the while. Two days later her general condition had improved, the pulse was more regular and full, the temperature fluctuating between 99° and 102°. During the next four days her general condition continued to improve, although the local abdominal symptoms were but little changed. On July 18th, eight days after her admission, her general condition had so far bettered itself that she was considered able to undergo the necessary abdominal section. Accordingly, under

[1] Read before the Harlem Medical Association, November, 1900.

[2] The history of this case will be reported in a separate paper.

[3] These patients were all of them admitted to the service of Dr. Gerster, by whose courtesy I am enabled to report them.

eucaine, the writer opened the abdomen in the right iliac region, and a quart of thin, inodorous pus from the free peritoneal cavity was evacuated. Exploration showed the intestines to be completely matted together into one mass, which had been pressed over to the right side of the abdomen. The appendix could not be isolated or found. The visceral and parietal peritoneum was completely covered with grayish fibrin, and studded with millet-seed spots that resembled tubercles. Microscopical examination of the pus showed streptococci but no tubercle bacilli. The peritoneal cavity was drained by tube and gauze.

Subsequent history: The child reacted well from the operative attack; the pulse at once improved, the temperature elevations were only moderate, never beyond 100°. The general condition commenced to get better; the discharge through the tube was profuse for a time, but gradually became more serous, and finally ceased. On July 22d a severe cough developed, and examination of the chest revealed dulness at the left apex, with diminished voice and breathing. The cough remained a prominent symptom during the convalescence. Repeated examinations of the sputum showed no tubercle bacilli. The abdominal wound gradually closed by granulation; the general condition continued to improve, and the patient was discharged, cured, September 9th.

Remarks: Here was a patient who exhibited all the clinical signs of a diffuse suppurative peritonitis that seemed to take its origin from the right iliac region. As the uterine appendages and gall bladder were apparently normal, the appendix was justly considered the most probable cause of the inflammation of the peritoneum. The streptococcus infection which had been engrafted upon the tuberculous process had served to confuse the diagnosis, for this mixed infection gave rise to a leucocytosis, high septic temperatures, and rapid pulse rate. Very many of the cases of tuberculous peritonitis resemble in their local signs cases of appendicitis. Thus there is marked resistance and even an indefinite tumor to be felt in the right iliac fossa, owing to the small intestine when it has become matted together sagging into the right iliac fossa, because its mesentery is attached more to the right side of the abdomen. Pressure over the inflamed intestine lying in this place elicits greater pain than in other parts of the abdomen. Two cardinal symptoms of appendicitis, then, namely, tumor and pain and tenderness, are present. If now a mixed infection is engrafted on a tuberculous process, so that fever and rapid pulse and leucocytosis occur, it can well be seen how difficult the differential diagnosis becomes. Even in the absence of such a mixed infection a differential diagnosis is often very difficult, but the non-febrile character and the longer duration of the disease, the presence of tuberculous areas in other parts of the body, will aid one in arriving at the proper diagnosis.

You no doubt have noted, in the report of the history of this case, that operation was declined when the child was first seen, because of her wretched general condition. The question may at once be asked, Is anything to be gained by waiting in such cases, and does not an immediate operation hold out to these patients their only hope of salvation, in accordance with the law *ubi pus, ibi evacua*, and at once? This is an important question, and demands earnest consideration. Let us review the facts at our disposal. On the one hand is the necessary abdominal section, which must be performed for the evacuation of the pus; on the other hand is the element of chance that the peritoneal inflammation may localize itself, the patient's general condition and pulse consequently improve, and thus he be better able to withstand the shock of an operation. Which procedure holds out the greatest possibility for recovery?

Experience has shown that a recovery following an operation performed at a time when the patients are in an extremely wretched condition, is a great rarity. The usual result is collapse immediately following the operation, from which the patient never rallies. On the other hand, it has been repeatedly observed that such cases, when kept under opium and ice applications, improve markedly, the pulse becoming of better quality and of less rapidity. It has been customary to ascribe this improvement to a self-limitation of the inflammatory process of the peritoneum. If operation is undertaken at this time, the patients are far better able to withstand the shock, rally well from the attack, and very often recover. I feel convinced that far better results can be obtained in these most desperate cases of diffuse peritonitis, by resorting to free stimulation, administration of opium, and application of ice, and operation at a period when the pulse improves, than by immediate resort to operative interference with a view of following out the letter of the law "*ubi pus, ibi evacua.*"

Case III.—A case of empyema of the gall bladder in a woman of sixty, with impacted stones in the cystic duct; cholecystostomy; recovery.

Braune L——, sixty years old, entered the surgical service of Mount Sinai Hospital, May 11, 1900. Her previous personal history was negative except for rheumatic attacks and indefinite abdominal cramps. She had never been jaundiced. Three days before her admission she was suddenly seized with severe abdominal pain, most marked on the right side, accompanied by vomiting of stomach contents. Her bowels moved once the following day; the color of the stool had not been noticed.

Physical examination revealed a very obese woman, with labored, rapid, and wheezy respiration; pulse rate, 126; temperature, 100.6°, and marked general prostration. No icterus was present. The abdomen was markedly distended, and tender to pressure, especially in the right flank. No pain was felt on pressure over the liver or right hypochondriac region. In the right umbilical and iliac region was a marked resistance of the rectus muscle, and an indistinct tumor, surrounded above, below, and internally by coils of intestines. No free fluid could be discovered in the abdomen.

Heart: A distinct systolic murmur was heard at the apex.

Under local anæsthesia of eucaine, the abdomen was immediately opened by the writer, the incision being placed directly over the mass. This was so low down that the incision lay in the right iliac fossa, about two inches above and parallel to Poupart's ligament. When the peritoneal cavity was opened a few ounces of free sero-purulent fluid escaped; the intestines were found adherent to an inflammatory tumor, and covered by a large amount of fresh fibrin. After the free peritoneal cavity was protected by gauze compresses, the intestines were carefully separated from the mass, which proved to be a very much enlarged and distended gall bladder. This was isolated by compresses, evacuated of its sero-purulent contents by aspiration, incised, and two large stones, one of which was impacted in the orifice of the cystic duct, were removed. Bile flowed freely into the gall bladder when the impacted stone was removed. The gall bladder was drained by tube and gauze, the incision in it closed around the tube by a purse-string suture, the abdominal wound partly sutured, and an aseptic dressing applied.

Subsequent history: The patient reacted fairly well from the operation; bile flowed freely from the tube in the gall bladder. The hypostatic pneumonia cleared up. The wound healed kindly; the tube drainage was removed from the gall bladder on the tenth

day; bile continued to discharge from the fistula for six weeks, when the latter closed spontaneously.

Remarks: This case illustrates admirably the difficulties which may be encountered in the differential diagnosis of right-side abdominal disease. The tumor representing the gall bladder was situated not in the right hypochondrium, but low down in the iliac region, and was surrounded on all sides by coils of intestines. In the absence of jaundice, and of any history pointing to cholelithiasis, and with a tumor separated from the liver above, and occupying the right iliac fossa, an accurate diagnosis was utterly impossible. Of course this patient represents a rather infrequent type of gall-bladder disease, namely, one that has given no previous sign, in the shape of gall-stone colic, of its existence. The anamnesis in these patients is always of the utmost importance, and in any case in which doubt exists, it should be carefully elicited. It will serve not only to diagnosticate correctly the organ that is diseased, but will also materially aid us in locating the exact site of the calculi,—whether they are in the cystic, or hepatic, or common bile ducts. Another point of interest in connection with the case is the fact that the operation, though extensive and rather prolonged on account of the adhesions, could be very satisfactorily performed under local anæsthesia. The indications prompting me to the selection of eucaine, rather than a general anæsthesia, were the wretched general condition of the patient, and the existence at the time of her admission of a marked hypostatic pneumonia. It might be said that, with patients of good courage and physical endurance, most of the surgical procedures could be carried out under local anæsthesia, without the infliction of very much pain. The great advantages of general anæsthesia lie in the complete relaxation induced by their administration, and in the unconsciousness of the patients to the fact that they are being operated upon.

Case IV.—A case of acute perforative appendicitis, with localized abscess, complicated with a large ovarian cyst and pyosalpinx; incision of the abscess and drainage; healing of the abscess formation; secondary operation for the removal of the appendix, ovarian cyst, and pyosalpinx; recovery.

Elizabeth G——, thirty-five years old, a very obese woman, a widow, was admitted to the surgical service, June 30, 1900. Her illness was of four days' duration, having commenced with general abdominal pain, which later became localized in the right iliac fossa. There were associated with the pain vomiting and fever.

Physical examination revealed a very obese woman, with slight conjunctival icterus. The heart, lungs, liver, and spleen were normal. The abdomen was very much distended, the right rectus muscle rigid and tense, and a very distinct tender mass was to be felt in the right iliac fossa. Vaginal and rectal examinations merely confirmed the presence of this mass. The diagnosis of perforated appendicitis with abscess being made, the writer immediately opened the abdomen under chloroform anæsthesia by the Sonnenberg incision. The peritoneum was found to be œdematous, and the caput coli adherent to the parietal peritoneum. After due protection of the free peritoneal cavity by gauze compresses, the caput coli was separated from its adhesions and an abscess cavity opened into which contained about three ounces of fetid, fecal pus. This cavity was thoroughly cleansed and search then instituted for the appendix. As this could not be readily located, further search was deemed inadvisable on account of the danger of breaking down the adhesions separating the abscess from the free peritoneal cavity. The abscess was therefore drained by tube and gauze, and an aseptic dressing applied.

The patient reacted well from the operative procedure. The abscess cavity healed by granulation. There was a fecal odor to the discharge for several weeks. The patient was discharged July 29th, with the recommendation to return for the removal of the appendix. For two weeks after leaving the hospital the patient remained well. Then she commenced to suffer with pain in the bladder, especially on urination. She was told by her physician that she had cystitis, and her bladder was irrigated. The pain persisted, and radiated to the left iliac region. There was no vomiting, no chill or fever; her menstrual history was negative.

Abdominal examination showed the scar of the previous operation in good condition. Over this there was slight pain. The abdominal wall was soft, but nothing could be palpated within the abdominal cavity. In the right vaginal fornix was a tender mass which stretched for a short distance to the left pelvic region. The rectal examination was negative.

In view of the fact that I knew the diseased appendix was still within the abdomen, I concluded that this organ was the chief source of the trouble, although the tender mass in the right vaginal fornix distinctly suggested an associated pyosalpinx. On the 23d of August, under chloroform anæsthesia, I again opened the abdomen to the left of the former incision. When the peritoneal cavity was opened a dense mass of adherent omentum presented. This was divided between two sets of mass ligatures. The deeper parts being now exposed, the large ovarian cyst with very flaccid walls was seen. The pedicle of the cyst was wrapped up in dense adhesions, with a pus tube the size of an orange. After due protection of the peritoneal cavity, the cyst and tube were separated from their adhesions, their pedicle was secured with silk ligatures, and the diseased structures were ablated. Search was now made for the appendix. It was readily found embedded in adhesions. Its mesentery was secured, and the organ removed. Its mucosa had become obliterated for two-thirds of its extent. The abdomen was partly closed, a gauze drain being passed to the stump of the broad ligament; aseptic dressing.

Subsequent history: The patient reacted well from the operation; the bowels moved on the second day; the gauze drainage was removed on the fourth. The wound healed per primam; the drainage opening closed by granulations in six weeks, when the patient was discharged cured.

Remarks: This case again shows the difficulty of accurately diagnosticating the exact pathological condition. Those who are accustomed to examine the genital organs of the female know that in obese patients it is a matter of extreme difficulty to map out a flabby, cystic ovarian tumor. The reason is self-evident. The flaccid, non-resisting mass offers to the examining hand the same sensation as does the loose fat. This fact should always be borne in mind before establishing the diagnosis of appendicitis in the female; for should such a cyst become twisted upon its pedicle it would give rise to symptoms strongly simulating an acute appendicitis.

Upon this patient's first admission to the hospital the presence of even a rather large ovarian cyst was not made out, although a careful vaginal and abdominal examination was made. As regards the pyosalpinx, the mass produced by the pus tube was detected and recognized at the first examination, but as the left vaginal fornix was comparatively free, and as the mass in the right fornix appeared to be continuous with the inflammatory focus in the right iliac fossa, it was considered that both were due to the same cause, namely, the appendicular abscess. At the time of the first operation, I contented myself with evacuating the abscess cavity around the appendix, and did not wish to expose the patient to the increased risk of

breaking down adhesions for exploring purposes. On her readmission to the hospital the pyosalpinx was at once detected, although its importance as a factor in producing the return of the symptoms could not be fairly estimated, as a diseased appendix was still within the abdomen. As regards the advisability of removing the appendix at the time of the first operation, it is the custom of the writer never to jeopardize the chances for recovery by breaking down adhesions in a search for an appendix that probably in itself forms one of the walls of the abscess cavity. When, however, the appendix can be readily located, in these cases its peritoneal covering is split, and its mucosa shelled out. The acting cause of a subsequent attack of inflammation of the appendix can be thus removed, and yet the patient not be exposed to any added risk by breaking down the peritoneal adhesions that it has formed.

CASE V.—Lymphosarcoma of the intestine and retroperitoneal glands; exploratory laparotomy; recovery from the operation.

Max G——, thirty-five years old, admitted June 28, 1900. He had been in his usual good health until five days before, when he was seized with severe abdominal pain and vomiting, and slight fever. The pain became localized in the right iliac fossa; the bowels moved daily. On admission he had a temperature of 100.4°; pulse, 98; respiration, 28. Physical examination showed the man to be in poor general condition, though rather well nourished; the heart and lungs were normal. The abdomen was much distended and very rigid, and tender to palpation. There was no indication of free fluid within the peritoneal cavity. The liver and spleen appeared to be of normal size. In the right iliac fossa was a tender mass the size of a large orange. This mass could be palpated per rectum. Some slight enlargement of the axillary and cervical lymph glands existed. The diagnosis of appendicitis with abscess having been made, immediate operation was proceeded with. The abdomen was opened in the right iliac region with a Kammerer incision. After incision of the parietal peritoneum the intestines were found to be matted together with fresh adhesions. Between the adherent coils were collections of sero-sanguinolent fluid. Exploration revealed a large number of nodules, varying in size from a hazelnut to a walnut, situated in the mesentery of the small intestine. The omentum likewise was rolled up into a thickened, indurated mass, adherent to the intestinal coils. A part of the omental tumor was excised for pathological examination. The small intestine itself, at its mesenteric attachment, likewise contained several of these nodules. The adhesions were general throughout the abdominal cavity and the appendix could not be readily located. The diagnosis of lymphosarcoma of the omentum, intestines, and glands was made. The abdomen was closed by through-and-through suture, slight drainage being provided.

Subsequent history: The patient reacted well from the anæsthetic; the drainage was removed on the second day; the wound healed primarily. There was a daily increase of temperature to about 100°; otherwise convalescence from the operation was uneventful. The pathologist, Dr. Mandelbaum, reported the excised specimen of omentum to show lymphosarcoma.

The patient was given hypodermic injections of arseniate of sodium, but no material change was noticed from its use.

July 15th, the wound was entirely healed. The tumor mass was palpable in the right iliac fossa; apparently it had increased in size. The general condition of the patient had not improved, and he was discharged at his request. Subsequent attempts to locate him have been unsuccessful.

Comments: I have presented this history because it illustrates one of the rare mistakes in diagnosis. Lymphosarcomatous degeneration of the mesenteric glands is not a very frequent disease. Very often, as in the above case, it simulates appendicitis. I know of no way in which the differential diagnosis can be made, except when there is a previous history of abdominal tumor, or when there are several tumors to be felt in the abdomen.

I think the cases I have cited sufficiently illustrate the difficulties that are and may be encountered in establishing a diagnosis in disease of the right side of the abdomen. Pain over the classical McBurney's point is not by any means always appendicular in origin; and again I would suggest that, before appendicitis is diagnosed, the other organs in the abdominal cavity be investigated.

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TONOMETRIC EXAMINATION IN CHRONIC DISEASES OF THE HEART.

BY PROF. THEODOR SCHOTT, M.D.,
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THE treatment of chronic diseases of the heart by means of baths and gymnastic exercises, as introduced into medical practice by my late brother and myself, is so well known to the readers of this journal and probably to the profession generally throughout the United States, that a detailed description of the same is uncalled for here. The principles which we established have been fully confirmed by the repeated studies and experiences of our colleagues and followers, as regards the indications for treatment as well as the improvements and recoveries which may result.

That improvement which we especially observed, namely, the changes in the form and size of the cardiac wall, and which gave rise to much discussion, has been most satisfactorily confirmed by means of the Roentgen rays; the results obtained by the use of the latter proved to be almost identical with those established by percussion. The details of the *x*-ray examination have been fully stated by me in this journal, March 26, 1898, whereby my previous experiences and deductions were most fully corroborated. I was thereby enabled to prove that by the application of thermal mineral baths containing carbonic acid, combined with the administration of systematic therapeutic exercises with resistance and self-resistance, an increase of the contracting vigor of the heart could be demonstrated, resulting in a slower but more powerful pulsation, which caused a dilatation to decrease or entirely to disappear.

The diagrams of the pulse taken in the course of such a treatment gave striking proofs of what had been asserted, by an increase of the primary elevation, by a greater distinctness or augmentation of the elastic elevations, a rising of the elevation produced by the shutting of the aortic valve, etc. Although these examinations seemed clear and unobjectionable, yet many eminent medical authorities refused to be convinced concerning the blood pressure.

My brother and I were long ago able to demonstrate and prove by experiment that by the administration of properly regulated thermal baths containing carbonic acid gas, combined with a methodical use of gymnastic exercises, an increase of the blood pressure could be more certainly produced. Fully twenty-five years ago, my brother, in experiments which he made with shorn rabbits in the physiological laboratory of Professor Heidenhain at Breslau, found, after the application of thermal baths, of indifferent temperatures, containing chloride of sodium and more or less of chloride of calcium in solution, an increase of the blood pressure, measured in the carotid artery, of

from five to ten or more millimetres of mercury. I have myself, in a series of published cases, given detailed statements regarding the increase of blood pressure caused by the administration of natural or artificial Nauheim baths and by the use of therapeutic exercises, all of which have been confirmed by means of the sphygmomanometer of Basch. Many of my colleagues and followers have been able further to confirm these observations of mine by the use of other instruments, such as those invented by Potain, Oliver, etc.

Notwithstanding all these observations and testimonials, there are those who have doubted and even still doubt the correctness of my assertions, and who claim that they have noticed a decrease of the blood pressure, where by the use of our remedial measures there should have been an increase of it.

This discrepancy will be accounted for by a few explanations, which, for lack of space, I must give very briefly. The differences in the results observed were mainly due to the instruments hitherto applied to the body. However valuable they were in their kind, still they were unfitted to settle decisively the point in question, for the following reasons:

1. The height or degree of pressure as measured by the touch of the finger varies not only if different observers examine the artery at the same spot, but a difference more or less significant will often be observed under the touch of the same examiner.

2. In an advanced sclerotic condition of the vessels the height of the blood pressure is sometimes delusively great in consequence of the resistant and rigid condition of the arteries, and when from other symptoms we know there exists a low blood pressure; and

3. A swollen condition of the tissues over the artery may in some cases seriously influence the examination of the blood pressure.

All these facts will sufficiently explain why the results of examinations made by different persons vary, and we must conclude that the records of the instrument were too much subject to the action of the individual observer. In a word, the apparatus hitherto in use has not been sufficiently accurate for unequivocal demonstration. We have, therefore, great reason to be gratified and pleased with the invention by Gaertner of his tonometer, an instrument with the help of which we know and behold with our own eyes the moment in which the blood gushes into the tip of the examining finger, or, differently expressed, we are enabled to read directly from the instrument the highest pressure of the blood at the time of examination.

As this apparatus is well known to most of your readers, a description of it here is unnecessary, but I may mention that in all examinations of a minute character I never use any but the mercury apparatus, as the pocket instrument of the same kind often shows differences and is, therefore, unreliable. Moreover, the instrument which I prefer permits of a more distinct and accurate reading of the resulting figure. It is true that constant use of and long-continued experience with Gaertner's tonometer are indispensable. In the first place, we must not regard the first tonometric figure as the correct and reliable one. It is well known that the momentary state of the nerves greatly influences the blood pressure, that is, the tonometric figure, and that in patients who are not of a nervous disposition the first recorded height is generally too great. Therefore, care should be taken that as far as possible during the examination the patients should be free from excitement, and that they should not even look forward to the measurement with too keen an interest. For this purpose, the attention of the patient should be distracted as much as possible from the manipulation, and we must not consider our task completed until the measurement shows an almost equal result on several fingers of the same hand, or by turns on both hands.

Further, we must not regard the pale-red color of the finger-tip which at first appears as the definite condition for measurement; on the contrary, a real purple color must be distinctly observable. I have had frequent occasion to convince myself that on this point my colleagues have erred, and have thereby been led to record too high a degree of blood pressure. Oft-repeated experiments and observations of different kinds will, however, easily disclose the sources of such mistakes.

It is certainly conceivable that repeated examinations of the blood pressure, taken upon the same person and made with the careful avoidance of the above-mentioned errors, would give identical results, and that these results would be of great value, because the blood pressure ascertained by means of the tonometer represents, for physiological reasons, almost exactly the real blood pressure in the small arteries. Now, if we know the degree of blood pressure in the small arteries, it is an easy matter to calculate the degree of pressure in the large arteries and in the heart itself. It was, therefore, with much surprise that last spring I casually read statements which were contradictory to the results obtained by means of the tonometer by myself and colleagues.

In this connection I have to add only that, with a purpose of obtaining perfectly reliable facts, every possible care was taken in making my experiments to avoid those possible sources of error to which I have already directed attention. It is quite conceivable that a neglect to guard against these sources of error may account for the contradictory conclusions arrived at by other experimenters.

While recording in this article the results of my experiments relative to the blood pressure in the course of a balneological and gymnastic treatment of chronic diseases of the heart, I must direct the attention of the reader to some other points which it is of special importance to attend to during the application of the tonometer.

As the inventor, Professor Gaertner, justly observes, it is necessary to place the instrument in such a way that the finger selected for the examination is kept during the manipulation on a level with the heart. That striking and great differences arise from a want of attention to this point, I have proved experimentally by ascertaining the tonometric figure of one and the same patient, with the hand raised first to the height of the mammilla, after that to the level of the shoulder, and finally above the head. The results were as follows:

	Mammilla.	Shoulder.	Head.
Patient Fl.....	115	90	75 mm. Hg.
" Dr. M.....	120	110	80 "
" K.....	130	105	90 "

It is, therefore, perfectly evident that examinations of blood pressure taken at one time with the manipulated finger on a level with the heart, and at another time when the same patient is in the bath tub, with the finger, of course, higher than the heart, and even as high as the shoulder, will give different tonometric figures; and that, without further precautions, it is absolutely impossible to determine the effect of a bath upon the blood pressure. Hence, with a view to obtain a uniform and reliable basis for the manipulation, I caused a small table to be constructed, which, by means of a screw, could be raised or lowered in the bath-tub. The tonometer and the hand of the patient rested upon the table board. In every case in which the blood pressure was measured while the patient was

on the sofa, I have taken special care that he assumed the same position as in the bath-tub, and that both the finger and the tonometer were on a level with the mammilla.

Care must also be taken lest the fingers under examination get too cold, for thereby the vessels are contracted and the figures obtained will be much too low. In conducting the examination it is a matter of indifference which finger is selected, provided that the rubber ring, which is applied before being blown up with air, must be neither too tight nor too loose, and that it be not placed directly over a joint. With careful attention to the above-mentioned precautionary measures, one is sure to obtain reliable results for a satisfactory comparison.

During the last two years I have made, partly alone and partly with the aid of my assistant, several thousand tonometric examinations—many of them in the presence of colleagues of mine—with the result that I am fully convinced that cases of the same disease and in the same stages thereof will show corresponding figures both in the course of the bathing and of the gymnastic treatment. I quote here a few cases among many.

P. R——, male, aged twenty-three years, suffering from mitral insufficiency and dilatation of both ventricles. His condition has been aggravated through bicycling. He complains of palpitations and of dyspnœa. I ordered fifteen minutes' rest before taking Nauheim effervescent bath of Spring No. VII. of a temperature of 89.6° F. and ten minutes' duration.

	Frequency of the Pulse.	Respiration.	Blood Pressure, Tonometric Figure.
Before bathing	92	22	102
After 2 minutes' bathing.	81	Not counted.	115
" 6 " "	78	18	117
" 8 " "	78	16	129
" 10 " "	82	18	125
After 6 minutes' resting .	80	16	125

The following diagram, taken before, during and after the bath, shows distinctly its effect.

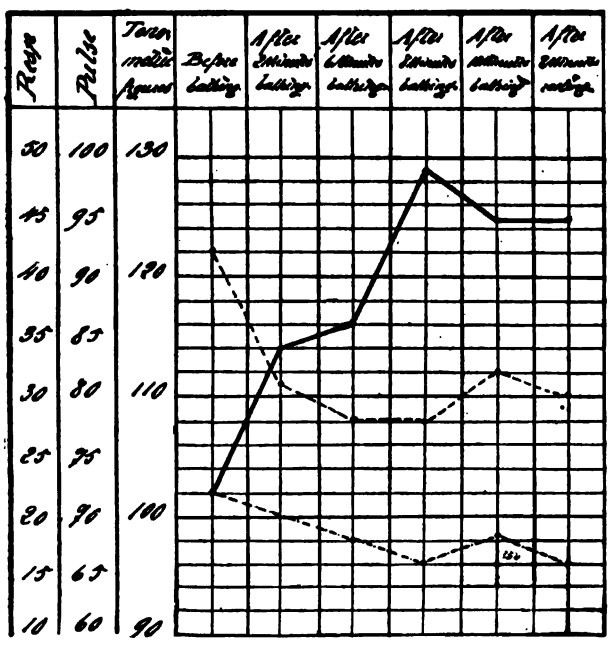

FIG. 1.—Tonometric Figure, ——; Pulse .....; Respiration, —·—·—.

A. W——, male, aged fifty years, with cor adiposum, debilitas cordis, dilatation ventriculorum amborum præcipue ventriculi sinistri. I ordered before bathing forty-five minutes' rest. He takes an effervescent bath of Spring No. VII., temperature 88.7° F., ten minutes' duration.

	Frequency of the Pulse.	Respiration.	Pressure of the Blood, Tonometric Figure.
Before bathing	76	24	101
After 2 minutes' bathing.	74	19	110
" 5 " "	70	18	110
" 7 " "	68	16	114
" 10 " "	68	16–17	116
After 8 minutes' resting...	66	17	122

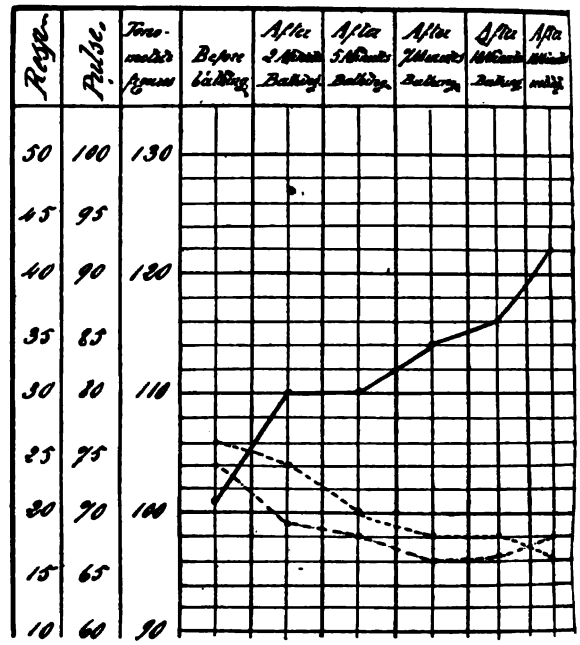

FIG. 2.—Tonometric Figure, ——; Pulse Frequency, ...; Respiration, —·—·—·.

By means of this diagram we see in this case the same uniformity of results, and we also find that the tonometric measurements reflect like a mirror the workings of the pulse and respiration.

We find that just in proportion as the pulse and respiration rates are lowered to a more natural frequency, the blood pressure rises to a more normal height.

Some of my cases were of great interest to me in another direction, and emphasized the necessity for another precaution, namely, if through an insufficient closing of the stop-cock, as will now and then happen even in Nauheim, a more or less violent escape of carbonic-acid gas occurs, evoking a shortness of breath in the patient, the blood pressure is at once lowered, indicating failure of heart power, while, per contra, the pulse and respiration rise, also indicative of cardiac failure. This is illustrated in the following case:

M. R——, male, aged fifty-three years, with debilitas cordis, neurosis cordis motor.

	Frequency of Pulse.	Frequency of Respiration.	Blood Pressure.
Before bathing	90	21	147 mm. Hg.
After 2 minutes' bathing ..	96	24	135 "
" 3 " " ..	98	24	132 "

Great care, therefore, must be taken in the administration of carbonic effervescent baths, lest the air of the bath-room become surcharged with the gas. It would take me too long to state here the differences of the blood pressure in cold and hot baths. Perhaps I shall find another occasion to recur to this subject. The result of experience up to this time in the systematical use of exercises with resistance and self-resistance in cases suitable for the administration of such treatment, would lead us to expect that in these

cases also the tonometer would have shown an increase of the blood pressure. And, in fact, the experiments made by me during the past year fully confirm all those which I had occasion to make in preceding years.

For want of space, I relate here a few cases without adding diagrams:

Dr. J——, physician, aged forty-seven years, with insufficientia et stenosis mitralis, œdema pedum, intumescentia hepatis, dyspnœa. Before the therapeutic exercises a rest of one hour is ordered.

	Frequency of Pulse.	Respiration.	Tonometric Figure.
Before the exercises	90	26	103 mm. Hg.
After 5 minutes' exercises with resistance	75	24	117 "
After 10 minutes' exercises with resistance	70	25	124 "
After 15 minutes' exercises with resistance	65	24	123 "
After 20 minutes' exercises with resistance	62	24	130 "
After 20 minutes' resting	62	24	133 mm. Hg.

G——, male, aged fifty-six years, with stenosis aortæ, hypertrophia et dilatatio cordis.

	Frequency of Pulse.	Respiration.	Tonometric Figure.
Before the exercises	65	24	157 mm. Hg.
After 5 minutes' exercises with self-resistance	62	22	180 "
After 10 minutes' exercises with self-resistance	66	24	175 "
After 15 minutes' exercises with self-resistance	61	21	182 "
After 10 minutes' resting	60	18	185 mm. Hg.

Of course, in those cases in which the therapeutic exercises have been abused, or for any other cause the patient has over-exerted himself, the record of the blood pressure will be of a different character. I shall treat of this on some other occasion. Those cases in which the Cheyne-Stokes phenomenon occurs are most instructive, as an accumulation of carbonic acid in the blood is then known to exist and to cause an abnormal height of blood pressure. In such cases we find, although not always, according to the stage and progress of the disease, that by means of the gymnastics and also by the use of the mineral baths, the blood pressure is either temporarily or permanently reduced. A similar effect may be expected in cases of anæmia.

Aided by my assistant, I have taken notes in several hundred consecutive cases undergoing the combined balneological and gymnastic treatment, and the results thus obtained have fully confirmed all that I have claimed. I mention herewith only three cases:

	Blood Pressure.		
	Before Treatment.	After Treatment.	
Dr. St., physician, aged forty-one years; debilitas cordis, dilatation of both ventricles, neurosis cordis sensibilis et motor	100 mm. Hg.	52 days.	125 mm. Hg.
Dr. J., physician, aged forty-seven; insufficientia et stenosis mitralis, intumescentia hepatis, etc	95 "	72 "	130 "
Dr. C., physician, aged forty-nine years; myocarditis ex cor adiposum, dilatation of both ventricles	85 "	30 "	125 "

The diagrams of the pulse taken simultaneously with the tonometric examinations, during the balneological and gymnastic treatment, show the changes which my readers are already acquainted with; therefore, I do not reproduce them here, nor do I consider it necessary to give the cases in detail.

With regard to massage, I can only repeat what I have hitherto stated on that subject, namely: That whenever used it has had little or no effect upon the blood pressure.

It was with considerable curiosity that I made some tonometric examinations in cases of heart disease in which I knew that the balneological and gymnastic treatment was contraindicated, namely, cases of far advanced arteriosclerosis, of far advanced myocarditis, and of aneurism of the heart and the aorta. Here, also, my former experience was fully confirmed. I cite the two following cases:

T. S——, male, aged forty-seven years, with myocarditis, dilatatio ventriculorum amborum, congestio hepatis, ascites, œdema pedum, dyspnœa.

	Frequency of Pulse.	Respiration.	Tonometric Figure.
Before bathing	108–110	27–28	230 mm. Hg.
After 4 minutes' bathing (Spring No. VII., temp. 90.5° F.)	118	28	115 "
After 8 minutes' bathing (Spring No. VII., temp. 90.5° F.)	130	30	85 "
After 5 minutes' resting	125	29	125 mm. Hg.

H. Z——, male, aged forty-five and a half years, with aneurysma aortæ, arteriosclerosis.

	Frequency of Pulse.	Respiration.	Tonometric Figure.
Before bathing	75	22	105 mm. Hg.
After 2 minutes' bathing (Springs VII. and XII., temp. 90.5° F.)	82	26	82 "
After 5 minutes' bathing (Springs VII. and XII., temp. 90.5° F.)	81	25	90 "
After 8 minutes' bathing (Springs VII. and XII., temp. 90.5° F.)	86	24	88 "

Then, shortness of breath with cough supervening, the patient had to leave the bath.

With few exceptions, it may be considered a serious symptom whenever, in cases undergoing the balneological or the gymnastic treatment, the blood pressure is lowered; and I have no hesitation in saying that when a tonometric figure as low as 65 or 60 mm. of mercury is found, therapy is of little avail, and the bath and exercise treatment are wholly contraindicated. Very recently a case of advanced myocarditis, originally due to gout and malaria, came under my notice. It had not previously been under treatment. To the myocarditis were added violent attacks of diarrhœa, and in this case a lowering of the blood pressure to the extreme figure of 45 mm. of mercury was noted about eight hours before the fatal end, although at the time the patient declared that he felt better.

Future experience must determine what is the exact degree of low blood pressure which must be regarded as dangerous and as indicating an exitus lethalis.

Although the old rule that practitioners should manage with as few instruments as possible is certainly correct, yet of late years the instruments for physical examination have rapidly increased in number. Therefore, when a new apparatus for physical diagnosis is brought forward, it behooves us to ask ourselves whether we really stand in need of it. The general practitioner may dispense with the tonometer, but the physician who is desirous of making minute and careful observations, or who is in quest of an excellent expedient for demonstrating the blood pressure,

will find in the tonometer an instrument especially adapted to his purpose, provided that with its use he combines the necessary care and diligence to avoid the sources of error to which I have called attention. I have not the slightest doubt that further careful experience with Gaertner's tonometer will fully confirm the statements and facts which I have given in this treatise.

CHRONIC GONORRHŒA AND POST-GONORRHŒAL URETHRITIS—A SKETCH OF THEIR MODERN TREATMENT.[1]

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A GONORRHŒA may become chronic from, and a post-gonorrhœal urethritis may be perpetuated by, (1) lack of treatment, (2) misdirected treatment, (3) insufficient treatment, (4) over-treatment, (5) infraction of dietetic or hygienic regulations, (6) constitutional disturbances, (7) congenital or acquired deformities and complications, (8) involvement of the urethral adnexa, (9) marital reinfection.

In addition to the above, some gonorrhœas, as Guiard[2] has shown, present all appearances of being chronic from their very inception (*blenorrhagie chronique d'emblée*).

In studying the modern treatment of chronic gonorrhœa and of post-gonorrhœal urethritis, it is useful to consider the above causes of chronicity. Such a study must necessarily be in coarse outlines, lest the perfectly proper time-limit set upon papers before this Congress be exceeded.

1. Lack of treatment. Despite the efforts of those who have labored and are laboring most assiduously for the true understanding of gonorrhœa, there are still colleagues who dismiss it as a trifling ailment. This view is transplanted to the public, most of whom cannot understand the need of treatment when they suffer little or no pain, and are barely disturbed by slight inconvenience. Thus unchecked, the gonococci proliferate; they invade the depths of the urethral tissues, make many a nidus in its crypts, glands, and follicles; penetrate the adnexa, so establishing a chronicity which is often very tardy of cure. The patient must ever be reminded that until a cure is effected he carries with him danger of infection to himself and others.

2. Misdirected treatment is perhaps more frequently the cause of the persistence of gonorrhœa than are all the others combined. This misdirection at the present time is happily less frequent than it was formerly. But, unfortunately, gonorrhœa is still, in the eyes of the laity, the proper field in which the quacks and nostrum venders may exploit the public. And as long as the public, through its lawgivers, refuses to pass and enforce enactments for its own protection, so long will charlatanism flourish.

Another flagrant means of misdirecting treatment lies in the too prevalent custom of relegating the details of the treatment of gonorrhœa to the patient himself. This is often done, apparently under the assumption that a layman is necessarily born with the knowledge and skill which the physician attains only after many years' study and experience. The patient cannot know, unless instructed, how dangerous a disease gonorrhœa is, nor can he intelligently and dexterously treat so delicate a canal as the urethra until he has been properly instructed therein.

3. Insufficient treatment is often the reason for a gonorrhœa becoming chronic. When effective care causes pain quickly to disappear and the discharge to be reduced to a mere mucoid excess of urethral moisture, the patient, unless thoroughly warned, is likely to leave the rest to nature. How this fair lady treats him is recorded in the history-books of physicians in general, and of genito-urinary specialists particularly.

4. Over-treatment, too, can maintain a urethral discharge indefinitely. The gonorrhœa may long ago have subsided, but an irritative urethritis can be maintained without any specific lesion in the canal to account for it. In these cases, when treatment is stopped, the patient gets well.

5. Infractions of dietetic and hygienic regulations often insure the chronicity of a clap. There are, however, but relatively few patients, and these among the most depraved, who will not abstain from those indulgences which their physicians tell them are noxious. Indeed, these cases are most exceptional when the patients are properly impressed with the fact that, while they have gonorrhœa, they are a danger to themselves and to others.

6. Constitutional disturbances, such as depressed conditions from malnutrition, anæmia, lowered vitality from overwork, unhygienic living, dissipation, etc., naturally place the vitality at a disadvantage in the struggle against microbic invasion. Manifestly in such cases local treatment alone rarely suffices to prevent gonorrhœa from becoming chronic.

7. Congenital or acquired deformities and complications in the genito-urinary apparatus naturally offer mechanical impediments to effective local treatment. It behooves us to study the most frequent of these, as much in detail as is permissible in so brief a paper as this.

It will be convenient to consider the most frequent deformities and complications of gonorrhœa according to their anatomical site. In doing so we first meet with

Deformities of the prepuce. Congenitally this fold may be very large, with or without tightness preventing its retraction. Acute inflammation may also thicken it immensely with the coverings of the penis, as in a lymphadenitis or lymphangitis. Its orifice may be very narrow from birth, or in consequence of cicatricial contractions. Any of these conditions may lay the foundation for a severe phimosis or paraphimosis. Not at all infrequently in young subjects with a first gonorrhœa the prepuce is found adherent to the glans, rarely in its entirety, more often in spots. All of these states unrelieved make violent balanitis and balano-posthitis unavoidable, and provoke condylomata in consequence of the local irritation, compression, and maceration of the mucosa.

When the preputial infiltration is acute, and even when it has existed for some time, it generally yields to hot antiseptic applications continuously applied. Naturally, when the prepuce is congenitally tight such treatment cannot, even when most successful, do more than reduce the prepuce to its original thickness and dimensions. If this has been attained or not, and if it is not possible painlessly to retract the prepuce, operative intervention is immediately necessary. The dorsal slit, usually recommended, is unsatisfactory even when the prepuce is small and thin, as thereby a rolling pendant is formed of the foreskin, exposing only a small triangle of the glans. This small triangle may expose no serious lesion, while the uncovered and so uncoverable part of the preputial sac may contain chancre, chancroids, condylomata, and may retain immense quantities of pus and masses of decomposing or indurated smegma. To expose thoroughly all parts of the glans in such a phimosis, it is best to make free incision through each side of the prepuce exactly mid-

[1] Presented before the Third Pan-American Medical Congress, Havana, February 4 to 7, 1901.

[2] Guiard: "Les uréthrites chroniques chez l'homme," 1898. Rueff, Paris.

way between the dorsal line and the frenum.[1] These incisions must be carried well down to the coronary sulcus. Rare, indeed, is even an indurated prepuce which does not, after the escape of some blood, become so manageable that the entire glans and the inner preputial surface can be readily examined and any lesions found there treated. Later on, when active local conditions have subsided, circumcision may be completed for cosmetic effect.

A very large, heavy prepuce, although it may be easily retractible, may cause a chronic urethritis to continue a very long time. By covering the meatus it prevents free drainage of the canal with consequent retention of its abnormal secretions and thus favors the proliferation of noxious microbes. Manifestly the remedy therefor is circumcision. The method of circumcision experience has led me to prefer, because it is painless and does not disable the patient from his occupation and diversions, is elsewhere fully described.[2]

A stenosed meatus, congenital or acquired, may be the essential element for the indefinite prolongation of a gonorrhœa. In a fair number of cases the stenosis yields to gradual dilatation, but in the majority meatotomy is required.

Stenosis of the posterior boundary of the fossa navicularis not infrequently accompanies a small meatus, although each may exist independently of the other. This stricture is amenable to the same treatment as is that of the meatus. It is well to keep in mind, when performing a meatotomy, that the posterior fossal boundary may be tight. The same incision which relieves the one should then also embrace the other.

Para-meatal fistulæ, sometimes exceedingly minute, may open near the external urethral orifice. They must be sought for and either destroyed by electrolysis, or opened into the meatus by incision, according to their size and their relations to the channel. If this is not done, these fistulæ, harboring gonococci, may continually reinfect the urethra and thus indefinitely maintain its inflammation, despite the best-directed efforts that may be made.

Hypospadias or epispadias of the glans may render the thorough treatment of gonorrhœa difficult, but does not usually cause much prolongation of gonorrhœa. When, however, the infection is reduced to a minimal state which defies treatment, radical operation for the cure of the deformity in hypospadias (preferably by

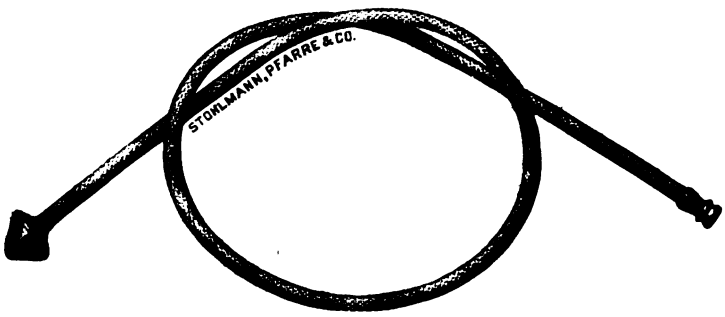

FIG. 1. Bougie-à-boule.

Beck's method[3]) may be required before final recovery is obtainable.

Condylomata on the glans, the prepuce, within the meatus or the urethra, may prolong a gonorrhœa into chronicity. As Posner[4] has shown, when extra-urethral warts are pedunculated, they almost invariably yield to local applications of powdered savin; sometimes sessile condylomata also are removed by the use of this drug. When this fails, they may be painted with tincture of iron and curetted daily or every second day, or they may be excised and their bases cauterized with nitric acid. When they are located within

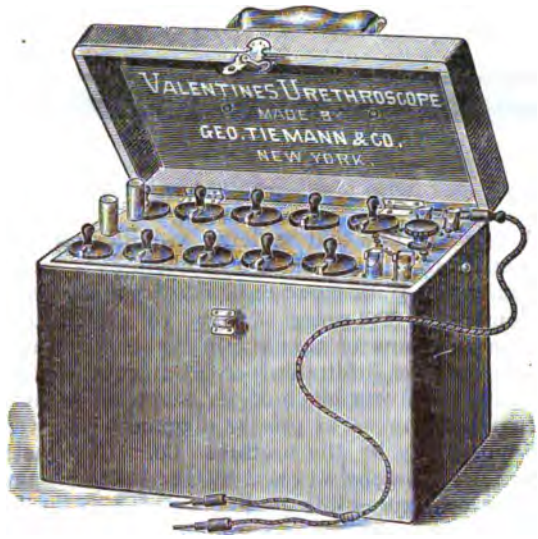

FIG. 2.—Valentine Urethroscope.

the urinary channel, they usually require removal through the urethroscopic tube.

Residua of previous infections of the urethra manifestly must be cured before a new infection can be obliterated. These residua, however long quiescent, can at any time produce what resembles a new gonorrhœa, although the patient may be innocent of a fresh exposure. It would be a sad commentary upon matrimonial fidelity if every man, who even in the remote past had a gonorrhœa, were accused or accused his wife of unchastity, should recrudescence occur of a gonorrhœa so old as to be almost forgotten. This fact emphasizes the need of physicians to instruct the public on this subject, and of warning men not to marry until careful examination has proved that they are free from infectious material. This subject, however, is detailed elsewhere.[1] The most important residua of previous urethral infection which render a gonorrhœa chronic are infiltration of the mucosa, stricture, retention of gonococci in the crypts, glands, and follicles, and neoplasms.

The methods of diagnosing these conditions, beside a close study of their symptoms, are in microscopical examination of the urethral discharge, microscopical examination of the urine, and physical exploration of the urethra.

The last mentioned is accomplished first, by palpation of the external coverings of the channel, in which experienced fingers can often elicit the location of even minute lesions; but with certainty as to the site of an abnormality, the diagnosis is by no means accomplished. In connection herewith it must be remembered that the patient's sensations often are misleading. As merely one example thereof, we may now recall that a sense of discomfort, weight, or even pain in the glans may be indicative of no lesion there, but of a prostatic involvement.

Therefore our senses, feeling, and sight must be called into service, so that our treatment may be guided by correct diagnosis.

All too frequently do we find that physicians, other-

[1] Taylor: "Venereal Diseases," Lea Brothers & Co., 1896.

[2] "The Irrigation Treatment of Gonorrhœa; its Complications and Sequelæ," William Wood & Co., New York, 1900.

[3] "Hypospadias Operated on by Beck's Method." MEDICAL RECORD, July 26, 1900.

[4] Posner: "Therapeutik der Harnkrankheiten," Berlin, 1895.

[1] "The Proofs of Cure of Gonorrhœa." Chapter xiv. in "The Irrigation Treatment of Gonorrhœa; its Complications and Sequelæ," William Wood & Co., New York, 1900.

wise very well informed, are satisfied to declare the urethra free from obstruction when a large-sized sound glides easily and smoothly through the canal. But if they would invoke the aid of a well-constructed, very soft bougie-à-boule, the shoulder of whose acorn is almost at a right angle to the shaft of the instrument, they will find that on deftly withdrawing it from the urethra it is more or less withheld by a series of contractures. With experience, and consequent higher development of the sense of touch, one learns to distinguish by means of this invaluable instrument normal coarctations, infiltrations of the mucosa, strictures, neoplasms, and very much of the character of each.

FIG. 3.—Urethroscopic Tube.

Final decision as to precise diagnosis, however, is obtainable only by the urethroscope. The basis of modern urethroscopy was laid by Oberlaender,[1] and to him is due inexpressible credit for giving us the foundation of the treatment of chronic gonorrhœa.[2] The urethroscope he evolved from Nitze's original device, although long the best of its kind, was for many years a deterrent to the use of urethroscopy by practitioners generally. Its fundamental principles were used by me to develop an apparatus which is easily transportable, uncomplicated, and cheap. It is my hope that in demonstrating its use on the patients kindly provided for the purpose, I may be able to make clear that its employment is not at all difficult and entails no discomfort to the urethra. I am convinced that every one who gives himself even less trouble than he must with the ophthalmoscope or other instrument of precision, can learn to diagnose and treat urethral diseases more rapidly than he can those of the eye, the nose, throat, ear, or rectum.

The urethroscope consists essentially of a box weighing about eight pounds and containing all that is necessary for a complete examination of the urethra. It has five short and five long tubes, in sizes from 23 to 32 Charrière. The short tubes bear the uneven numbers and are destined essentially for operative purposes in the prescrotal region, when there is no need of disturbing the urethra behind the penoscrotal juncture. Each tube is provided with its obturator to facilitate its entrance into the urethra. Once in place, the moisture or excess of the lubricant employed is removed by absorbent cotton wrapped preferably about a wooden applicator. The cords attached to the battery are also attached to an appropriate light-carrier, which is inserted into the tube and by slight pressure automatically fastens itself to the disc at the ocular end of the urethroscope. We have now, in obedience to a fundamental optical principle, the best possible illumination by the source of light being almost in juxtaposition with the spot to be illuminated. The minute lamp used for this purpose generates no appreciable heat in the tube and therefore does not interfere with most prolonged detailed examination and local treatment.

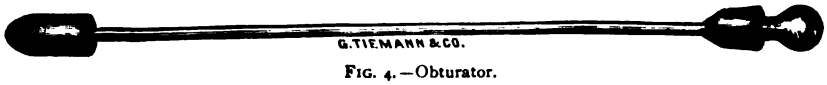

FIG. 4.—Obturator.

By means of this instrument the anterior and posterior urethra are brought into as plain sight as if they were on the superficies of the body. With practice the eye learns to distinguish anæmia and hyperæmia of its mucosa, soft, medium, and hard infiltrations, epithelial denudations, strictures, infiltrations of the crypts, glands, and follicles, intra-urethral chancre and chancroid, benign and malignant growths. The treatment of the urethral condition must then be predicated upon the urethroscopic findings. To discuss these and their many variations in more than very coarse outlines would lead far beyond the scope of this modest effort.

Anæmia and hyperæmia of the urethral mucosa are not amenable to local treatment, but must be attacked through the constitutional condition which produces them.

Epithelial denudations generally yield quickly to local applications of silver nitrate in one- or two-percent. solutions.

Infiltrations of the mucosa, the most frequent conditions found, and strictures, are best treated by gradual dilatation. The methodizing of dilatations is due primarily to Oberlaender[1] and the school he founded. Among those who have worked most extensively in the propagation of the principles he advocated are Kollmann, Wossidlo, de Keersmaeker, and numerous others. Of these Kollmann vastly extended the usefulness of the procedure by many, most ingenious instruments, but few of which can be even briefly mentioned here.

FIG. 5.—Light-carrier.

Oberlaender attributes the results of dilatations to "melting of the infiltrates." The great master Guyon holds that the steady pressure—a species of massage I prefer to call it—induces a retrograde metamorphosis of the fibrillary structure into parvicellular, reabsorbable material.

The instruments used for the purpose are briefly:

Soft conical sounds, as long as the urethral calibre is below 21 Charrière or while hyperæsthesia prevents the painless use of dilators.[2] Experience has led me to disagree with those eminent men who use cocaine for urethral analgesia, except when an emergency imperatively demands invasion of the bladder through a hypersensitive canal. Delicacy of manipulation invariably makes cocaine unnecessary; its use not only changes the appearance of the mucosa, but also deprives it of those infinitesimal touches of discomfort which nature has given us as signals to warn against possible local traumatisms. Moreover, it is the experience of all operators that after the use of cocaine or other local anæsthetic, urination is far more persistently painful than if no drug had been employed.

After the urethra has been taught to tolerate instruments, dilators may be used and the dilatations performed exactly in the affected regions. The general practitioner will have occasion to employ Oberlaender's straight dilator for the anterior urethra when the lesion to be treated is within the movable portion of the canal. Oberlaender's antero-posterior dilator, as its

[1] Oberlaender: "Lehrbuch der Urethroskopie," Thieme, Leipzig, 1893.

[2] Oberlaender: "Die chronischen Erkrankungen der männlichen Harnröhre." "Klinisches Handbuch der Harn- und Sexual-Organe," Vogel, Leipzig, 1894.

[1] *Op. cit.*

[2] Wossidlo: "Die Stricturen der Harnröhre," Naumann, Leipzig, 1899.

name conveys, is intended to exercise pressure in both urethræ. When the limits of therapeutic power of a two-bladed instrument are attained, Kollmann's four-bladed dilators come into play. All the preceding instruments are used with fine, easily sterilizable rubber

FIG. 6.—Oberlaender Anterior Dilator.

covers. There are now being made, under my directions, new rubber covers for these instruments, which are placed on the market so cheaply that they need not be employed twice, thus saving the operator the trouble and risks of sterilization after use.

Recently Kollmann has devised a new eight-bladed dilator for the anterior urethra, which is employed without a rubber cover. Its blades are so rounded that they cannot injure the mucosa. This instrument is sterilized first by scrubbing with soap and hot water, then immersing it in alcohol and burning the alcohol from its surface.

While firm rules cannot be laid down for the employment of these instruments, the following will apply in the generality of cases:

1. The first dilatation must go no further than that point at which the first resistance to further dilatation is felt by the operator's fingers turning the screw which separates the blades.

2. In the beginning of treatment, dilatations, if done by a novice, must not be repeated oftener than every three or four days.

3. Each session must not extend in time beyond two minutes over that employed at the preceding session.

4. Regardless of any lack of resistance that may present, no dilatation must exceed one-half number Charrière beyond the number attained at the preceding session.

These four rules will keep the practitioner within the limits of safety.

Infiltrations of the urethral crypts, glands, and follicles yield in a great many cases to the treatment above outlined. When, however, they do not, they must be attacked locally through the urethroscopic tube. Oberlaender, Kollmann, and others have devised numerous ingenious instruments for this purpose. Among those most frequently required are Oberlaender's urethroscopic knife for slitting hard infiltrations of the mucosa, infarcted Morgagnian crypts, and Littre's glands; Kollmann's syringe for injecting cauterizants into these crypts and glands, and his electrolytic needle for their complete destruction. I have satisfactorily extended the use of this needle to puncturing extensive, old, very hard infiltrations.

FIG. 7.—Oberlaender Antero-posterior Dilator.

Effective local treatment of intra-urethral chancres and chancroids can be accomplished only through the urethroscopic tube, and intra-urethral growths cannot be otherwise diagnosed or treated. Both Oberlaender and Kollmann have added to our instrumentarium delicate cold and electric snares, forceps, and special cautery-carriers for the removal of these growths and destruction of their bases.

This seems the proper place to remember the need of asepsis, greater if anything, of urethral instruments than of those employed in other parts of the body. The difficulty of sterilizing the surgeon's hands and of rendering hollow instruments aseptic is well known to the profession, and the methods and means employed, while easily accessible in well-equipped specialists' offices, are oftentimes beyond the reach of the general practitioner. Much study and experiment directed to means of obtaining asepsis of the operator's hands and instruments in the simplest possible way have led me to advocate for the past eight months a new preparation called synol soap, whose non-irritating character makes its extensive use not only pleasant, but whose effectiveness has not disappointed me. I use it for the cleansing of my hands and instruments and as a lubricant for urethral instruments. I also employ it as a lubricant for the fingers in rectal and vaginal exploration, and I cause all patients to use it to cleanse their hands after touching their genitals.

While the effectiveness of synol soap (introduced by Goelet,[1] of New York) has passed the stage of doubt, I cannot omit mention of the moral effect upon patients who are instructed to use a special form of detergent. They thus practically are taught the importance of urethral diseases, and the need of scrupulous cleanliness therein, the dangers of contagion, and the urgency of having them radically cured are thus emphasized.

FIG. 8.—Kollmann Anterior Dilator.

As, however, asepsis and the methods of obtaining it are too vast for even cursory consideration here, we must strive to satisfy ourselves by the mere mention of one means which experience has proven satisfactory.

Other conditions than those of deformity or residua of preceding disease of the urethra can insure the chronicity of a gonorrhœa or the continuance of urethritis. Theoretically they may appear due to an infection of the mucosa itself, which perhaps does not deeply invade its stroma and leaves the urethral glands intact, or in which these glands can be made to yield their noxious contents. These are the cases in which irrigations prove so brilliantly effective. Before outlining the method of irrigations, we must pause to give due credit to Janet, who popularized irrigations of the urethra and bladder in the treatment of gonorrhœa. But the somewhat complicated character of the apparatus he devised for urethral and intra-vesical irrigations deterred many from its employment, unless they had by service in the Hôpital Necker become imbued with the scientific enthusiasm with which Janet pursues his work. This caused me to devise an apparatus for the purpose in 1895, and if it is the simplicity of my irrigator, or my writings on the subject which led thousands of physicians in America to pursue the method, my efforts in this regard are amply rewarded.

The device is fully described in my little book, "The Irrigation Treatment of Gonorrhœa, its Local

[1] Goelet: "Aseptic Minor Gynæcology." Journal of the American Medical Association, October 6, 1900.

Complications and Sequelæ," as are the drugs used therewith and their dilutions for the treatment of the acute and chronic urethral and vesical diseases in which they are applicable.

I need but show the apparatus to make evident its simplicity, but cannot now take up the time of the Congress to describe again the technique of its employment. To emphasize the value of irrigations I must, however, repeat here that when irrigations are correctly employed, catheter fever (urethral fever or urinary fever) does not follow urethral or intravesical instrumentation.

FIG. 9.—Kollmann Antero-posterior Dilator.

The simplicity of construction and ease of manipulation of the urethral and intravesical irrigator which I devised, as well as the success obtained with it by many others, are arguments in favor of its employment. The objections thereto are:

1. It weighs about four pounds, and its dimensions, when packed for transportation, are thirty-six inches in length, eight inches in breadth, and twelve inches at its thickest part. Although this weight and these dimensions are the smallest that can be employed for a convenient and effective irrigator, they preclude its use as a part of the armamentarium which can be carried in the instrument bag.

2. Patients whose occupations prevent their visiting the physician as often as is usually necessary for irrigations would ordinarily by the dimensions, weight, and expense of the irrigator be deprived of its use and consequently relegated to the old form of treatment by syringes.

These two essential objections led to the evolution of what is called the Valentine urethral and vesical auto-irrigator. This apparatus in its entirety weighs eight ounces, and occupies a space of six by two by three inches in the instrument bag; it can be sterilized after each use by merely throwing it into boiling water. It consists of a fine rubber bag, of a capacity of three pints (1,500 c.c.), a tube four and one-half feet in length, a rubber shield and a very soft rubber conical nozzle, whose apex terminates in a thin projection of such delicacy that it cannot injure the most exquisitely sensitive, inflamed meatus urinarius. A wire stopcock easily enables the user to allow mere drops to escape from the nozzle, or by simple pressure to increase the outflow from a gentle stream to a forcible jet, amply sufficient for copious bladder-washings. This auto-irrigator and the technique of its employment require no further description, as its appearance fully shows them. Those, however, who may desire to study the details thereof are referred to a paper entitled "Asepsis of the Urethra and Bladder," read before the American Medical Association in June, 1900.[1]

The preceding considerations have been treated in a superficial manner, utterly out of keeping with their transcendental importance. Though painfully conscious of this fact, the limits that are set, as well as my incapacity to do the matter full justice, oblige rapidly proceeding to the other divisions of the subject of this effort.

8. Involvement of the urethral adnexa. When a gonorrhœa stops its external manifestations, even when the urine has become macroscopically clear, it is by no means sure that the patient is cured. Wossidlo[1] insists that no patient, apparently recovered from gonorrhœa, be dismissed from treatment before the prostate has been examined and found free from involvement. Experience leads me to go further than this eminent author, and to urge that no physician is justified in considering a patient cured, after employing all the ordinarily recommended tests, until examination per rectum has shown that the prostate, seminal vesicles, and Cowper's glands are normal. It is these adnexa which so often carry gonococci without giving external evidence of their presence; if the patient then in ignorance of his ailment resumes sexual relations, he not only may cause a recrudescence of the disease, but may also infect others. The mode of examining such cases and the methods of treating them, if found diseased, are elsewhere discussed.

9. Marital reinfection. It has been often shown, and with what sad results need not be described, that a woman can harbor gonococci without presenting even a slight increase of the normal vaginal secretion. Under favorable circumstances she then may innocently infect a man. I use the adjective advisedly. In illustration thereof let me sketch a not infrequent occurrence. A man thinking himself cured of gonorrhœa marries. The bride, as a consequence of the first conjugal nights, finds herself with what appears to be a slight vaginitis. This soon subsides under the usual treatment, or perhaps under no treatment. Some time later, mayhap several years after marriage, the couple, under a stimulus of any kind, perform the conjugal act once or twice oftener than was their habit. Even without this extraordinary element the husband suddenly finds himself with all the evidences of an apparently fresh gonorrhœa. This may be due:

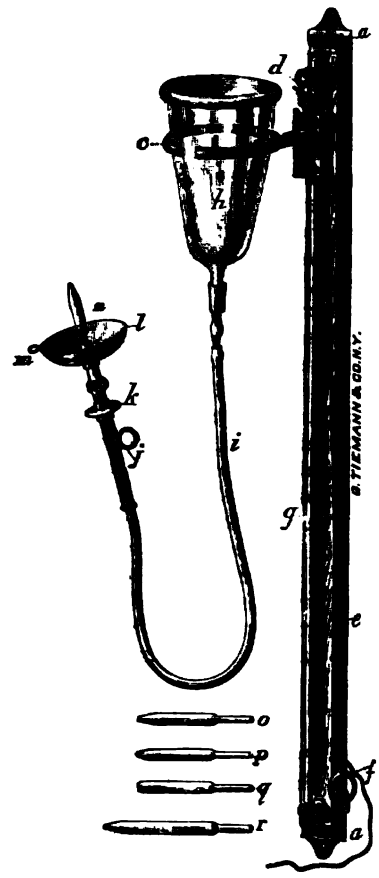

FIG. 10.—Valentine Urethral and Intravesical Irrigator.

1. To auto-infection caused by the discharge of gonococci that have long lain residual in one or more of the urethral adnexa; or,

2. It may be due to infection from the wife having held gonococci residual for perhaps many years, after what appeared during the beginning of her married

[1] Journal of the American Medical Association, January 12, 1901.

[1] Wossidlo: "Chronic Prostatitis and its Treatment." Journal of the American Medical Association, August 27, 1898.

life as only a slight vaginitis. Its manifestations may have been so slight that they were soon forgotten.

A careful search of the husband's genitalia, after the acuity of the apparently new infection has subsided, will reveal the site or sites where gonococci have lain residual, and in accord therewith the condition must then be treated.

Roughly outlined as it is, the matter of marital reinfection has been discussed more extensively than is proportionate with the other divisions of our subject, for the purpose of emphasizing three facts:

1. That the discovery of gonococci in either husband or wife, or in both, is no proof of infidelity in either.

2. That as long as either husband or wife harbors gonococci, the other is not safe from infection while marital relations are maintained.

3. That resumption of marital relations must not be permitted until it is proven beyond peradventure that neither of the couple harbors gonococci.

In submitting this outline of a study of the treatment of chronic gonorrhœa and of post-gonorrhœal urethritis, I beg to offer the following conclusions:

1. That in these conditions, like all others, the cause of the perpetuation of the disease must be sought.

2. That no one remedy exists or can exist which will meet all the causative indications.

3. That the cause of a chronic urethral discharge is easily found, and when found can be successfully treated.

4. That the majority of chronic urethritides can be successfully treated by the general practitioner, and that the services of the specialist are required only in exceptional cases.

5. That the physician's duty is to warn all his patients of the dangers of gonorrhœa to themselves, their family, and the public.

6. That no person who has had gonorrhœa at any time should be allowed to marry until it is proven that he or she is free from the disease.

31 West Sixty-first Street.

TUBERCULOUS MASTITIS.

By R. A. GIULIANA, M.D.,

Newark, N. J.

A patient came to my office to consult me concerning a cough associated with other pulmonary symptoms. She was twenty-four years of age; Italian by birth. The latter fact makes the case more interesting, as tuberculosis is not so prevalent among Italians as among those of other nationalities, in my experience.

The history of the patient was that her father and one sister had died of pulmonary tuberculosis. On examination, I found that she was suffering from a similar condition, the right lower lobe being consolidated and presenting all the subjective symptoms which exist in pulmonary tuberculosis. I put my patient immediately under the necessary treatment. Three months after I first saw the woman her right mammary gland showed signs of inflammation. As she was nursing a child at the time, I suspected that I had to do with a case of mastitis, due to milk stagnation; but, on making inquiry, I learned that she had had several similar attacks, but in a milder degree. On the strength of this statement and of certain symptoms which did not indicate milk stagnation, I made the diagnosis of tuberculous mastitis.

I saw a similar case some years ago in a woman under nearly the same circumstances. The disease is far more common in women than in men. Warden says that statistics show that 89.6 per cent. of reported cases were in females and 10.4 per cent. in males. Pregnancy and lactation favor its development. Cuneo states that the three possible routes of infection are the lymphatics, the blood-vessels, and the milk ducts. Infection by way of fissures in the nipples is probably more common than that through the milk ducts.

In this case of mine the axillary glands were involved, a condition which occurred before the breast disease had become obvious. In the first case I saw the cervical glands were involved. Cuneo states that the condition is first interstitial, and the giant cells are not situated in the acini. Pain was the first sign which my patient noticed; it was described as being sharp and lancinating in character, radiating to the arm and neck. Finally, a cold abscess formed, which I incised. Pus cocci were plentiful, but the tubercle bacilli were very hard to discover. I curetted the cavity well and injected iodoform emulsion, and packed it with iodoform gauze.

My patient was very weak, otherwise I might have amputated the entire gland, as that is the best procedure, in my opinion, in such cases.

Etiology and Treatment of Pyorrhœa Alveolaris; Stomatitis Ulcerosa Chronica.—F. Forchheimer states that next to caries this is the most common form of disease which attacks the teeth. Primarily it is a gingivitis; secondarily it affects the alveo-dental membrane, and produces an absorption of part of the alveolar process. It is commonly found in connection with diseases of the gastro-intestinal tract, and with either diseases or functional disturbances of the nervous system. Uric acid is rarely absent from the scrapings made from teeth affected by this trouble. Treatment should consist, first, in the removal of all substances that irritate and in antisepsis of the mouth. General treatment should be addressed to the causes mentioned above, or to anæmia, diabetes, syphilis, alcoholism, uric acid, or neurasthenia.—*The St. Paul Medical Journal.*

The Prevention of Tuberculosis.—A. N. Bell says that from a physiological standpoint all observers appreciate the important difference which exists in regard to the requirements of nutrition between the young of all animals and those of mature growth, and in none is it more marked than in the human species. Every organ of the body, in addition to sustenance, appropriates the additional amount of nutriment necessary to give it required bulk. The current of nutritive life in the young is rapid, and the blood itself, from which the organism is built up, receives its impressions and modifications—its constitutional predisposition—chiefly from the nature of the food during the growing period of life. Hereditary tendencies may often be wholly overcome by a change in the quality of the nutriment and the physical surroundings, while the inheritors of healthy constitutions may be dwarfed to degeneracy by poor food and a vitiated atmosphere devoid of sunlight. Tuberculosis is liable to be communicated by city cow-stable milk, by food exposed to germs afloat in the dust of the atmosphere, and in rooms occupied by consumptives. The author urges zeal and care in the protection of the young from such contamination, and in obtaining proper feeding and hygienic surroundings.—*The Sanitarian.*

Metchnikoff on Microbes in the Human Body.—M. Metchnikoff of the Pasteur Institute lectured on the above subject in Manchester, Eng., a short time ago, and in the course of his remarks said that of all the parts of our digestive system, it was certainly the small intestine alone that was indispensable to the continuance of life. And yet in man, who could support himself on food easily digestible, the small intes-

tine was disproportionately fully developed. Instead of having it between eighteen and twenty-one feet long, man could do with one-third of that length. Kakala reported a case in which he had removed almost two-thirds of the small intestine with the greatest advantage to the patient. In one case Körte had removed, together with part of the small intestine, the greater part of the large intestine, leaving only the terminal section. As a result of this operation, the man had been completely cured. He cited other cases of successful surgical operations to prove the uselessness of the large intestine to human beings. In one case the whole of the large intestine had atrophied of itself without operation, in consequence of a fistula, without interfering with the active life of the subject. The sum of all this was that we possessed a voluminous and highly developed organ, the large intestine, which fulfilled no useful function, and bred a very copious and varied mass of microbes, capable of injuring us through their poisons.

The Indigestion of Loneliness.—*The Lancet* discourses lightly but withal instructively upon the sad fate of the solitary being as viewed chiefly from the standpoint of physical health. Of course it is well known that it is not good for man to live alone, nor for the matter of that for woman either. Social communion is in the majority of cases favorable to health and exerts a salutary influence upon the action of the gastric juices. Alexander Selkirk, doubtless, was a man of exceptional temperamental qualities, or he must have succumbed under the mental and physical strain to which he was subjected by his enforced, lonely, prolonged exile on the island of Juan de Fernandez. Our esteemed British contemporary makes the following sage remarks upon the evils of loneliness: "At a time like the present, when the marrying age of the average man of the middle classes is being more and more postponed, the physical ills of bachelordom come increasingly under the notice of the medical man. It is not good for man or woman to live alone. Indeed it has been well said that for solitude to be successful, a man must be either angel or devil. This refers, perhaps, mainly to the moral aspects of isolation, and with these we have now no concern. There are certain physical ills, however, which are not the least among the disadvantages of loneliness. Of these, there is many a clerk in London, many a young barrister, rising perhaps but not yet far enough risen, many a business man or journalist, who will say that one of the most trying features of his unmarried life is to have to eat alone, and a premature dyspepsia is the only thing that ever takes him to his medical man. There are some few happily disposed individuals who can dine alone and not eat too fast, nor too much, nor too little. With the majority it is different. The average man puts his novel or his paper before him, and thinks that he will lengthen out the meal with due deliberation by reading a little with, and more between, the courses. He will employ his mind enough to help, and too little to interfere with, digestion. In fact, he will provide that gentle mental accompaniment which with happier people conversation gives to a meal. This is your solitary's excellent idea. In reality he becomes engrossed in what he is reading, till, suddenly finding his chop cold, he demolishes it in a few mouthfuls; or else he finds that he is hungry, and paying no attention to the book, which he flings aside, he rushes through his food as fast as possible to plunge into his arm-chair and literature afterward. In either case the lonely man must digest at a disadvantage. For due and easy nutrition food should be taken slowly, and the mind should not be intensely exercised during the process. Every one knows that violent bodily exercise is bad just after a meal, and mental exertion is equally so. Wise people do not even argue during or just after dinner, and observation of after-dinner speeches will convince any one that most speakers neither endure themselves nor excite in their hearers any severe intellectual effort. In fact the experience of countless generations, from the red Indian of the woods to white-shirted diners of a modern party, has perpetuated the lesson that a man should not eat alone, nor think much at the time, but should talk and be talked to while he feeds. Most people do not think much when they talk, and talking is a natural accompaniment of eating and drinking. How does it fare with the many solitary women of to-day? No better, we know, than with the men, but differently. Alone or not, a man may generally be trusted at any rate to take food enough (we suppose, of course, that he can get it). With a woman it is different. She is more emotional, more imaginative, and less inclined to realize the gross necessities of existence. Therefore, the woman doomed to dine alone as often as not does not dine at all. She gets dyspepsia, because her digestion has not sufficient practice. A man gets it, because his functions practise it too often in the wrong way. Worst of all, perhaps, is the case of the solitary cook. In the myriads of small flats in London there are thousand of women 'doing' for their solitary masters and mistresses. These women, whose main occupation is to prepare food for others, find it impossible to enjoy, or even take, food themselves. As confectioners are said to give their apprentices a free run of the stock of the shop for the first few days, knowing that it will effectively cure appetite afterward, so the women who are always occupied with buying and preparing food grow unable to use it for themselves. These people suffer from dyspepsia, which is cured if somebody else manages their kitchen for a week, allowing them to take meals without preparing them. It needs no moralist to declare the evils of solitariness. The human being is a gregarious animal. Physically and intellectually we improve with companionship. Certainly it is not good to eat and drink alone. It is a sad fact of our big cities that they hold hundreds of men and women who in the day are too busy and at night too lonely to feed with profit, much less with any pleasure."

The Care of the Wounded in Naval Warfare.—In an article in the *Archives de Médecine*, part of which is quoted in *The Lancet*, Dr. Léo reviews the important question of the removal and accommodation of wounded men in naval warfare. "One may say, without exaggeration," says Dr. Léo, "that as regards regulation and installation, the arrangements for succoring the wounded during conflicts at sea, have not advanced a single step during the past thirty years." Dr. Léo supports the accusation with exhaustive references to official publications and documents, as well as by quotations from several authoritative writers, whose descriptions of existing arrangements for the wounded in particular instances could not be more condemnatory. The problem to be solved is a complex one, bristling with difficulties in every direction. Unless the necessary space is provided in the original plans, when the framework of a vessel is under construction, it is hopeless to expect that on completion she will possess adequate medical and surgical accommodation. The reservation *ab initio* of sufficient room for hospital wards and annexes, and of sufficiently spacious avenues leading down them, is absolutely essential, but, as Dr. Léo observes, it is of equal importance that the installations which have obtained sanction should not be modified subsequently out of all recognition during the armament and equipment of the vessel. In practice unfortunately this is what usually takes place, with most disastrous consequences.

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DARWIN'S ILL-HEALTH.

IN Darwin's autobiography and in the reminiscences written by his son and in his letters, the reader cannot fail to be struck with the ever-recurring references to the state of his health. From the age of twenty-seven until his death, forty-six years later, there does not seem to have been a day upon which he enjoyed even fair health. W. W. Johnston published recently in *The American Anthropologist* an article treating of this subject, in which is related at some length the history of Darwin's ill health, its nature, and its effect upon his work.

In early life the great philosopher was strong, fond of out-door life and proficient in many forms of sport. He was a man of fine physique, of strong constitution, and inherited from his immediate ancestors on his father's side a tendency to long life. After leaving school he first went to Edinburgh, with the intention of qualifying as a physician, his father's profession. However, he quickly came to the conclusion that he was not fitted for a medical life, and went to Cambridge, where he stayed three years. Up to the end of his university career his health had been excellent.

Upon leaving Cambridge he was appointed to the position of naturalist to H. M. S. *Beagle*, which was then about to start on a voyage of discovery and research. The long train of symptoms which followed him through life dated from this appointment. He was away from England for five years, the greater part of the time being spent in and about South America.

Little is known concerning his physical condition during this period except the few references to the subject contained in his journal. Although Darwin speaks of being ill, he was able to go on with his work and showed very great powers of endurance. Upon his return to England he settled in London, married, and continued to live there for rather longer than five years. His health then became so unsatisfactory that he decided to leave London and to live in the country, where he accomplished the most important part of his monumental literary labors.

Mr. Johnston divides the life of Darwin into four periods, each one characterized by a different condition of health. 1. From birth to the age of twenty-two. He was at this time in excellent health, active-minded, with keen sensibilities, devoted to out-door life and exercise. 2. From the age of twenty-two to twenty-seven—the period covered by the *Beagle* voyage. He was then strong, capable of bearing great physical fatigue, but taxing his mental and physical endurance to the utmost. Rare and sudden illnesses occurred, brought on by unusual strain on mind and body. 3. From his return to England in 1836 to 1872. This period of thirty-six years represents the time of his most severe suffering and of the accomplishment of the greatest part of his work. 4. From 1872 to 1882. A notable improvement in the nervous symptoms, which had made life miserable and work difficult, marked this period. He was less despondent, worked more easily, and we do not read of the distressing insomnia, exhaustion from conversation, indigestion, and other causes of suffering so frequently mentioned in the preceding years. At this time he developed new symptoms, however, which took the place of those enumerated. These were clearly due to atheromatous and senile changes in the heart and vessels. With advancing years angina pectoris and accompanying cardiac exhaustion led to his death in 1882.

The causes of Darwin's ill-health are attributed by Mr. Johnston in the first instance to his voyage in the *Beagle*, brought on by excessive physical and mental strain, to which should be added the hardships and discomforts involved in ship life and the exertions taken in a somewhat unhealthy tropical climate. No doubt the five years spent with the *Beagle* under these conditions sapped Darwin's constitution and sowed the seeds of his subsequent ill-health. He further aggravated the bad state of his health by his pertinacity in continuing at high pressure his work without rest on returning to England. The arduousness of his literary efforts will be better appreciated when it is said that during his lifetime Darwin was the author of twenty-three distinct and important works, not including new editions and reviews, nor the works which he edited and superintended through the press. He also published fifty-one papers and communications to scientific journals.

The conclusions arrived at by Mr. Johnston in regard to the nature of Darwin's ill-health are that he had no organic disease, but that he suffered from a chronic neurasthenia of a severe grade, due to the overstrain of the *Beagle* voyage and also to the life of hard intellectual work begun in 1837 and continued until 1882.

These conclusions are doubtless correct, but one cannot avoid the impression that some of Darwin's symptoms might be ascribed to the hypochondriasis so common to men who use their intellectual faculties to an excessive extent, and lead for the most part an insanitary and sedentary existence. Carlyle is a conspicuous case in point. It should be borne in mind that both these great men reached a ripe old age, and therefore could not have suffered from any serious organic trouble. In the instance of Darwin Mr. Johnston stoutly rebuts such an idea, and asserts that it is shown upon the positive testimony of his son that Darwin's sufferings were real; and that in so calm and well-balanced a mind as that of the author of "The

Descent of Man," it is not reasonable even to assume that imagination may have been a factor in the production of his symptoms. The highly strung nervous organization of Darwin would probably not permit his brain to rest, the result being that the mental strain reacted upon the system, bringing in its wake all the unpleasant functional symptoms which nature inflicts upon those who rebel against her laws. Such, however, are the men who usually do the best work in the world.

THE INSANE IN GENERAL HOSPITALS.

THERE is no valid reason why individuals afflicted with a mental disease should not be as worthy of care in a general hospital as other sick persons. Yet there has always been a great deal of red tape about the treatment of unfortunates afflicted with mental disorders. The regulations of the prison have been applied in a measure to the admission of the insane to hospitals for treatment. As a result the insane have been placed on a par with criminals, and a stigma has attached itself to legal commitments for insanity. Yet early and careful treatment is as important for disordered mental states as for most somatic diseases.

Dr. Frederick Peterson, the recently appointed president of the New York State Lunacy Commission, has for many years advocated the establishment of wards or pavilions in connection with general hospitals for the early treatment of acute, delirious, and insane patients. In January, 1890, as chairman of a committee of the New York Neurological Society, he formulated the following paragraph in a series of resolutions in relation to the so-called Gallup lunacy bill then before the legislature:

"A clause should be introduced into the bill providing that nothing in the lunacy laws of this State should be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State commission in lunacy."

In a paper on "The Treatment of the Insane Outside of Asylums" in *The Medical News* for March 11, 1893, Dr. Peterson conceived the lines of progress in the care of the insane to be as follows: 1. The opening of special reception wards or pavilions for the insane in general hospitals; 2. The establishment of psychopathic hospitals in large cities; 3. The creation of out-door departments in connection with asylums situated in densely populous districts.

In his address on "Some of the Problems of the Alienist" before the American Medico-Psychological Association, May 24, 1899, he reiterated the idea of the care of the insane in general hospitals. In this address he said that psychopathic hospitals should be established in all cities having a population of from 50,000 to 100,000; and that isolation wards or pavilions for the acutely insane in connection with general hospitals should be provided for the needs of the smaller towns and cities.

It is a pleasure to record that the first modern psychopathic pavilion in this country in connection with a general hospital has already been projected, planned, and constructed on the grounds of the Albany General Hospital. It is now about ready for the reception of its first patients. The credit for the inauguration of this reception hospital for the insane at Albany is probably due to Dr. J. M. Mosher, who, in a paper on "The Insane in General Hospitals" in *The American Journal of Insanity*, vol. lvii., No. 2, gave an outline of what it was proposed to do in that city, together with a plan of the two-story pavilion about to be erected for the acutely insane. The Albany physicians went quietly to work, and secured the grant of space from the General Hospital, and $18,000 for the pavilion from the board of supervisors. The Albany Reception Hospital will accommodate twenty patients.

We have lying before us "An Act to Provide for the Construction and Equipping of a Psychopathic Ward upon the Hospital Grounds of the University of Michigan, and to Appropriate the Sum of Fifty Thousand Dollars Therefor." This bill became a law in Michigan on May 25, 1901. Forty patients are to be provided for, and Ann Arbor will have this additional feature in connection with its chair of psychiatry.

It is evident that the public is awake at last to the needs of the insane, and that the era of early treatment of mental disorders in the city and county jails is now about past. We trust that the readers of this editorial will observe the trend of modern care of the insane, and that the physicians in our larger cities and towns will promptly begin to agitate the question of the establishment of wards or pavilions for these unfortunates in general hospitals, or of separated psychopathic hospitals associated with our medical schools and universities.

THE BACTERIOLOGY OF ACUTE ARTICULAR RHEUMATISM.

ACUTE articular rheumatism may be defined as an acute, specific, infectious disease, characterized especially by inflammation of one or more joints, and often complicated by endocarditis. There are, in addition, other varieties of arthritis, which also may be complicated by endocarditis, but of different etiology. Further, it seems not impossible that both acute rheumatism and the group of disorders resembling it may be unattended with obvious articular involvement, and exhibit only such manifestations as tonsillitis or endocarditis, together with more or less characteristic constitutional features. Chorea, it is also thought, is in some way related to, if not an actual expression of, acute rheumatism.

Much study has been devoted to the bacteriology of acute rheumatism, and various forms of cocci especially have been looked upon as the etiological factor. One of the most elaborate and complete studies in this connection has been made by Drs. F. J. Poynton and Alexander Paine, who now supplement (*Lancet*, May 4, 1901), an earlier report (*Lancet*, September 22, 29, 1900) with additional data. These investigators found in eight successive cases of acute rheumatism

a diplococcus susceptible of cultivation in liquid media, in streptococcic chains. The organism did not thrive upon ordinary agar or upon serum-agar, and although it could be grown upon blood-agar, it appeared to thrive best in a liquid medium of milk and bouillon rendered slightly acid with lactic acid. On three occasions the organism was isolated in pure culture during life from the blood of patients suffering from acute rheumatic pericarditis. It was obtained also after death from the pericardial fluid, the heart blood, and the valves, and from the throat of a rheumatic patient, as well as from a rheumatic nodule. In five of the eight cases the diplococcus was present in pure culture. Intravenous inoculation of rabbits with pericardial fluid and with pure cultures was followed by polyarthritis and endocardial and pericardial complications, and from the lesions, as well as from the kidneys and from the liver, diplococci were isolated. The micro-organisms were found also in the heart-valves or pericardium in eight other cases of undoubted rheumatic fever, and in the pia mater and brain in a case of fatal chorea. These observations have now been confirmed in eight additional cases. Besides, the organisms were demonstrated in two more nodules, and they were grown in the nodular tissue outside the body in pure culture. Further, a condition believed to be acute rheumatism—namely, polyarthritis, pericarditis, and multiple valvulitis—was induced in a rabbit by intravenous inoculation from that culture. Finally, the chain of proof was completed by isolating the organism in pure culture from the joints of the animal after death.

SOME THERAPEUTIC USES OF THE ACTUAL CAUTERY.

Despite the activity in physiological research displayed in recent years, we are still without a satisfactory explanation for the efficacy of certain therapeutic measures that have long enjoyed successful employment. In treatment especially it is a wise rule to hold fast to that which is good, and, while ever maintaining an open mind, not to be carried away by the enthusiasm attending the introduction of every new remedy. Here, as elsewhere, the safe position is midway between extreme radicalism and extreme conservatism. There can be no doubt that many useful therapeutic measures employed at one time or another have fallen into undeserved neglect, while others of unproved utility are used all too liberally because of their novelty alone. It seems possible, further, that the vast number of drugs, so easy of administration, that have in recent years been evolved have perhaps too largely replaced certain manipulative measures for which no true substitute has been provided. Among these are bleeding by leeches, cupping-glass, or lancet, and counter-irritation by blister, moxa, cautery, setons, and the like.

In a practical address delivered recently before the Hunterian Society, Sir William M. Banks spoke of the neglect of the actual cautery in surgery, and reviewed some of the conditions in which this agency was capable of affording relief. Thus the periostitis and ostitis developing at a late stage of syphilis, and often attended with agonizing, boring pain, will often be remarkably ameliorated by thorough application of the actual cautery at a white heat, the patient being anæsthetized and constitutional medication being of course not neglected. So, too, the actual cautery, conjoined with rest and a properly applied splint, can be employed with great advantage in the treatment of certain diseases of joints, especially the knee-joint, in gouty or rheumatic individuals, resulting from traumatism, when the condition is one of synovitis, with swelling of the articular ends of the bone and thickening and matting of periosteum, fascia, ligaments, and aponeuroses. The use of the cautery is indicated further in the presence of acute inflammatory conditions of the spinal column and the spinal meninges following traumatism. In addition to the foregoing conditions for the relief of which the cautery has been used, Banks recommends its employment in the treatment of cases of pruritus ani of undetermined pathology, attended with exaggerated wrinkling of the skin around the anal orifice and presenting an appearance suggestive of slightly damp, rugose wash-leather. This condition has proved exceedingly resistant to all forms of treatment, but it will usually yield promptly to the application of the cautery.

THE DANGERS OF OPERATION IN CASES OF EXOPHTHALMIC GOITRE.

If operation in cases of exophthalmic goitre is attended with special dangers the fact is not generally known; nor does it seem to be referred to in the literature. It is true that disastrous results occasionally follow quickly upon partial or complete extirpation of the thyroid gland, but these may be attributed in part to the gravity and often the bloodiness of the operation and the danger of complications, and in part perhaps to the secondary effects of the removal of a gland whose importance in the economy has only recently been properly appreciated. The state of intoxication, the condition of the nervous system, and the lowered vascular tension should besides awaken caution in the operation. A case that seems to illustrate the bad effects that may follow operation not involving the thyroid gland in a case of exophthalmic goitre has recently been reported by Mr. T. D. Harris (*British Medical Journal*, May 4, 1901). A woman, forty-six years old, with exophthalmic goitre, presented herself on account of stabbing pain in the left breast of about two weeks' duration. On examination a lobulated mass was felt in the upper part of the gland, which itself seemed inflamed and swollen. The pulse was seldom below 150, irregular and forcible. Tremor was distinct and Graefe's symptom was well marked. The goitre had long been present, and the pulse had been quick for twenty years. Under treatment for one month with potassium iodide and ammonia, and local applications of extract of belladonna and mercurial ointment, the mastitis diminished, but the hard, lobulated mass became more prominent. Removal of the breast was decided upon and carried out, but the patient died sixty-eight hours after the operation, with

great acceleration of the pulse, but without elevation of temperature. The unfortunate outcome is attributed primarily to the condition of the heart, whose rapid and irregular action is referable to dilatation of the ventricle, with thinning of its walls, the situation being aggravated by the effects of the anæsthetic and the unavoidable loss of blood. Of course it would be difficult to prove that death in this case was really due to the presence of exophthalmic goitre, and that the association was more than a coincidence, but in any event the possibility should be borne in mind and suitable precautions be taken under like circumstances if operation should be deemed necessary.

News of the Week.

Medical Society of the State of New York.—Dr. Henry L. Elsner, president of the Medical Society of the State of New York, announces the appointment of his business committee for the coming year, consisting of Dr. Nathan Jacobson, 430 S. Salina Street, Syracuse, Dr. George Ryerson Fowler, 301 De Kalb Avenue, Brooklyn, and Dr. William C. Krauss, 371 Delaware Avenue, Buffalo. All communications referable to papers and scientific communications pertaining to the semi-annual meeting to be held in New York City on October 15 and 16, 1901, and the annual meeting to be held in Albany in January, 1902, should be addressed to the chairman of this committee.

A New Peril of City Life.—Suit for damages was recently brought against the Metropolitan Street Railway Company by a man who claims to have been thrown to the ground and severely injured by an electric shock received while stepping on the slot of the underground trolley road in Second Avenue. The plaintiff's contention is that the ground was partly covered with snow and that the electric current leaked and thus injured him. His complaint says that the company did not use proper appliances to detect the leakage, and therefore it was negligent.

The Surgeon's Right to Use Judgment in Operating.—Judge Kavanagh, of Chicago, ruled a few days ago, in a suit for damages against the Post-Graduate Medical School and Hospital, that in case a surgeon, while performing an operation on a person under the influence of an anæsthetic, finds that another operation, not contemplated before, is necessary, he has the legal right to perform the second operation without waiting to get the consent of the patient.

Dr. Paul F. Mundé has resigned the chair of gynecology in Dartmouth College, which he had held for twenty years, and has been elected by the trustees professor emeritus of gynecology.

Post-Graduate Instruction in Germany.—Classes for instruction especially to medical graduates have been very generally established in the past year or two in the several German universities. These are known as the "medical extension classes," and serve the same purpose as the post-graduate schools long flourishing in this country.

A Gift to the Harvard Medical School.—Mr. J. Pierpont Morgan has offered to give three of the five new buildings to be erected for the use of the medical department of Harvard University. The cost of the buildings will be about $1,000,000. The university was recently presented with the use of a tract of twenty acres by Messrs. Henry and Frank Higginson, who have agreed to hold it in trust until such time as the university can purchase it at the present cost price of half a million dollars. Mr. Morgan's gift, it is announced, is for the prosecution of "applied biological research." One of the five buildings planned for the medical school will be a hospital.

Compulsory Vaccination in Cuba.—A decree has just been issued making vaccination compulsory throughout Cuba. It orders that within four months from August, 1901, all persons who have never been successfully vaccinated must be vaccinated, and that all children shall be vaccinated before they are one year old. Physicians are to be appointed to vaccinate the people under the superintendence of a permanent vaccination commission.

A Chicago Medical School Burned.—The building of the College of Physicians and Surgeons, the medical department of the University of Illinois, was struck by lightning on Tuesday evening and destroyed by the fire which followed.

An Epidemic of Suicides.—It is said that over thirty of the residents of Emporia, Kans., a town of about nine thousand souls, have committed suicide during the past two years. In one day recently three persons attempted suicide, all in the same way. The mayor has now issued an order forbidding the local newspapers to print any further details of suicides or attempted suicides in the town. He says that a veritable mental epidemic exists, and that infection is spread through the accounts in the papers, which he, therefore, characterizes as matter deleterious to the public health, and as such legally suppressible by the public authorities.

Infection through Insects. — Surgeon-General Wyman has issued a general circular to medical officers of the Marine-Hospital service calling special attention to the importance of insects as conveyers of disease. Medical officers are directed to place mosquito nettings over the beds of patients with communicable diseases. Hospitals are to be thoroughly protected by fly screens at all openings, particular attention being paid to the kitchen and dining-room.

Mosquitos and Yellow Fever.—In his latest report of the sanitary condition of Havana, dated June 1st, Dr. W. C. Gorgas, chief sanitary officer, stated that there had been no cases of yellow fever in the city since May 7th, and since March 1st there had been but one death from that disease, this occurring on March 13th. In no other year have the conditions as to yellow fever ever approximated this. He said, regarding this: "I cannot but hope that this exceptionally good condition is in great part due to the large amount of labor and money we are expending in the destruction of mosquitos; and the circumstances of the

case point in the same direction. Since March 8th, outbreaks of yellow fever have occurred twice. The first time, April 21st and 22d, we had two cases; and again on May 6th and 7th, four cases. Each time the infected houses, and three or four contiguous houses on every side of the infected house, were carefully gone over. Every room in each of these houses was closed and sealed, and insect powder burned in them at the rate of 1 pound to 1,000 cubic feet. All standing water was drained away, where possible; and oiled where it could not be drained. The results look as if the focus of infection, at that particular point, had been eradicated. In the case of the patient taken sick March 8th after our disinfection, we went forty-two days till the next case. Then an outbreak occurred, April 21st and 22d. We again disinfected; and went fifteen days till the next cases, May 6th and 7th. We again disinfected; and have gone twenty-four days without a case. I am more particularly impressed by these figures, as we commenced our systematic destruction about the middle of February."

Dr. Frank L. Christian, formerly a house physician at Bellevue Hospital and more lately medical officer of the Eastern District Reformatory, has been appointed medical superintendent of Elmira Reformatory, at a salary of $3,500 per annum, with a residence.

Raising of the Quarantine against Cuba.—Dr. James D. Glennan, surgeon of the Marine-Hospital service at Havana, has recommended the raising of quarantine on passengers from Cuba to all ports north of Norfolk. This recommendation is based upon the fact that yellow fever practically exists no longer in the island, thanks to the medical officers of the United States army. At present non-immune passengers from Cuba are held at quarantine at New York a sufficient period to make a total of five days from Cuba. In the case of the faster boats this means a detention here of from twenty-four to thirty-six hours.

A Collecting Agency Sues Physicians.—Several Brooklyn physicians were sued recently for $25 each by a debt-collecting agency. The suits were based upon a clause in the contract according to which the physicians were led to promise to put into the agency's hands claims, amounting in the aggregate to $150, against at least thirty debtors living in this State. These claims were to be sent to the agency within twenty days, and with them were to be sent two two-cent postage-stamps for each name on the list. It was agreed that failure to comply with any of these stipulations should subject the signing physician to a penalty of $25. The defence was that the contracts were signed under a misapprehension of their provisions.

An Epizootic in New York.—An epidemic has attacked the horses of this city during the past two weeks, the nature of which has not been definitely determined. The symptoms are fever (102° to 105° F.), cough, loss of appetite, and pronounced weakness amounting in some cases almost to collapse. The veterinarians say that it is the most serious epidemic affecting horses which New York has seen since 1874. The present disease is much less severe, however, than that was, for though some 40,000 or 50,000 horses have been attacked and temporarily disabled, few deaths have occurred. In 1874 thousands of horses died during the six weeks that the disease prevailed. Several of the cities in the neighborhood of New York have also been visited by the same epidemic.

The American Institute of Homœopathy.—The election of officers in the American Institute of Homœopathy, which held its annual meeting at Richfield Springs last week, resulted in the choice by a majority of sixty votes of the following: *President*, Dr. James C. Wood, of Cleveland; *Vice-President*, Dr. Edward Beecher Hooker, of Hartford, Conn.; *General Secretary*, Dr. Charles Gatchell, of Chicago; *Treasurer*, Dr. Thomas Franklin Smith, of New York; *Recording Secretary*, Dr. Wilson A. Smith, of Chicago.

The British Congress on Tuberculosis.—Announcement is made that this important congress will be held in the Queen's Hall, London, from Monday, July 22, to Friday, July 26, 1901. The work of the congress will be divided among four sections as follows: State and Municipal, under the presidency of Sir Herbert Maxwell; Medical, including Climatology and Sanatoria, Sir R. Douglas Powell; Pathological, including Bacteriology, D. Sims Woodhead; Veterinary (Tuberculosis in Animals), Sir George Brown. The section meetings will be held daily from Tuesday to Friday at 9:30 A.M. On the evening of Monday, July 22d, the opening day of the congress, a reception will be held by the organizing committee in the Queen's Hall, when the band of the Royal Engineers will be in attendance. On Tuesday, the 23d, Professor Koch will address a public meeting in St. James' Hall, and in the evening a reception will be held by the Lord Mayor in the Mansion House. On Wednesday afternoon, the 24th, Professor Brouardel, of Paris, will address a public meeting in St. James' Hall at 3 o'clock, and from 4:30 to 7 P.M. the ladies' reception committee will give a garden party in the Royal Botanic Society's Gardens. On Thursday afternoon, the 25th, the Earl and Countess of Derby will give a reception, and on Friday afternoon Sir J. Whittaker Ellis will entertain members and their friends at a river party at Richmond. On Saturday, the 27th, excursions will be arranged to sanatoria and other places of interest, and in the afternoon the Duke of Northumberland will give a garden party at Syon House. During the period of the congress some of the largest private houses in London with interesting collections of pictures will be thrown open to visitors. Quite a large attendance of American physicians is expected. Those who intend taking part in the congress should send their names, with the membership fee of $5, to Dr. St. Clair Thomson, 20 Hanover Square, W., London.

Enucleation of Ovarian Cysts.—Dr. Edward N. Bush, of Baltimore, writes that this operation was first suggested by the late Dr. J. F. Miner, of Buffalo, and not Dr. Mynter, of Buffalo, as was stated in the abstract of Dr. C. D. Palmer's paper in the report of

the American Gynecological Society, on p. 1013 of the MEDICAL RECORD. "The operation," he writes, "was first suggested and made by the late Dr. J. F. Miner, of Buffalo. Dr. Miner contended that the operation, with modifications suggested by the case in hand, was applicable to all forms of ovarian cyst, and made the operation repeatedly. I am not aware that Dr. Mynter ever attempted it."

Koch Still Believes in Tuberculin.—Dr. Robert Koch states in the *Deutsche medicinische Wochenschrift* that tuberculin has been used by a Dr. Goetsch in the treatment of uncomplicated tuberculosis for the past two years with uniformly successful results.

The Good Samaritan Dispensary.—An examination will be held this summer for the position of attending surgeon to the department of diseases of the skin in this institution. Applicants must have had hospital experience and possess a practical conversational knowledge of German.

The Plague has reappeared in Honolulu. Major Blair D. Taylor, of the army medical department, reports that there were four deaths from bubonic plague at Honolulu from May 29th to June 9th. His report says that the Honolulu board of health has taken every precaution to segregate the inhabitants of infected houses and disinfect them, and the president of the board believes that he has the situation well in hand. At Hong-Kong the disease has broken out in virulent form, and every port in the Orient has quarantined against that place. A United States transport, having on board one hundred and eighty soldiers and sixteen officers, returning from the Philippines, was detained at Nagasaki on account of the death from plague of a Chinese fireman. At Hong-Kong since the first of the year seven Europeans and five hundred and forty-two natives have died of the plague. A British steamer is in quarantine at San Diego, Cal., having lost six of her crew from plague during the voyage from Hong-Kong. One death occurred before Honolulu was reached, and five between that port and San Diego. The cases were not confined to any part of the ship, various members of the crew and one steerage passenger being among those attacked. Many dead rats were found in the ship.

A Medical Excursion to London and Paris has been arranged for the benefit of medical men in this country and Canada who are desirous of attending the forthcoming Tuberculosis Congress in London and the annual meeting of the British Medical Association. The steamer *Zeeland* will leave New York on July 10th, arriving at Cherbourg on the 18th. The party will proceed to Paris, and after spending two or three days there will cross the Channel to England, arriving in London in time for the opening of the Tuberculosis Congress. The meeting of the British Medical Association will be held immediately afterward at Cheltenham, and the party will have the option of returning by the *New England*, which will leave Liverpool on August 1st, and is timed to reach Boston on the 8th, or by the Cunard steamer *Umbria*, which will leave Liverpool on August 3d, and is due in New York on August 10th. The cost of the trip will be $238 or $260, according to the date of return. The arrangements of the trip are in the hands of Henry Gaze & Sons, New York.

An Australian Medical Mayor Honored.—Dr. John Graham, Mayor of Sydney, N. S. W., was knighted by the Duke of Cornwall on the occasion of the latter's visit to that city. Sir John Graham is also a member of parliament for New South Wales. During his term of office as mayor he has made special efforts to improve the sanitary condition of his city.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ended June 22, 1901. June 17th.—Dr. H. M. Tolfree appointed assistant surgeon from June 14, 1901. June 18th.—Surgeon C. F. Stokes ordered to the *Solace* upon arrival in the United States. Assistant Surgeon R. B. Williams ordered to the *Kearsarge*, June 24th. June 20th.—Assistant Surgeon F. M. Furlong detached from duty at Guam and ordered to the *Solace* for transportation home. Assistant Surgeon R. K. McClanahan detached from the *Culgoa* and ordered to the *Vicksburg*. Assistant Surgeon D. B. Kerr detached from the *Vicksburg* and ordered to the *Culgoa* to wait orders en route.

Obituary Notes.—DR. WILLIAM LEONARD WORCESTER, pathologist to the Danvers, Mass., Hospital for the Insane, died in that institution on June 9th, at the age of fifty-six years. The cause of his death was septicæmia. He was born in Chelsea, Vt., his father being Dr. Ezra C. Worcester. He was a graduate in arts of Dartmouth College in 1869, and in medicine of the Medical Department of the Columbia University, Washington, in 1873. He practised for a while in Burlington, Vt., and then went to Kalamazoo, Mich., where for eleven years he was assistant physician at the insane asylum. Following that he was for six years assistant superintendent of the hospital for the insane at Little Rock, Ark. In 1895 he was appointed pathologist at the Danvers hospital. One of his brothers is Prof. Dean C. Worcester of the Philippine Commission, now in Manila.

DR. E. E. WAITE, of New Bedford, Mass., died in that city on June 20th, at the age of forty-eight years. He was a graduate of the New York University Medical School in 1877. He was at various times physician to the overseers of the poor, city physician, and member of the New Bedford board of health. A widow and one daughter survive him.

DR. GEORGE HOSMER MAGNESS died at his home in White Plains, N. Y., on June 25th, at the age of fifty years. He was born in this city and was graduated from the Bellevue Hospital Medical College in the class of 1876. He was a member of the Westchester County Medical Society and was president of the White Plains board of health.

DR. JAMES W. E. ROBY, of Brooklyn, died on June 25th at the age of thirty-eight years. He was born in this city and was graduated from the University Medical College in 1887. A widow survives him.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 20, 1901.

The Home Treatment of Tuberculosis vs. The Climatic Treatment.—Edward O. Otis, while upholding the benefits of such climates as Colorado, etc., believes that so many sacrifices have to be made for the gain that it is a debatable question whether the gain is worth the price paid. Exile from familiar surroundings and friends, the fatigue and expense of a long journey, the necessity for acclimatization (and reacclimatization when the patients return home), are all very valid objections to the climatic treatment. Any region whose climate permits one almost continuously to remain out of doors in pure air, is a favorable one for the hygienic-dietetic treatment. Sanatorium treatment would seem to be better than home treatment because of the greater power and personal influence exerted by the physician over his patients. Still it is difficult to compare the two, as conditions as to stages of the disease, class of patients, detail of treatment, etc., vary so greatly. On the whole, it must be a source of congratulation to all interested that the prospects of success in the home treatment appear so auspicious, for it is a very small minority of the tuberculous who are able or willing to travel far afield for a resort in which to take the cure.

Puerperal Insanity.—Edward B. Lane does not deny that insanity occurs in conjunction with the puerperal state, nor that the puerperal condition is an exciting cause, but he does not recognize a distinct type of mental disease the immediate result of the puerperal condition. Heredity may play an important part, but he questions whether it is more potent in these cases than in insanity in general. As to statistics, investigations in Boston show that, as a matter of fact, insanity associated with childbirth occurs only one-half as often as it does among women in general at the child-bearing age. To use the terms of the insurance actuary, it would be a good risk to insure a pregnant woman against insanity, or at least against commitment for insanity. The author believes it to be demonstrated that the puerperal condition is not an important factor in the causation of insanity, and cites a number of cases to illustrate his point.

A Case of Marked Cyanosis Difficult to Explain.—Sylvester F. McKeen reports the case of a man aged fifty-three years, of excellent family and personal history, except that twenty years ago he had an attack of dyspnœa which laid him up for eight days, with similar attacks at intervals of six months to two years. He has now had cyanosis for a year and a half. It came on after an attack of dyspnœa and persists, often increasing suddenly. He has attacks of blurring of vision and vertigo and sweating; also of diarrhœa. Physical examination showed extreme cyanosis of face, hands, and feet. No condition was found in any organ to account for the abnormality.

Medical News, June 22, 1901.

Psychic Epilepsy, with the Report of a Case.—J. W. Courtney states that to establish the diagnosis of psychic epilepsy frequently requires a great deal of acumen combined with endless patience and pertinacity. Often are epileptics put on trial for various criminal acts for which they are not responsible and of which they have not the slightest memory. Alcohol as a factor in the production of psychic epilepsy is one of paramount importance. The case reported is one of intellectual petit mal and is of traumatic origin. The patient is an unmarried man aged thirty-three years. Several years after a fall, when he thinks he struck his head, he began to have "fainting" spells, during which his mind was a blank. On one occasion he remembers going into a saloon and asking some one to drink with him, but does not remember getting up to the bar. Several hours later, when he had become conscious, he found himself arrested for drunkenness. With regard to this attack, either he did actually take a drink which precipitated the attack, or the attack came on just as he started to take the drink. If the latter is true, then it can be easily understood that he himself believed, when he realized that he was under arrest, that he had actually taken the drink and become intoxicated. In another attack he was asked to sign a promissory note for ten thousand dollars, which he did. When he read the note aloud, he called the sum ten dollars. On being questioned, he said he meant to sign the note. Five minutes after, he remembered nothing about the note. A half-hour after the onset of the attack the patient was almost fully conscious and remembered nothing whatever about the attack or anything connected with it. The forensic importance of this incident can easily be appreciated.

A Study of Some Complications and Sequelæ of Typhoid Fever.—H. A. Hare and H. R. M. Landis state that croupous pneumonia is a fairly frequent and serious complication of typhoid fever. Pleurisy is not rare. Hypothermia is very common. Hyperpyrexia occurs in the septicæmic type of the disease. Among skin affections which have been noted in this disease are the typical rose rash, herpes labialis, morbilliform rashes, rubeoliform eruption, sudamina, miliary eruptions, urticaria, pemphigus, ecthyma, erysipelas, and purpura. Albumin in the urine is usually a result of the eliminations of the toxins. Hæmoglobinuria is extremely rare. Convulsions occasionally develop. Bulbar paralysis, tetany, and acute ascending hemorrhagic myelitis have been noted but are unusual. Various lesions of the alimentary canal have been reported, *e.g.*, gangrenous stomatitis, glossitis, stricture of the œsophagus. Perforation is most commonly seen in the third week. The most frequent time of hemorrhage is during the second or third week. Nearly every patient with perforation will probably die without operation, but the great majority of those having hemorrhage recover. A number of cases have been collected in which the patients showed every evidence of typhoid fever, and yet at post-mortem no intestinal lesions were found. Involvement of the arteries is far more rare than disease of the veins. Phlebitis is the most common lesion of the vascular system. The most notable fact connected with the blood is the progressively increasing number of the colorless cells following perforation. The typhoid bacillus in the blood has been demonstrated a number of times after death, but very seldom during life. The Widal reaction in recent reports has been present in from ninety-eight to ninety-nine per cent.

Obstipation.—Sterling B. Taylor defines obstipation as an obstructive costiveness which must be differentiated from functional costiveness, intentional, habitual delay of bowel movement, and constipation. It is far more common than is generally believed. It is dependent upon some mechanical or foreign interference situated in the rectum or sigmoid flexure. It may be due to: (1) Compression from without; (2) blocking up of the lumen of the canal; (3) constriction due to disease of the gut wall; (4) hypertrophy of the normal rectal valves. Among the symptoms of hypertrophy of the rectal valves are: Chronic irregularity of bowel movement; frequent, partially successful attempts to evacuate the bowels; stool flattened laterally; an inordinate desire for defecation; a feeling of distention over the colon; inability to pass gas freely; discharge of mucus; headache, melancholia, neurasthenia, etc.; fitful appetite. Treatment may be palliative, massage, enemas, etc. Radical treatment consists in a division of the free border of the valve.

Philadelphia Medical Journal, June 22, 1901.

A Case of Severe Anæmia with Changes in the Spinal Cord.—William E. Hughes and William G. Spiller report this case. The patient was a man aged sixty-three years, his chief complaint being shortness of breath and swelling of the feet and legs. The family history was negative. The pulse was slow and full but of very low tension. The heart was slightly enlarged, the apex beat could hardly be felt, and there was a systolic apex murmur, transmitted into the axilla. Autopsy showed dark fluid blood and a few currant-jelly clots in the heart cavities. The cardiac muscle was dark reddish-brown. In the left papillary heart muscles was a distinct yellow mottling showing through the endocardium. The spleen was of moderate size with thin and light-colored capsule. Its parenchyma was soft, pulpy, and easily scraped. The sclerosis in the spinal cord was most pronounced in the upper thoracic and cervical regions, and was more intense in the left lateral column than in the right in these regions. It was diffuse here. In the posterior columns the degeneration was most noticeable in the ventral portion. The anterior columns were more nearly normal than the other portions of the white matter of the cord, but the neuroglia was proliferated somewhat here also. The anterior and posterior roots appeared to be normal. The crossed pyramidal tracts were degenerated as far as the sacral region, the left more than the right. In the lumbar region the posterior columns were slightly sclerotic. In the medulla, the right anterior pyramid was much degenerated, but the left appeared to be normal. The right pyramidal tract above the decussation was degenerated, the left intact. The nerve-cell bodies of the cervical and lumbar regions were not distinctly abnormal, but some were intensely pigmented. The blood-vessels had much thickened walls.

What I Have Learned from One Hundred and Sixty-One Operations for the Relief of Senile Hypertrophy of the Prostate Gland.—Orville Horwitz concludes that success following the Bottini operation depends on having perfect instruments, a good battery, the necessary skill, and the employment of a proper technique. In suitable cases the Bottini is the safest and best radical operation thus far advised for the relief of prostatic hypertrophy. It is often very efficacious in advanced cases of obstruction as a palli-

ative measure, rendering catheterism easy and painless, relieving spasm, lessening the tendency to constipation, and improving the general health. It is especially valuable in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life. It is indicated in all forms of hypertrophy except when there is a valvular formation, or an enormous overgrowth of the three lobes, associated with tumor formation, giving rise to a pouch, both above and below the prostate gland. When the bladder is hopelessly damaged, together with a general atheromatous condition of the blood-vessels, associated with polyuria, results are negative. Pyelitis is not a contraindication to a resort to the operation. The character of the prostatic growth has no bearing on the results of the operation.

American Medicine, June 22, 1901.

The Nervous Exhaustion due to West Point Training.—Charles E. Woodruff states that it is an error to rate scholarship as military ability. To keep a child, aged fourteen years or less, two hours on a single recitation is said to be a heartless violation of all mental laws, and the same can be asserted of the long recitations at West Point. In addition, the cadet, when through his work at the blackboard, must face about and stand at the military attitude of "attention," which is such an unwholesome strain that they now and then feel faint and have been known to go to hospitals as a result of this exhaustion. According to Ellis, "The amount of work performed by the cadet is prodigious. Scarcely a moment is wasted. Under the rigorous discipline, which taxes mental and physical capacity to the utmost for six days in every week, with only a slight loosening up on the seventh, the West Point cadet is always, barring accident, in perfect physical condition." It is impossible for cadets to get more than eight hours of sleep in winter and seven and one-half in summer. The dread of failure is another cause of exhausting strain. The real fault is a system which demands of the human brain three times as much as it can do. The friends of West Point should insist upon the uprooting of evils and modernizing its methods.

Atypical Pneumonia and Pulmonary Tuberculosis.—W. H. Bergtold writes: Be suspicious of an atypical pneumonia. Every case of unusual pneumonia should be suspected and put under surveillance until proved not tuberculosis. There is little excuse for allowing a case of atypical pneumonia to go many weeks, even days, unrecognized, with our present methods of diagnosis, including examination of the blood and of the sputum for tubercle bacilli and pneumococci, the biological and tuberculin tests, and the ordinary methods of chest examination. One of the chief points in the war against tuberculosis is to make an early diagnosis. The sooner the disease is detected, the better are the patient's chances of recovery. In his own cases of pulmonary tuberculosis, the author in one series of one hundred and ninety-three cases found that thirteen per cent. gave a history of previous "so-called" pneumonia, all of suspicious type, varying from one showing no signs or symptoms of croupous pneumonia except fever and consolidations, to others atypical only in one or two ways, *i.e.*, altogether without expectoration, or long continued with no crisis. It is reasonable to suspect, then, that many cases of croupous pneumonia end in pulmonary tuberculosis.

Journal of the American Medical Ass'n, June 22, 1901.

The Value of Calcium Carbide in the Treatment of Inoperable Carcinoma of the Uterus.—I. C. Chase reviews the literature of this remedy and concludes as follows: (1) The mass of the literature on this subject is misleading. (2) The originators of the treatment were ignorant of the real action of calcium carbide, and had insufficient clinical experience to pass judgment on its value. (3) Acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells. (4) Acetylene has no escharotic effect. (5) Acetylene has no bactericidal action upon pathogenic bacteria or the bacteria of putrefaction. (6) The principal action of calcium carbide results from liberated quicklime. (7) Lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis, and tendency to promote hemorrhage. The metallic salts are more styptic, and their action may be better graduated by proper selection. (8) The amount of heat evolved may be sufficient slightly to cauterize the tissues. In most cases it has slight therapeutic effect save counteracting the tendency to hemorrhage and promoting contraction. (9) The heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion, and more complete contraction of the wound. (10) Calcium carbide is open to the same dangers as are other caustics when improperly or too zealously applied: those of producing its corrosive action in the wrong place, fistulæ, perforation, and fatal peritonitis or occlusion of the ureters. (11) The treatment does not reduce odor or hemorrhage, nor give more comfort to the patients than other rational lines of treatment. (12) The claims of its advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusion that calcium carbide could ever cure a case of really inoperable cancer of the uterus. (13) The facts regarding the subject should be more widely disseminated to expurgate medical literature and to avoid false expectations and fatal delays in operable cases.

The Diagnosis of Diaphragmatic Hernia.—E. Fletcher Ingals relates the history of a case of supposed diaphragmatic hernia in a man aged twenty-nine years. Several other physicians who examined him were of the opinion that the case was one of pneumothorax. A table of differential diagnostic signs between the two conditions is given but is too long to be reproduced here. The literature of the condition is briefly reviewed. These cases are rarely made out during life. Some three hundred have been reported, mostly from autopsy records. The affection possesses many signs and symptoms in common with pneumothorax, like which it causes distention of one side, diminished motion, tympanitic resonance, and feeble or suppressed respiration with metallic tinkling. The most important factors in the differentiation of non-strangulated cases are: (1) That in pneumothorax the metallic tinkle is heard only with respiratory movements or upon shaking the body, while with the hernia it occurs independently of these movements and is associated with rumbling or gurgling of gas in the stomach or bowels which have escaped into the pleura. (2) The displacement of the heart, which in pneumothorax remains practically constant, in diaphragmatic hernia may vary with the varying contents of the stomach or bowels, as when the patient is fasting or soon after eating or drinking freely. The retraction of the abdomen may prove of some value as a sign, and the symptoms of obstruction will be of the utmost importance if strangulation occurs.

Interesting Throat Paralysis in a Case of Locomotor Ataxia of an Irregular Form.—J. E. Rhodes reports the case of a railroad employee aged thirty-five years. His ataxia symptoms began about two years before he was seen by the author. The latter found the left side of the palate relaxed and not responsive to irritation by the probe. The right vocal cord was stationary in the median line, there being a paralysis of the right posterior crico-arytenoid muscle. Special ataxia symptoms were ptosis of the right eyelid and divergent squint of the right eye.

Morphinism; an Unusual Case.—W. E. Taylor reports a case, the interest of which lies in the fact that the patient, a man aged forty-five years, who had been addicted to the habit for sixteen years and had used as high as thirty grains daily, broke off of his own accord without medical or other treatment excepting certain simple domestic measures.

Spasm of the Glottis and Œsophagus in Adult Life.—I. D. Brose reports two cases. In the first the progress of the case showed that irritation of the nerves was set up by a carcinoma of the lower end of the œsophagus and of the stomach. In the second, the cause was probably irritation from apical tuberculous deposit.

New York Medical Journal, June 22, 1901.

Syphilitic Fever, with a Report of Three Cases.—T. B. Futcher says that the fever of syphilis may occur three or four weeks before the secondary eruption, may immediately precede or be coincident with the eruption, or finally may occur at any time during the secondary or tertiary stage. It may take the form of a mild continuous pyrexia with a general range of 101° F.; it may be a definite intermittent fever with morning drops below normal and evening exacerbations; or, finally, it may appear as a definite intermittent fever. The following headings of the three cases reported show some of the difficulties attending the diagnosis: Case I.—Syphilitic fever of remittent and intermittent type, commencing at least twenty-seven days before the appearance of the secondary eruption. Fever ushered in by a chill, followed by sweating. Case II.—Syphilitic fever of a remittent and intermittent type which for weeks was suspected of being typhoid fever and treated as such. Diagnosis established by the discovery of periosteal thickening over the clavicles and by cessation of the fever after the beginning of treatment with potassium iodide. Case III.—Syphilitic fever, characterized by intermittent chills with fever, and treated first as a case of malaria. Fever occurred twenty-nine years after the primary infection and yielded readily to antisyphilitic treatment. The author concludes as follows: (1) In all cases of fever of obscure origin the possibility of it being syphilitic should be borne in mind. (2) Experience has shown that physicians of reputation, as well as those of limited experience, are prone to mistake the condition for one of

the acute specific fevers. (3) The affections for which syphilitic fever is most often mistaken are malaria, typhoid fever, tuberculosis, sepsis, and occasionally rheumatic fever. (4) The fever may occur as early as four weeks previous to the appearance of the secondary skin eruption, or, what is of greater importance, late in the disease after tertiary manifestations have existed probably for years. In Case III. it occurred twenty-nine years after the primary lesion. (5) The fever may be continuous, remittent, or intermittent. The remittent type is regarded as the most frequent form in the fever of invasion. The fever is often associated with chills and sweating. (6) Careful examination of the long bones and viscera for evidences of tertiary lues should be made in all cases of fever of obscure origin.

An Introduction to the Psychological Study of Backward Children.—W. B. Noyes classes mentally defective children as follows: (1) Those in whom the faculty of perception is deficient; (2) those who in spite of possessing all the special senses and power of perception lack the power of attention; (3) those possessing disease or defect of the will; (4) those deficient in the higher or cognitive powers of the mind, the reasoning faculties; (5) those deficient in memory, and (6) those morally defective. There is in addition a large class showing mental stupidity, which is the simplest term for uniform mental deficiency affecting the different mental faculties at the same time. Such children, though possessing special senses, do not really perceive. Attention, volition, reason, and moral faculties are not and cannot be developed to any great extent. This condition in its milder degree is stupidity; in its more pronounced degree dementia.

Inguinal Bubo as a Complication of Malarial Fever.—A. C. Smith, of the Marine-Hospital service, records a group of cases of bubo associated with malarial fever, being generally non-suppurating and the fever being of the æstivo-autumnal type, though not invariably so. The bubo occurred without suspicion of venereal infection, and was clearly secondary to the fever and dependent upon it.

The Lancet, June 15, 1901.

The Feeding of Diphtheria Patients, with Special Reference to Children and Severe Cases.—R. G. Kirton enumerates four methods, by mouth, nasal tube, rectum, and subcutaneously. Contraindications to mouth feeding are inability to swallow owing to pain or faucial swelling, regurgitation, entrance of ingesta into the larynx, struggling on the part of the patient, and vomiting. The latter may be continuous from beginning to end of the disease, may commence about the middle or the end of the second week, or may be deferred for some weeks. For mouth-feeding milk is to be mainly relied on. Patients with regurgitation should be fed on jellies, eggs made into a paste with bread crumbs, etc. Nasal feeding may be required owing to (1) inability to swallow from regurgitation, paralysis of muscles of deglutition, etc.; (2) coughing on feeding, due to entrance of food into the larynx, and this especially in tracheotomy cases; (3) patients who vomit when fed by the mouth, but do not when fed through the nose; (4) cases exhausted by mouth feeding, but not when nasal-fed (among these must be numbered cases in which mouth-feeding takes a very long time); and (5) moral effect. These suggestions apply to children who refuse food though well able to swallow. One nasal feed is often sufficient. Rectal feeding should be resorted to when feeding by the mouth or nose fails or is insufficient. The following are the chief conditions in which it is required: (1) Vomiting; (2) great difficulty in passing the nasal tube from various causes; (3) when nasal feeding acts harmfully on the patient, owing to fright, struggling, or other cause; and (4) epistaxis caused by the passage of the nasal tube. Finally, subcutaneous injections may be made of sterilized horse-serum or saline solution. Horse serum should be used when the amount of nourishment taken by the stomach or rectum, or both, appears to be insufficient to support life. Sometimes it is used as the only means of feeding patients owing to continued vomiting and diarrhœa. It should be injected into the loose subcutaneous tissues of the trunk. If given over a prolonged period, from 20 to 40 c.c. are often as much as it is advisable to inject daily. As a rule, patients submit to its injection well, and Kirton has occasionally noticed that children who have become cyanosed on attempting to nasal-feed, have been injected without any untoward effect. As far as he knows, the only indication against the use of these injections is hemorrhage into the subcutaneous tissues adjoining the site of injection.

Scarlatinal Infection; an Inquiry and an Illustration.—J. B. Pike says that the pathogenic germ of scarlet fever appears to require moisture for its development, and, this being the case, it seems somewhat strange that dry exfoliated epidermis should have received so much credit as the potential in scarlatinal infection. Latterly more attention has been paid to nasal discharge, and pus from the middle-ear is also suspected. This being granted, the question arises, How long can these discharges convey specific scarlatinal infection? Can scarlet-fever microbes lurk insidiously in hiding? Certainly the middle-ear and mastoid cells form excellent quarters for the secret dwelling, if the germs can lie there quietly, without resentment of the tissues. If they can do so for a long or indefinite time we must enlarge our view of the infective period of scarlet fever. Isolation can hardly be indefinite, but if we recognize an ear discharge occurring even a year or more after scarlet fever as possibly or probably infectious, something may be done to prevent the spread of the disease. Another interesting question which is suggested by a reported illustrative case is this: Is a secondary auto-infection possible from scarlatinal poison lurking in the cavities of the temporal bone? Clinical experience is given tending to confirm the foregoing suggestions.

The Treatment of Puerperal Eclampsia by Saline Diuretic Infusions.—The following rules are given for the application of this method by Robert Jardine, who strongly commends it and states that his experience is leading him to give up antispasmodics, and also that in his opinion morphine lessens excretion from the kidneys and is not therefore devoid of danger. The infusions are given under the breast or into the abdominal wall. A medium-sized Potain's trocar and cannula with three or four feet of tubing and a funnel is the apparatus to be used. The apparatus should be sterilized and the skin thoroughly cleansed. From one to three pints can be run in under the breast in a few minutes. The puncture should be covered with strapping. Tablets are used of acetate and chloride of sodium, one drachm in each. One of each should be added to each pint of sterilized water at a temperature of 104° F., as it cools somewhat in the tube. With ordinary precautions there is no fear of sepsis. The author has given over two hundred infusions and has never seen any bad effects. There is considerable tension in the part, but absorption is so quick that this is soon relieved. If necessary the infusion may be repeated several times. As soon as the patient can swallow milk should be freely administered.

Sulphur in the Treatment of Dysentery.—The use of this remedy is commended by G. E. Richmond, who says it is especially serviceable in young adults of vigorous constitution. He finds that it lessens diarrhœa and tenesmus, lowers pulse and temperature, and generally improves the patient's condition. He advises the giving, every four hours, of a powder composed of gr. v. Dover's powder combined with gr. xx. sublimed sulphur. The dose is lessened as soon as the stools become less frequent. It does not as a rule give rise to much trouble from flatulence, and it tends to diminish the unpleasant smell from the stools, acts as an antiseptic, and encourages healing of intestinal ulcers.

Pure Urea in the Treatment of Tuberculosis.—Henry Harper relates the histories of five cases in which the administration of pure urea in four daily doses of gr. xx. each led in conjunction with other measures to surprisingly good results. His opinion is that urea is a constructor or builder-up when given in this disease. This view is forced upon him by his observation of how much better his patients are when eating liver, kidney, and brain (all substances rich in urea) in conjunction with urea taken by the mouth.

British Medical Journal, June 15, 1901.

The Surgical Treatment of Typhoid Fever.—T. J. Maclagan declares that typhoid fever is a disease of the abdomen rather than a fever, when considered as to its surgical aspects. The most serious complication of typhoid fever is perforation of the bowel. All depends on early diagnosis of the accident and prompt surgical interference. The three chief indications of perforation are pain in the lower part of the abdomen, diminished abdominal respiration, and rigidity of the abdominal walls. Any one of these showing itself suddenly toward the end of the third week points to perforation; their combination makes it a certainty. Cases of hemorrhage should be especially watched. Another class of cases is that of retained sloughs. In most cases of typhoid, the sloughs and fetid discharges which pass from the small to the large bowel are carried along without delay and evacuated. In some cases they are retained in the large bowel, especially the cæcum. If the case is desperate the cæcum should be opened under local anæsthesia, and the poisonous contents find direct exit. There should be no unnecessary delay, but as soon as there is evidence of interference with the action of the diaphragm, and the long tube fails to give relief, the cæcum should be opened.

A Case of Typhoid Arthritis Proper.—John J. Buchan reports the case of a boy aged eleven years, who was admitted to the hospital on the sixteenth day of illness. Four typical rose spots were seen. The spleen, although not

palpable, on percussion came forward to the anterior axillary line. The abdomen was somewhat distended. Widal's test was positive on the eighteenth day of the disease. The patient complained of pain in the left elbow-joint. Later it was aspirated and clear serous fluid was withdrawn which proved sterile. The local symptoms disappeared for a time, but later returned, when a second aspiration was performed, and this time a purulent fluid was drawn off. This fluid contained many streptococci and fewer staphylococci. Careful search did not reveal the bacillus typhosus nor the bacillus coli communis. Neither the boy nor any of his near relatives had suffered from any manifestation of rheumatism previously; this joint affection was almost wholly confined to one joint; none of the commoner complications of rheumatism were present, and the affection became suppurative. The fluid did not become purulent till almost a fortnight after the first aspiration.

On Anæmia in Typhoid Fever.—Thomas Houston, after giving the blood counts taken at various stages in a case of typhoid fever, notes that: The leucocytes per cubic millimetre are always below the normal, and show a gradual decrease in number, except in two instances in which an inflammatory complication intervened. The inflammatory increase in leucocytes is not so pronounced as it is in slight cases of suppuration. It seems evident that the leucocytes in typhoid fever react normally to inflammatory toxins, but this reaction is to a large extent masked by the dilution of the blood. The fall of polymorphonuclear leucocytes is roughly proportional to the decrease in hæmoglobin. Leaving out the inflammatory periods, and allowing for the dilution, the absolute number of polymorphonuclears remains, roughly speaking, stationary throughout. The lymphocytes, taking all varieties together, come out practically the same in all cases. The mononuclears show a considerable increase in this case following the rule in typhoid fever. The eosinophiles occur only in very small numbers. It seems clear from these observations that during the course of this case there was considerable dilution of the blood.

On a Common Source of Diphtherial Infection and a Means of Dealing with it.—R. T. Hewlett and H. Montague Murray show by statistics that the Klebs-Loeffler bacillus and the pseudo-diphtheria bacillus exist in the throat in a large number of cases, especially in children, without producing any recognizable symptoms. Out of three hundred and eighty-five children under the age of fourteen, the former organism was found in fifteen per cent., while the latter was found in twenty-four per cent. Neglecting the latter, these figures show that one out of every seven children, or at least out of every seven sick children, is a possible source of diphtheria infection. The presence in a hospital ward of children under two years of age increases the risk of outbreaks of diphtheria. Kissing and other similar artificial demonstrations of childish affection should be discouraged. If after every meal, in the case of a breast-fed or bottle-fed infant, or night and morning in an older child, the mouth was swabbed or rinsed with some mild but efficient antiseptic, such as glycerin of boric acid and warm water, or a diluted solution of chinosol (1:1,000), many cases of diphtheria might be prevented.

Syphilitic Heredity.—S. W. MacIlwaine notes the case of a man aged forty-seven years, who incurred syphilitic infection probably between the ages of twenty and twenty-five. He was inefficiently treated. Within the last four years he has suffered from aortic and mitral regurgitation. He has two sons, aged eight and ten years, respectively. The elder within two years has had a nervous and mental break-down, while the younger has become epileptic. The writer believes that the cause of these disorders is syphilitic heredity, not hereditary syphilis. The distinction, if genuine, is of great practical importance as regards prognosis, treatment, and the attitude we bear toward the question of the risk of transmitting the evil effects of syphilis to succeeding generations.

Simple Continued Fever in South Africa.—F. J. W. Porter states that in the present campaign there has been a variety of continued fever which is not malarial and not enteric. The onset is rather sudden and the temperature may be from 102° to 104° at the end of the first day. There are generally much headache and considerable disturbance of the gastro-intestinal tract. There is more often constipation than diarrhœa. The duration is very variable, from two to seven or eight days, and there is very rapid convalescence.

Veld Sores.—J. G. Berne concludes that veld sores are not more common in the mounted men of the service than in the infantry. They are much commoner in the winter months—June to October. This sore is generally characterized by a purulent discharge. The lesion starts in two ways: (1) A blister; (2) by direct injury. The sores are always chronic in their course.

French Journals.

Malignant Tumor of the Eyelid.—M. Lagrange reports a melanotic sarcoma of the upper eyelid and of the bulbar conjunctiva. Histological examination showed that it was an angiosarcoma with interstitial hemorrhages and consecutive melanosis. In this case the pigment was of two origins—autochthonic and hæmatic.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, May 16, 1901.

Berliner klinische Wochenschrift, June 3, 1901.

The Hæmolytic Properties of Human Serum.—E. Neisser and H. Doering, in order to determine the degree of hæmolytic power possessed by human serum, made experiments which, briefly stated, consisted in adding it in varying amounts to rabbit's blood and observing the quantity required to destroy the erythrocytes. The results of their investigation lead them to believe that the human lysin thus experimented with has the same constitution as the animal immune and normal sera analyzed by Ehrlich and Morgenroth. The complement of this serum is invariably rendered inactive by heating for one-half hour to a temperature of 56° C. Rabbit serum and some horse sera contain a complement fitting the human middle body and reacting with it, and human serum contains at least two different middle bodies and two complements. The human blood used for these experiments was obtained from patients subjected to therapeutic venesection, and therefore suffering from the most varied diseases, yet the constitution and the quantitative solvent and combining powers of the lysin were constant. The possibility of finding differences in the reactions of the lysin, which shall be of help in the diagnosis of pathological conditions, is therefore but slight, while on the other hand any such change that might be discovered would have so much the greater significance. The serum of patients suffering from a blood disease, which would offer the best chance of detecting such an alteration of the normal conditions, was not examined.

Paralysis of the Large Intestine.—A. Hesse comments on the amount of attention given in text-books to incontinence of urine, while the therapy of the similar affection of the bowel is barely mentioned. A child aged six years, treated by the author, had for several years been suffering from both diurnal and nocturnal enuresis with frequent incontinence of fæces, and in consequence was a nuisance to itself and its surroundings. No reason could be found for suspecting a nerve lesion, while investigation of the stools pointed toward a chronic catarrh of the large and small intestines. This was treated along the usual lines by diet, astringents, and a course of mineral water, with the result that the alvine incontinence was entirely relieved and the bladder trouble much alleviated, though not cured. The causation of such a condition may depend on nerve lesions, local disease of the bladder or intestine, chronic enteritis, etc., and is to be diagnosed by the incontinence and relaxation of the sphincter. The treatment depends on the underlying condition and should be directed to this, while in addition the tone of the sphincter may be raised by electricity, and attention be paid to diet and regular evacuation of the bowel by means of enemata. Under careful management the condition is often much less refractory than is generally supposed, and an attempt at relief should always be made.

Münchener med. Wochenschrift, June 4, 1901.

What is To-Day the Mortality of Gall-Stone Operations?—H. Kehr first takes up the statistics of one hundred such operations which he has performed between April, 1900, and April, 1901. Out of this number sixteen fatalities are reported, but in his detailed analysis of the causes of death the author thinks that only one case can be justly attributed to the operation. The others were all hopeless from the start, with such complications as cholæmia, malignant disease of the bile passages, pancreas, or pylorus, etc., so that the cases are not typical. Of this number, however, ten deaths occurred among men and only six among women, which disparity is all the more remarkable since seventy-five per cent. of the whole number operated on were women. This, the author believes, is due to the fact that men make much poorer laparotomy subjects than women and stand the necessary manipulation in the abdominal cavity very badly. Adding these cases to all those he has previously treated the author has a list of five hundred and eighty-five gall-stone laparotomies done since 1890, and from these statistics he concludes that at the present time the mortality of such operations is very low provided the case reaches the surgeon before the pathological changes have gone too far, though it is high when carcinoma or suppurative cholangitis are present. If simultaneous operations are done on the stomach or intestines, the mortality is raised from five to twenty per cent., according as the trouble is malignant or not, while if the pancreas is also diseased the prognosis depends on whether this can be cured or not.

The Causes and Treatment of Menstrual Colic (Dysmenorrhœa).—A. Theilhaber says that while undoubtedly there are some forms of uterine disease that can produce painful menstruation, they are but few; prominent among these, however, are perimetritis and polypoid and submucous fibroids, which, acting like foreign bodies, are continually stimulating the uterus to contract in its efforts at their expulsion. None of the various hypotheses of other writers meet with the author's approval, and he discusses, only to reject, the theories that ascribe dysmenorrhœa to anteflexion, retroflexion, stenoses of the external and the internal os, endometritis, metritis, "ovarian" dysmenorrhœa, and the nasal dysmenorrhœa recently described by Fliess, which depends on the presence of so-called "genital spots" in the nasal mucosa. He himself believes the trouble is usually functional and depends on spastic contraction of the circular fibres forming the internal os. Such spasm is most frequent in neuropathic individuals, but even without any general nervous condition such causes as mental over-exertion, piano practice, over-indulgence in tea and coffee and alcohol, and masturbation may produce sufficient over-excitability of the uterine nerves to bring about the result. The palliative treatment comprises hot applications, prolonged hot sitz-baths, rest in bed, hot drinks, and antipyrin. Dilatation of the cervix brings temporary relief, but this is never permanent, and the most effectual measure is an operation devised by the author and consisting in the excision of small wedges from the substance of the cervix.

Spondylitis Typhosa.—A. Kühn gives in brief the histories of those cases of this complication of typhoid fever which have already been reported, and describes one of his own. In this case the symptoms of the spinal trouble began on the eighty-third day of illness, and the thirtieth day after the temperature had come down, and at first manifested themselves only as obscure pains in the left lumbar region. These gradually increased until, a month and a half later, the lumbar region was distinctly sensitive to pressure, and percussion of the spinous processes of the lower lumbar vertebræ caused severe pain. The patient was now obliged to lie stiff and motionless in bed owing to the pain caused by motion, but while keeping perfectly quiet he suffered no discomfort. The local symptoms gradually abated, though the lower spinous processes became somewhat prominent, and three and a quarter months after the beginning of the pain there was a distinct lumbar kyphosis. This persisted for some time but gradually became almost imperceptible again, and the patient, who at first had been almost unable to walk, regained complete function. The treatment consisted in the local application of ice and enforced rest flat on the back.

Deutsche medicinische Wochenschrift, June 6, 1901.

A Case of Foreign Body in the Gastric Cardia Diagnosticated by Radiography and Œsophagoscopy, and Cured by Gastrotomy.—G. Gottstein reports this case, which was that of a woman aged twenty-five years, who six months before coming under observation had swallowed a plate of artificial teeth which became detached from her gums while eating porridge. Since that time she had been somewhat troubled by a sense of a foreign body in the epigastrium together with some pain, but had not had actual dysphagia until about five months after the accident, when suddenly she became unable to keep down solid food, which was vomited again unchanged, while fluids passed without hindrance. She was three times examined with the œsophageal bougie by different surgeons, who were each time able to enter the cardia, while a Roentgen ray photograph showed a shadow in the epigastric region which, though suspicious, could not be regarded as very definite evidence. In view of the somewhat neurotic nature of the patient it was deemed inadvisable to operate solely on the ground of her subjective symptoms, which pointed rather toward neurasthenia; therefore, in order to obtain, if possible, further objective corroboration œsophagoscopy was tried, with the result that though the object itself could not be seen, an ulcer with eroded base and rounded edges came into view. Taking all the presumptive evidence together it was thought sufficient to justify operation, and a gastrotomy was done, with the result that the plate was successfully removed through the stomach from the perigastric tissue in which it had become embedded after perforation.

Strangulation of a Coil of Small Intestine through an Adherent Vermiform Appendix.—Hermes adds another to the anomalous manifestations of appendicular disease, which in this case caused the development of intestinal obstruction. The patient, a woman aged twenty-two years, was under observation in the hospital when she suddenly developed abdominal symptoms which were ascribed to perforative peritonitis due to a ruptured ulcer. On operation the stomach region was found free, however, but on investigating the right iliac fossa it was found that the tip of the appendix was adherent to the caput coli, and that through the ring thus formed a loop of gut had slipped and was tightly constricted. The appendix was extirpated in the usual way and complete recovery followed. It was evident that the appendix had been the seat of a chronic inflammation which had given rise to the long-standing gastric symptoms complained of, and since no adhesions existed between the strangulated loop and the constricting ring it is evident that the imprisonment of the small intestine had been a very acute affair.

International Medical Magazine, June, 1901.

On Oral Sepsis as a Modifying Factor in Gastric Affections.—George Herschell says that pyorrhœa alveolaris and the presence of septic stumps in the mouth may cause no disturbance if the motor power of the stomach is normal, the gastric juice destroying the larger proportion of the germs. The constant absorption of toxins may, however, set up neurasthenia, and stomach trouble may arise as a symptom of the neurasthenia, or secondarily. In some rare cases gastritis may be directly set up by the irritation of the septic material which has been swallowed. When the motility of the stomach is deficient either from myasthenia or as a consequence of pyloric obstruction, gastritis may be induced, or fermentation may be induced in the stagnating stomach contents and the case rendered much more serious and distressing. The physician should know how to treat pyorrhœa, especially in England, where dentists do not all recognize the affection nor know how to treat it.

Gastric Gas.—A. L. Benedict says that air may be introduced into the stomach by too rapid deglutition, by mechanical gastric respiration, by the inorganic and the organic production of carbon dioxide, but not by chemical gastric respiration. Gastric distention seems to be due to organic formation of gas, and mainly to fermentation of carbohydrates. Mild forms, with a sense of fulness and desire to belch gas, are common enough, and are well treated by the administration of hot carminative drinks, pounding on the back, change of posture, etc. Some severe cases with palpitation of the heart and symptoms of angina pectoris may be relieved by the passage of the tube and the escape of gas. When there is no organic disease, accumulations of gas are not dangerous, but in cases of cardiac degeneration it is logical to suppose that death might occur from gastric ballooning. Perforation of gastric ulcers are undoubtedly in many instances genuine instances of a weak gastric wall, due to increase of internal pressure, rather than of the extension of a degenerative process.

The Relations of Gastric Flatulency with Gastro-Intestinal Catarrhs and with Chronic Appendicitis; Treatment.—Boardman Reed gives a long list of causes of gaseous accumulations in the stomach. Catarrh of the appendix, with more or less occlusion of its opening, constantly breeds, and from time to time sends out into the cæcum, colonies of highly virulent bacilli. As a result the colon is kept constantly or intermittently affected, and even after appropriate measures have cured the catarrhal process in the bowel, there is reinfection from the persistent catarrh in the appendix, and this probably often involves the small intestine. The virulent bacteria escaping frequently from the chronically diseased appendix would greatly increase fermentation and putrefaction in the intestinal contents, and the gaseous accumulations there may at times find a vent in the upward direction through the stomach. Many patients who fail to get well of dyspeptic symptoms, including eructations, have appendices which are notably swollen and tender, and while they at times seem to improve, they relapse upon slight provocation and in spite of persistent care.

The Journal of Tropical Medicine, June 1, 1901.

A Case of Benign Tertian without Fever.—P. W. Bassett-Smith reports a case at Haslar, in which the special points of interest are: (1) The absence of fever; (2) the presence of well-marked tertian parasites in considerable numbers; (3) the absence of sporocysts in the peripheral blood; (4) the disappearance without the administration of quinine. The patient had been apparently cured in China and had taken quinine fairly constantly there and on the way home. The fever was cured, but the parasites were evidently not destroyed, but remained latent. The lesson learned is that systematic examination of the blood is necessary after malarial attacks, even when clinically there seems no evidence of active infection being present.

Relapsing Fever in Sumatra.—J. C. Graham reports the first case ever recorded in Sumatra. The blood was at first examined for malaria but the result was negative. Spirilla Obermeieri were found in abundance. The course of the fever was not influenced by quinine, but subsided to 35.6° C. on the sixth day to become normal the day after. He is now being treated by the iodide of potassium empirically, on the supposition that as this substance is said to arrest the virulence of the spirillum in inoculations, it may have an inhibitory action on the return of the fever.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SOUTH AFRICAN HONORS—THE CIVIL SURGEONS—THE DINNER—GENERAL MEDICAL COUNCIL—THYROIDITIS IN TYPHOID FEVER—SUBDURAL HEMORRHAGE—DILATATION OF THE AURICLE—PLAGUE AT THE EPIDEMIOLOGICAL SOCIETY—OBITUARY.

LONDON, June 7, 1901.

THE King held an investiture on Monday, when the various recipients of South African honors, among them the surgeons whose names I sent you when gazetted, were introduced to the sovereign and received their several distinctions.

On Wednesday above two hundred civil surgeons who had been employed in South Africa during the war dined together. Sir W. MacCormac took the chair. Among the guests was the war minister, who said he was charged by Lord Roberts to express the high opinion he had of the services of the civil surgeons and his regret that he could not be present. He added that nothing would be wanting on the part of the government to induce the country to continue its patient endurance and bring the operations to a satisfactory issue.

The General Medical Council met on Tuesday and hopes to conclude its session within a week. This almost incredible hurry is not, however, any sign of repentance for its past waste of precious time and money. The good impulse arises from the desire of some members to be present at the centenary celebrations of the University of Glasgow. The council has appointed its president and treasurer delegates to that function. The president accordingly saw the necessity of shortening his address, and the members followed the example, so that business was transacted at an unprecedented rate.

Legislation is not more forward than last year—in fact, is rather more backward. The Lord Chancellor has promised to give the medical and dental companies bills consideration. Mr. Long has promised to look into the subject of death certification. The discipline bill is delayed by Sir R. Jebb's illness.

It is clear nothing will be done this year. The privy council has acted against the advice of the medical council in the matter of reciprocity with Italy, which turns out to be no reciprocity at all. This is not surprising, seeing that the vice-president lately said in the House of Commons that neither he nor the president had time to read the medical council's views. And yet this privy council is the court of appeal and has the charge of supervising the medical council.

The most interesting case of discipline is that of Dr. Irvine. He sent a letter but did not appear. He was ordered to come up to-morrow. So far the council has asserted its authority, notwithstanding the action of the education department, of which I apprised you last week.

At the Clinical Society on Friday Drs. R. Russell and R. Johnson related a case of convulsions from traumatic subdural hemorrhage on the sixth day after a fall down a flight of stone steps. The trephine was applied, and several drachms of dark blood were evacuated, after which no convulsions occurred and the patient recovered gradually. No explanation was offered of the late onset of the symptoms.

Drs. I. Owen and W. J. Fenton related a case of enormous dilatation of the left auricle of the heart—its capacity being thirty ounces, its greatest diameter six and one-quarter inches, excluding the appendix, which was itself dilated. The other cavities were dilated, though not to the same extent. The pericardium was adherent to the auricle posteriorly, and it was suggested that the dilatation originated from this fact. Paracentesis had been performed and the trocar had penetrated the auricle, pure blood resulting, and the operation was suspended. The patient seemed none the worse and survived three and one-half days, dying then of asphyxia, due to compression of the lungs. No change was produced in the auricle by the puncture. No change was found in the wall of the auricle except thinning.

Mr. R. J. Godlee then read notes of a case of acute suppuration of the thyroid gland complicating typhoid fever in a young woman aged twenty years. An incision was made and an abscess cavity evacuated. Bleeding was free but not alarming. A drainage tube was inserted and a cyanide dressing applied. The patient was more comfortable after the operation and made an uneventful recovery.

Mr. Godlee said thyroiditis occurred in connection with various infections. Of twenty-eight cases recorded he found there was suppuration in fifteen, and in six this point was not mentioned. It seemed common in typhoid. Cases were mentioned by Mr. Symond and Sir T. Barlow. The latter thought some of the cases were rather hemorrhages than inflammation; as in eruptive fevers, interstitial hemorrhages often arose in other parts—*e.g.*, the pancreas and suprarenal bodies.

"What is plague?" asked Dr. Klein, as the title of a paper at the May meeting of the Epidemiological Society. He proceeded to give a description of the bacteriological characteristics of the typical oriental disease, illustrating it with lantern slides. He stated the evidence in three suspicious cases which were brought to our ports some time ago—the three I mentioned to you at the time. Two of them gave positive evidence and the other negative. The bacilli, which he described, were very numerous in the pulmonary exudation and expectoration of pneumonic cases; in the septicæmic and hemorrhagic cases they swarmed in the blood, and hemorrhages took place through the mucous membranes of the respiratory, alimentary, and urinary organs; in the bubonic type they were generally limited to the spleen and lymphatic glands. In these, therefore, the possibility of infection was much smaller until the bursting of the glands, when he found the pus contained them, although it had been stated they disappeared on suppuration. The bacilli secrete a viscid substance, causing them to adhere in clumps, precluding emulsification and resembling at first agglutination. But the secretion dissolved in a saline solution, and then cultures could be emulsified. In this way he had obtained unequivocal agglutination in ten to fifteen minutes.

Mr. James Cantlie said marked types were easily recognized clinically—not so cases of pestis minor, such as seen in the East, preceding, accompanying, or following epidemics. He thought all enlarged glands with fever, not clearly venereal, should be regarded with suspicion.

Dr. McWeeney suggested that bacilli not giving full tests might acquire virulence later on.

Dr. Herbert Williams said that inguinal swelling was very common in Lascars, but the port authorities sent all cases with fever or suppuration and the pus to Dr. Klein for report.

Dr. P. T. Adams believed most cases were infected through a breach of surface or a catarrh of the air passages, and said in Bombay the mortality was highest in cold weather and during the monsoons, when the rains kept the people in crowded dwellings.

Dr. Farrar and Dr. Turner confirmed the low infectivity of the bubonic form, and the president (Dr. P. Manson) said it was now fully confirmed that the fleas of the rat would attack man in default of their natural hosts, just as the fleas of dogs or fowls would do.

The preliminary programme of the Congress on Tuberculosis has been distributed, together with invitations to attend and requests for subscriptions. It makes a brave show with the King as patron. There is a long list of vice-presidents and officers. The congress will be opened on July 22d and remain until the 26th. There are to be four sections: (1) State and municipal; (2) medical, including climatology and sanatoria; (3) pathological, including bacteriology; (4) veterinary (tuberculosis in animals). There will also be arranged a museum of pathology, bacteriology, and public health. The foreign governments are invited to send representatives, who will be honorary members of the congress.

Dr. Bond's death yesterday startled those who were not aware of his illness, by its tragic character. He was the medical jurist consulted by the criminal investigation department, and his name you will remember as associated with all the sensational criminal trials for more than twenty years past. He had become the victim of melancholia and was lately confined to bed. Yesterday morning he threw himself from the window of his house, which was opposite the Westminster Hospital, from the staff of which he retired about two years ago, and into which he was now carried. Thomas Bond was M.B., B.S. of the London University, where he took the gold medal in surgery in 1866. The same year he took the F.R.C.S. Eng. He was elected on the surgical staff of the Westminster Hospital in the early seventies and served it faithfully for some twenty-six years. He lectured in the school on both surgery and forensic medicine. He was also consulting surgeon to the Great Eastern and the Great Western railways, and had naturally a large practice in medico-legal cases. He wrote the article on "Railway Injuries" in "Heath's Dictionary of Surgery," and contributed various papers to the journals.

Dr. James A. Myrtle, of Harrogate, died on Sunday in his forty-first year, of acute laryngitis. He presided at a public meeting two evenings before, and then seemed well. He was the son of Dr. A. S. Myrtle, so long associated with Harrogate and its waters. He took great interest in public matters, for two years was mayor of the town, and to his initiative or advocacy many of the recent improvements at that important health resort are due. He was a magistrate for the borough, surgeon-lieutenant of the Yorkshire Hussars, and fond of athletics and sports. He was co-edi-

tor of his father's work on the Harrogate mineral waters and contributed a number of papers to the journals on balneological subjects. All the institutions of the town were represented at his funeral—a military one—on Wednesday, and his early death is deeply regretted.

Dr. Griffith Hall died on the 28th ult. He was consulting surgeon of Swansea Hospital, was a magistrate, and the oldest practitioner in the town, being eighty-seven years of age.

Dr. Andrew Davies, another Welsh magistrate, died on the 25th ult., aged seventy-seven years. He was formerly also surgeon to Swansea Hospital, but retired from practice in 1887.

Another Welsh doctor, who once was a magistrate, died as long ago as March 30th, aged seventy-three years: that was Dr. Llewellyn Williams, who supervised the exhumation of the body of Mrs. Dante Rossetti in order to take up the manuscript her husband buried with her, but seven years afterward wished to recover and publish.

OUR PARIS LETTER.

(From our Special Correspondent.)

VICHY—THE USE OF DRUGS IN THE FRENCH HOSPITALS FROM THE PHYSICIAN'S POINT OF VIEW—FRENCH PHYSICIANS' VISIT TO THE GERMAN UNIVERSITIES—DR. LAVERAN MADE A MEMBER OF THE INSTITUTE—NEW DRUG USED AGAINST CANCER—LEPROSY ASYLUM IN FRANCE—THE EARLY USE OF ANTIDIPHTHERITIC SERUM.

PARIS, May 30, 1901.

IT is generally thought that from a purely financial point of view German watering-places have proved to be much more successful than the French places of the same nature. This may apply to a certain number, like Nauheim, Marienbad, Carlsbad, and others, but it would be difficult to find an establishment the success of which has been more lasting and progressive than that of Vichy. The waters of Vichy belong to the state, but they are rented to a company, which has recently renewed its lease for thirty years, with the understanding that ten millions of francs shall be expended in improvements. The shares of this company were put on the market at 500 francs, and then were divided into four parts, and each share now is worth 8,000 francs. The profits are due not so much to the large quantity of water drunk at the sources, as to the immense exportation of Vichy water to foreign lands. There is no cure tax at Vichy as at most watering-places in Germany, so one is obliged to use the statistics furnished by the railroad, and from them one can estimate the number of patients seen yearly at Vichy at about 45,000. In 1900 14,700,000 bottles of Vichy-Etat were sent out, whereas in 1853 only half a million were exported.

In the last letter published in the MEDICAL RECORD, mention was made of the fact that the expense entailed by drugs in the hospitals had increased noticeably during the last fifteen years. Dr. Lermoyez, a well-known specialist for the throat and nose, as well as a physician of the hospitals, has taken up this question and has written a sarcastic letter on the subject. As Dr. Napias' place as general director of the Public Assistance has been assumed for the time being by the "very distinguished general secretary of the Assistance Publique," Dr. Lermoyez begins his letter by mentioning his efforts to produce certain changes in the hospitals. It was established by law that the physician's visit should be made early in the morning, at or before eight o'clock. Nowadays physicians begin their rounds at nine o'clock, but some of them are very irregular. To give an example of how differently the chiefs of service may act, at one of the principal hospitals there is one physician who arrives almost exactly on time in his service at nine o'clock every day, and this he has been doing for years; he moreover takes only two months' vacation every year at the same date; whereas one of his colleagues comes at very irregular hours and examines only a few of the patients in his wards, leaving to his chef de clinique and interne the task of examining and reporting on the different cases. Dr. Lermoyez remarks that it would seem that physicians were causing great expenditure, and he mentions incidentally that the 125 francs a month they receive are already a source of ruin. Codeine costs very dear, being sold at 700 francs the kilo, and the circular sent out by the general secretary recommends the use of morphine, which would cost three times less. As for pilocarpine, it costs 3,000 francs the kilo, and whenever Dr. Lermoyez orders it in his service the pharmacist appears on the scene, to explain that the extract would be preferable to the alkaloid. Still it should be remembered that fifteen injections of one centigram of pilocarpine would only cost 45 centimes, or nine cents. Digitalin, which was introduced by Potain in France, would seem to be the most expensive, 30,000 francs a kilo being its price. Dr. Lermoyez says he seems to hear Dr. Potain's voice pleading its use before a dead and buried board of trustees of the Assistance Publique, and telling them that since only one milligram was needed for each case of mitral regurgitation, it did not seem too much to spend two cents on three cases of asystole.

Not only are French physicians and students going more and more to Germany to visit the different universities, but trips are being made by forty or fifty medical men together, and the *Presse Médicale* has just been publishing the description of a trip of this sort as furnished by one of the members of the excursion. They visited Lille and Liège, and then went on to Cologne, where the Burger Hospital was visited. This hospital contains the service of the celebrated Professor Bardenhauer, which has seven hundred beds. The most striking points were the great numbers of cases of surgical tuberculosis, and the extreme care that is taken of all cases of fractures and dislocations. The existence of so many cases of tuberculosis of the bones is to be found also in other German towns according to Dr. Jayle, and as for the organization that is shown in the treatment of fractures in most surgical clinics in Germany, one is struck by the abundance of appliances and apparatus, and the part given to massage, a special assistant being appointed for this. Bonn was next visited. The Institute of Chemistry and that of Pathology were found very well arranged, but, on the other hand, the Institute of Anatomy was poorly equipped. The dissecting-tables were small, and were used alternately for dissection in winter and histological work in summer. The hospital was visited afterward, and it was explained that there were three categories of patients. Patients of the third class pay 2½ marks a day, and are lodged in wards containing fifteen to twenty beds. There are also bedrooms with two beds, where the patients pay 5.30 marks a day, and lastly rooms with only one bed for patients of the first category, paying 8 marks.

Heidelberg was found to be much more interesting, and the French physicians were received with a great deal of cordiality by Czerny, Erb, Kraepelin, Kehrer, Kossel, and Leber. The evening was spent at a beer saloon, and Czerny welcomed the French physicians in a speech which was very much applauded. The next day Erb's service was shown, and what impressed the narrator of the visit was the appearance of comfort and home life shown in the patients' hall. Czerny's service was very well equipped, there being laboratories for histology, bacteriology, radiography, and even a room for vivisection. Kehrer's service was not very extensive, as there was rarely more than one obstetrical case a day. What excited the most interest was the way in which the clinics were managed. Several patients were brought in and one of them was operated on, while the next was awaiting his turn. An examination of a patient was afterward carried out by one of the students, and then the professor took the case up and completed the questions put by the student. Each one of the latter was supposed to carry out this examination six or eight times every six months, which would be hardly enough to give him any clinical instruction if it were not for the instruction given by the privat-docent.

The highest honor that a physician can attain to in France is to be made a member of the Institute, and a recent election was held to choose a successor to Professor Potain. The votes had to be cast three times before Dr. Laveran was chosen by forty votes, against twenty-six given to Professor Richet. Dr. Laveran is a military surgeon, the author of an excellent work on general medicine, and well known for his researches on malaria.

There has been some talk of founding a sanatorium for lepers at Ronceaux in the department of Vosges, but the inhabitants of this part of the country are not at all desirous of having any such undertaking carried out. The subect was discussed at a recent meeting of the Academy of Medicine, and the following points were insisted on: There are several cases of leprosy at the St. Louis Hospital and no cases of contagion have been noticed so far. It would be well to establish a sanatorium in places where cases of leprosy already exist, for instance on the Riviera where several cases of leprosy have been found.

Still another method of treating cancer, similar to that by methylene blue, has been brought before the medical public recently. It consists in the use of Flemming's solution of osmic acid, applied locally or injected into the cancerous tissue. According to the results furnished by Dr. Hérard and described at a meeting of the Society of Therapeutics, the drug causes no symptoms of poisoning, the urine not being modified to any appreciable extent. The results obtained so far are a manifest diminution of the pain, due most likely to an antineuralgic action, and a marked diminution of the secretions and fetor.

The president of the counsel of ministers, who is also secretary of the interior, M. Waldeck-Rousseau, has sent a letter to the physicians who report epidemics, in which he speaks of the advisability of using the anti-diphtheritic serum. He remarked he had seen noticeable differences

in the statistics from different parts of the country; in some places almost all the patients inoculated recovered, while in others more than half of the cases ended fatally. This difference would seem to be due to the fact that some physicians do not care to use serum which seems in any way tainted, when there is, for instance, a slight deposit. It should be remembered that this does not indicate an impure serum, and that every hour is of importance. Statistics show that when the injection is made the first day the false membranes appear, the death rate is at the most two per cent.; the second day it is six per cent.; it goes up to thirty per cent. when the injection is only made the third day, to fifty or sixty per cent. when it is performed the fourth. M. Waldeck-Rousseau's letter ends with an appeal to the sanitary inspectors to see that such requirements be carried out, *i.e.*, the early use of the antitoxic serum. Dr. Chantemesse, who has charge of the diphtheria service at the isolation hospital for contagious diseases, made some remarks on the same subject at a recent meeting of the Medical Society of the Hospitals. A great number of children, fifty-six out of seventy, die the day they are admitted to the hospital, and this is due to the antitoxin not being injected soon enough. It is dangerous to wait until a bacteriological or clinical examination has demonstrated the existence of diphtheria. Injections have generally proved to be so innocuous that it would be foolish to wait for fear an injection might produce some pathological symptoms.

LETTER FROM CONSTANTINOPLE.

(From our Special Correspondent.)

CONSTANTINOPLE, May 13, 1901.

AGAIN an alleged case of plague, and again Turkey is in the agony of quarantine, and Constantinople itself, with its own neighboring ports of the Marmora and Black Sea.

On May 1st a case of plague was officially reported as having occurred in Galata, in a macaroni establishment. The man, a native porter (or *hamal*), when taken ill was removed to a small *locanda*, or boarding-house, a few yards higher up the same street, on the opposite side. The next thing heard was that the man had developed plague. The macaroni establishment was closed. The *locanda* was placed in quarantine with all its occupants, stated to be about thirty-seven in number, and who shortly afterward were carried off to the quarantine station at Anatolia-Kavak on the upper Bosporus. Immediately Greece, Bulgaria, and Roumania imposed a quarantine of ten to eleven days against Turkey; Russia, a milder one of medical inspection, and Turkey, as already noticed, put herself in quarantine against herself.

Again (May 6th), on account of a case of plague in Egypt, arrivals from Alexandria are submitted to a quarantine of observation of forty-eight hours, with disinfection at one of the lazarettos of the empire. Also a suspected case is reported at Bagdad, and the inspector of the sanitary administration at Bagdad is instructed, by date of May 8th, "that tents are to be established for the caravans going toward the Euphrates, Kerhela, and other countries, and a quarantine of five days, with chemical disinfection and daily exposure to the sun of the effects of the travellers. All vessels leaving Bagdad for the south will undergo quarantine at Gararah, and patrols will prevent any one escaping from quarantine. Municipal and military doctors will be sent to the villages adjoining Bagdad, and in Bagdad itself medical men will visit all parts of the city and will immediately announce any case of plague. Finally the conveyance of Shiite dead bodies to the holy places is forbidden until further notice."

Then, "the ports of Constanza and Mangalia are closed to the same arrivals from Constantinople. Mails from Turkey will be received at Verciarova, the frontier, and the bags disinfected. Pattern parcels from Constantinople are also prohibited."

On May 10th is the following official notice: "Seeing that ten days have elapsed since the declaration of a case of plague in Constantinople, and the public health is declared perfect, the measures decreed on May 2d against arrivals and departures to and from Constantinople are suppressed, and clean bills of health are delivered."

Next—Egypt imposed a medical visit and disinfection on arrivals from Constantinople.

The strict measures taken at Bagdad have probably more reference to the great Shiite pilgrimage as preventive than to the actual presence of the disease, and the conveyance of the dead to the holy shrine is properly forbidden at that season.

This is the second time within a few months that the commerce of nations has been disturbed, the mail service dislocated, and passengers and tourists subjected to personal discomfort and loss on account of a single alleged case of plague. It might be supposed that all these demonstrations would strike terror in a population like that of Constantinople. But no! No one seems to believe in the necessity of such extreme measures as have been taken either by the other states or by Turkey against herself; and the inconsequent character and incidence of the regulations issued are pointed out. The Bagdad regulations are necessary for the reasons stated; but in Egypt, where plague is now more or less permanently located, and where a case every now and then crops up and is easily controlled, it is somewhat different. In Constantinople and Alexandria occurred, coincidently, single cases of plague. Each place imposed a quarantine against its neighbor, in this respect imitating the practice of former days, just as if no means of organized isolation existed in either place. Then, again, while some neighboring Turkish ports and places on the Marmora and Black Sea coasts were in quarantine against Constantinople, the daily passenger traffic from Galata—where the case occurred—was in free communication with the Asiatic side of the Bosporus and the Prince's Islands of the Marmora, when thousands pass daily to and fro. All very inconsequent, though likely to be repeated in the event of another scare from a true or alleged case of plague or cholera. The two cases of plague that have occurred—the one at Beicos noticed on a previous occasion, and this one in Galata—were stated to be confirmed by bacteriological examination, and were treated by serum injections, but whether the examination preceded or followed the injections is not stated. Now quarantine has been taken off or modified all round. The mail services have been resumed and the ordinary business relations are being restored.

The case of hydrophobia mentioned in a former communication has since been under discussion by the Imperial Society of Medicine. Professor Remlinger, of the Anti-rabic Institute, enunciated certain views as to the special form of rabies, *i.e.*, the paralytic form, found in Constantinople. An animated discussion ensued. A member asked the professor how often he had observed at the Anti-rabic Institute that the patient had shown symptoms of hydrophobia after the bite, because in Constantinople dog-bites for the most part were not followed by rabies, compared with those in Europe. Dr. Remlinger replied that he "could not answer the question, as most often the animals were not submitted to examination. The veterinaries very often make their diagnosis of rabies from the foreign bodies found in the stomachs of the animals, which is irrational, as it is not uncommon to observe that dogs stung by wasps in summer swallow foreign bodies. In Constantinople it was true that cases of rabies are not so numerous as in Europe, considering that the street dogs of Constantinople are more subject to paralytic rabies than to violent rabies (*rage furieuse*)."

The fact certainly is that rabies in any form is not common among the pariah dogs of Turkey. Your correspondent has lived many years in Constantinople, yet has never seen a case of hydrophobia in men bitten by dogs, nor a well authenticated case of rabies in street dogs. It would then appear that the opinion of Professor Remlinger is not founded on such a number of cases as to justify its unqualified acceptance.

ASEPSIS AND AMBULANCE SURGEONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of June 15th I read an article under the above title, which I have taken the liberty of using in my reply, as it is pre-eminently a correct statement of facts, whereas the gist of the writer's letter showed him to be absolutely ignorant of his subject.

I have been an ambulance surgeon myself, while connected with the Hudson Street Hospital, and in the performance of my duties have come in contact with numerous surgeons from other institutions, and I think I am in a position to judge of the work done daily by our ambulances, as I see the result constantly in my clinic.

I do not claim that a surgeon on the back of his ambulance is surgically clean, but that he thrusts his "dirty finger" into every wound, "especially if it involve brain, joint, or peritoneum," I characterize as untrue and made necessarily by a man not well versed in the subject he is trying to discuss.

Dr. Ellis says that a physician is called in first who applies an aseptic dressing at once, before the officer summons the ambulance. That statement shows how little the doctor knows of the rules regulating this service, as any one will bear me out who has attended to many ambulance calls. The majority of ambulance surgeons are graduate physicians and should be treated as such, and not as mere novices; they are much maligned by the daily press, as they are considered perfectly legitimate prey by the reporters. They make mistakes, of course, but when you consider the number of calls per annum in this city and then the very few mistakes, the average is really remarkable.

CLINTON H. CATHERWOOD, M.D.

NEW YORK.

Society Reports.

AMERICAN ACADEMY OF MEDICINE.

Twenty-sixth Annual Meeting, Held in the Hotel Aberdeen, St. Paul, Minn., June 1 and 3, 1901.

THE meeting was opened by the president, Dr. S. D. Risley, of Philadelphia.

The First-Year Medical Curriculum.—DR. THOMAS D. DAVIS, of Pittsburg, Pa., presented this paper. He said there had been great changes in the curriculum of the academical departments of all our institutions of learning—changes, not advances. He did not admit that many of the changes had been improvements in education. It would appear that the courses in arts and sciences had been arranged mainly to give a short cut into the profession, rather than to broaden and deepen the foundations of true mental development. It was his conviction that no plan surpassed, for true professional-education foundation, the old severe classical course, particularly valuable in developing the judgment and reason and forming the habits of application and mental concentration. Anything that could not show its advantages in dollars and cents had been placed in the background. He emphasized the importance of the subjects taught in the last two years of a college course, and believed that the first-year course of a medical school should approach the last-year course in a college. A four-year medical course was of itself an advancement in medical education. An entire rearrangement of the curriculum in our medical schools was necessary to correspond to the four years required. Rhetoric could be taught with advantage. Botany should be taught, to give a more correct foundation for the vegetable materia medica. Logic, if not taught before, should be taught in our medical schools. In no way, it was stated, could the practice of medicine be improved more rapidly and thoroughly than by training men to think, judge, and decide logically. Psychology or mental philosophy was mentioned as of greater importance than all. The intimate mysterious relation of the mind to the body had been recognized, but the laws governing the mind and the many phenomena that had been observed and classified were, to a great extent, unknown to medical men. The physician who failed to recognize and use mental influence lost a mighty power, yet our medical schools taught none of the laws of this influence. In the opinion of the author, a medical college offering a course for the first nine months, which would embrace rhetoric, botany, logic, and psychology, biology, osteology, and general chemistry, would, at the end of its four years' course of nine months each, turn out far better equipped medical men than were to be found at graduation now. Under the present conditions a college graduate with three years in a medical school would be better posted in medicine and better prepared to practise it than a common-school graduate could possibly be after four years in the same medical school.

DR. CONNOR, of Detroit, believed that colleges of all kinds were committing a grievous wrong to their students in not having them taught to write so clearly and forcibly that they could be understood, as well as in not teaching them how to talk when upon their feet. Without this training they were handicapped. If necessary, this instruction should be joined with the study of anatomy and chemistry. Manual training, so that the students' fingers might be able to follow out their perceptions, was also advocated; as was also "a little bit of business training," which would make the physician more prosperous, and more reputable in the minds of those in business circles. A number of physicians were wrecked because they lacked business training.

DR. VAUGHAN thought it a mistake that students were not more frequently compelled to write theses, and that the abolition of the requirement was a backward step. Before a man studied medicine he should know mathematics, including plain trigonometry. Also, the man who would get the best out of medicine must have a reading knowledge of French and German. He should have some knowledge of both Latin and Greek. The fact that a man had an A.B. degree might mean much or almost absolutely nothing. The speaker thought it time that those interested in medical education in this country should force the literary school to give courses that properly led to medicine. He expressed himself in sympathy with the law enacted by the New York legislature compelling every student to stay four years in a medical school, no matter what degree he might have.

DR. GOLDSPOHN, of Chicago, heartily indorsed Dr. Vaughan's sentiments in regard to a knowledge of French and German. While not judging England and all she represented in science, yet more original productions, more real contributions pertaining to pathological anatomy, came from Italy and Switzerland, the smallest European governments, than we had from England herself in the last five or ten years. He felt that there was no possibility of a man keeping abreast with what the world afforded unless he were a thorough student of German and French, from them getting the substance of what the rest of the world produced. A deficiency in the medical curriculum of to-day was the failure to appreciate the power of mind over matter, the want of a proper understanding of this psychological part of man. The amount of instruction in histology was grossly defective. He felt that a good thorough college course and then a four years' medical course were likely to do the most good.

DR. JACKSON, of Denver, thought that the study of logic and psychology, as now carried on, furnished a very poor outfit, or a very insufficient guarantee of a logical mind or an ability to apply psychological principles to general facts. In illustration, he stated that a baseball or billiard player learned to do a certain thing with perfect accuracy, promptness, and ease, and yet knew nothing, perhaps, of the names, or forms of classification, or arrangement of the muscles by which he did it, and still less of the nerve paths by which he accomplished his purposes.

DR. L. DUNCAN BULKLEY maintained that the crowning evil of medicine, the advertising drug business, was due to faulty education in our medical schools. Another fault lay in too great a crowding from minutiæ. He emphatically approved of the suggestion that students be required to write a thesis at the end of each year. He had seen too often, in young men coming up for hospital examinations, a want of concentration of thought and of logic.

Is the Demand for Reciprocity Based upon Fact or Fancy?—DR. CHARLES MCINTIRE, of Easton, in this paper gave the results of the examination of reports of the various State boards of medical examiners for 1900, in order to form an estimate of the comparative number of physicians who sought to move from one State to another. The figures quoted in the paper gave the entire number examined, the number failing, and, of those failing, the number who were not graduates of the last class. A tabulated statement showed that out of five hundred and eleven individuals, two hundred and ninety-two could have had an opportunity of taking a State examination elsewhere. A considerable number failed, and were coming up for a second time, only to fail again. It would be far from the truth to infer that of the larger number who were sustained in their examinations, the same proportion of older men

presented themselves; at the same time, many such were included in those who received a license, and it would not be an overstatement to assume that the number of those who passed the examinations, who would have had the privilege of reciprocity extended to them, fully offset the number who failed in the examinations, who had never made the effort to practise elsewhere. If so, there were at least two hundred and ninety-two out of the total number examined who would have been able to avail themselves of the privilege of reciprocity, or about seven and a half per cent.

The Desirability of Reciprocity in Medical Licensure.—A paper with this title by Dr. J. N. Hall, of Denver, was presented. An experience of six years on the Colorado State board of medical examiners demonstrated that many physicians of excellent repute sought a residence in that State because of illness, either personal or otherwise. Though such men were fitted to practise medicine, they were rusty on the details of the foundation studies. Reciprocity between States having stringent requirements would be of the utmost benefit to men of this type. Reciprocity, however, should not be established, except among those States where requirements were essentially equivalent.

Reciprocity in Medical Licensure from the Standpoint of a Physician who Changes his Residence.—Dr. Edward Jackson, of Denver, in this contribution said that about one in every four or five physicians changed his field of practice from one State to another at some time during his professional career. In making such a change the difficulty was not with the practical branches, but in passing the examination in what might be regarded as the preliminary studies—chemistry, anatomy, etc. The physician who removed across State lines could not justly be expected to keep better posted in those branches than the most of those who did not move. The acceptance of the certificate of another State board, as evidence of a proper acquaintance with such preliminary studies, would remove the chief hardship. The main obstacle to this was the fear of lowering the standard. But the "standard" in many States was already so high as to favor evasion and special legislation, letting in all sorts of irregular practitioners, and to threaten the permanence of laws regulating medical practice.

Away with Reciprocity.—Dr. Charles McIntire in this paper stated that reciprocity was an ignis fatuus, which would lead us far astray. It was well to remember that the States which had medical-practice acts at all worthy of the name might be divided into two classes—those which accepted certain diplomas as the evidence of fitness, and those which required an examination. In both instances the test was an educational one. The first class had no personal interest in this question, since they did not inquire into the personal knowledge of the applicant. In the very nature of the thought, there was concession in reciprocity which precluded the idea of strict equality. If we sought reciprocity, we must seek to secure an agreement between the various boards, for each to accept without question the licenses issued by each other. Physicians already possessing the legal right to practise in one State should have privileges, in removing to another State, not accorded to those who had not as yet been licensed to practise. It might be said that the man distinguished enough to be called eight hundred or one thousand miles to occupy a professor's chair might be admitted upon his reputation. Unfortunately, were this done in one case, there would be the danger of pronouncing it reputation, but spelling it "influence." Whatever privilege was given to the older man, while a favor to him, must be fair to all concerned.

Some of the Ethical and Sociological Relations of the Physician to the Community.—Address of the president, Dr. S. D. Risley, of Philadelphia. Dr. Risley in his address showed that a most striking characteristic of the medical man was a sense of obligation to the community; that this ethical attitude found expression, not only in the daily routine of his laborious professional service, but in a pronounced educational influence on all those lines which pertained to the healthfulness of the people and their socio-medical welfare; that this influence was signally exerted in the investigations and control of the relation which our defective classes sustained to the social body. Almost suddenly the student of social evolution had come to realize that through the altruistic spirit of our civilization a rapidly increasing percentage of degenerates had grown up in our midst, a fact which presented a serious and most complex problem for solution by the new century. Two suggestions were made for its arrest: first, the legalization of means to prevent propagation of defectives, by asexualization; and, second, by a wider education of the community regarding the importance of selection in the marriage contract and its control by the State. To solve the problem wisely and humanely would require the best efforts of the churchman and the physician and the statesman.

Abuses of Institutionalism.—Dr. Eugene G. Carpenter, of Columbus, Ohio, read a paper with this title, in which he said that institutionalism was an outgrowth of organization and the result of routinism. Routinism developed perfunctoryism, which in turn led to automatism, differing little from the mechanical. That which was mechanical moved in fixed lines and was consequently opposed to progress.

The Advantages of Civil-Service Principles in the Conduct of State Hospitals for the Insane.—Dr. Gershom H. Hill, of Independence, Iowa, and superintendent of the Iowa State Hospital for the Insane, in this paper treated of the benefits resulting from having a board of three in control of the State institutions of Iowa, in practice for two and a half years. It was shown that the system was free from political influence. In the hospital under Dr. Hill's supervision, the personal element in the treatment of patients was preserved, and there was no interference with individually approved ways of treating patients. The business of the State institutions was transacted on the same methods as those employed by the United States government in buying supplies or by the up-to-date business man.

The Need of National Co-operation in the Establishment of Sanatoria for Tuberculosis.—Dr. A. Mansfield Holmes, of Denver, recited among the advantages of sanatoria that they increased the chances of recovery, afforded an opportunity for rigid sanitary regulations among patients, and furnished a means of educating the consumptive and the public in the use of the best means of resisting infection. He divided sanatoria into three classes: for patients of limited means, for those of moderate means, and for the well-to-do. Regarding the location of sanatoria, he said, there should be for the incurable cases sanatoria located near large centres of population regardless of climatic conditions; but for the incipient cases the most favorable climatic conditions should be chosen for the location of the sanatoria.

Evils in Some Asylums, Hospitals, Infirmaries, and Training-Schools for Nurses.—Dr. Albert Goldspohn, of Chicago, spoke on this subject, contending that many of these institutions did not yield their intended degree of usefulness because of exclusively lay management and because of political influence in the appointment of the officers of such institutions. He advocated giving the State board of health the additional duties, powers, and emoluments of a medical

civil-service board, which should select and determine the fitness of all superindendents, matrons, and other officials of hospitals and asylums, present candidates for medical appointments, and inspect the institutions at least once a year.

Hospitals and Sanatoria Founded, Owned, and Controlled by the Medical Profession.—Dr. H. Bert Ellis, of Los Angeles, described a hospital owned and controlled by a corporation of physicians known as the California Hospital Company. The first building erected for the hospital was soon found to be inadequate and was added to. The patients selected any reputable physician they might wish and paid him for his services. Connected with the hospital was a training-school for nurses. The absolute management of the hospital was vested in a board of nine directors, elected annually from among the stockholders.

The Relation of the Clinical Laboratory to its Hospital.—Dr. Henry W. Cattell, of Philadelphia, presented a paper under this title, in which he assumed that the time had gone by when it was necessary to argue for the existence of a clinical laboratory in connection with a hospital. The questions to be considered in the internal administration of a hospital were the relations of the clinical laboratory to the board of managers, the medical and surgical staff, the chief resident physician, the resident physicians, the superintendent, the nurses, the out-patient department, etc.

Dr. W. W. Keen, of Philadelphia, said he was glad indeed that he had heard the paper of Dr. Cattell. He was less interested, perhaps, in the clinical laboratory from the administrative point of view than from the scientific and surgical. He emphasized the statement that at the present time every hospital, small or large, should have a clinical laboratory.

Necessity for Revising Medical Fees.—Dr. P. Maxwell Foshay, of Cleveland, read this paper. He said that the custom of charging a fixed sum for each visit was a relic of antiquity and illogical. He argued that the general practitioner should proportion his charge in each case to the value of the service rendered and to the ability of his patient to pay. There was, however, a need of a "fee-bill" to establish a standard to which the physician could appeal when dealing with patients. It would also be of definite service in court on the occasion of a suit to recover the amount of a bill.

Refraction.—Dr. James A. Spalding, of Portland, Me., related a personal experience of a man suffering from a sudden loss of vision, who consulted first an optician and then an oculist for aid. His experience demonstrated the inefficiency of the former and the competence of the latter. Dr. Spalding suggested the advisability of physicians instructing the public through the secular press regarding all sort of ailments, thereby preventing them from yielding to the beguilements of charlatans. Physicians ought also to be careful in referring their patients only to those who had a proper knowledge of disease.

Dr. Tuckerman, of Cleveland, and Dr. Risley, of Philadelphia, referred to cases in which grievous damage had been done through the failure of physicians to refer their patients to an oculist rather than to the advertising optician.

Officers.—The annual election resulted in the choice of the following: *President*, Dr. V. C. Vaughan, of Ann Arbor; *First Vice-President*, Dr. James L. Taylor, of Wheelersburg, Ohio; *Second Vice-President*, Dr. W. A. N. Dorland, of Philadelphia; *Third Vice-President*, Dr. H. P. Ritchie, of St. Paul; *Fourth Vice-President*, Dr. H. Bert Ellis, of Los Angeles, Cal.; *Secretary and Treasurer*, Dr. Charles McIntire, of Easton, Pa.; *Assistant Secretary*, Dr. A. R. Craig, of Columbia, Pa.

AMERICAN PEDIATRIC SOCIETY.

Thirteenth Annual Meeting, Held at Niagara Falls, N. Y., May 27, 28, and 29, 1901.

First Day—Monday, May 27th.

Summer Diarrhœa.—The session opened Monday morning with an address by the president, William D. Booker, of Baltimore, on the subject of summer diarrhœa. He traced the literature in the older books, chiefly since the middle of the eighteenth century. From that time there had been an epidemic disease in the summer months, occurring in children under two years of age, characterized by vomiting and diarrhœa. It was not recognized in Europe, nor known to exist among the early settlers in this country. It had pushed back from the Atlantic coast, as the people had settled farther back. Benjamin Rush described it here as cholera infantum in 1777, but Europe did not appreciate it until fifty years later. Its virulence here accounts for its recognition early. In 1650 London recognized that children died in summer from heat and exhaustion. By 1750 diarrhœa was described as of fourteen kinds. Though often due to fatty food, it was not often seen in Germany. In 1818 cases were described as sporadic and due to eruption of the teeth. In 1840 appeared a work, giving much space to the diarrhœa of children, and describing cholera infantum as peculiar to the United States.

Green Scours.—Cheyne was the first Englishman to write properly of this disease, which he termed "green scours." He did not inculpate atmospheric changes as etiological factors. Moisture, sudden cold, and improper food were early recognized as causes. The last half of the century made little gain over the first half. Rush gave the first concise etiology and pathology. In 1803 one hundred cases were reported as treated with alkalies, with only one death. As long ago as 1823 Howell declared that "had only a portion of the talents wasted on fever been spent on the treatment of cholera infantum, tens of thousands of lives had been saved." He treated by calomel. The early writers all noted heat as a factor, but not as a cause. A miasm was suspected, because atmospheric changes seemed to influence its occurrence. The theories of exhausted nervous system and of deranged action of the skin were put forward. The pathology received little attention until Jackson demonstrated the inflammatory condition of the intestines. Now we knew that the causes related chiefly to bacteriology and the main reliance of treatment was in dietetics.

A Case of General Arteriosclerosis in a Boy Aged Ten Years was described by Dr. Allen Baines, of Toronto. Only seven similar cases had been reported. The boy had pipestem-like arteries throughout the body. Syphilis, the common cause, was eliminated here; nor was there rheumatism. He was anæmic, dull, and had no intelligence. There were almost uncontrollable hemorrhages from the mouth and nose. An ulcerative stomatitis prevailed, and was so bad as to suggest noma. The urine contained eight per cent. of albumin, and at autopsy the kidneys were found to have the parenchyma largely replaced by fibrous tissue. The heart was large; even the coronary arteries were fibrous, the aorta was atheromatous, and all arteries were standing open. The doctor also narrated a case of pelvic metastasis in a girl of sixteen years who had mumps and uterine hemorrhage worse than usually seen in abortion.

Pernicious Anæmia in Infancy.—Dr. T. M. Rotch, of Boston, reported in detail a case in a girl aged nine months. While anæmias were often examined in adults, the data as to infants were very insufficient. While the disease was usually secondary to syphilis or malaria, neither existed here. Primary pernicious

anæmia had been reported in twenty-five cases only. This was the third youngest on record. The cause, he stated, was not known, and the term idiopathic should be applied only to those in which no probable cause could be found. The child was normal at birth and breast-fed until four months old; it was then given milk of the strength 3.50–7 : 1, increased to 4–7 : 2. When ten months old, pallor and puffiness were noted, also a faint precordial murmur. There was no rickets or scurvy. The blood showed 30 per cent. of hæmoglobin, red cells 1,732,000, white 9,200. The wall-paper and surroundings were examined, to exclude the possibility of arsenical poisoning. There were no vomiting or diarrhœa, and no intestinal parasites. The child lost a pound and a quarter a week until oxygen was administered every ten minutes day and night. It was continued six weeks, during which time the hæmoglobin increased steadily.

Dr. Wentworth stated that there was no typical blood in infancy, and although there had been much study of the blood of infancy, but little was really settled. The nucleated red cells were of no consequence. Heart murmurs were rare in infancy.

Dr. Koplik doubted the existence of primary pernicious anæmia. The disease was usually found to be secondary if careful inquiry was made. Babies got well when adults would not. It was difficult to determine if the anæmia was idiopathic in the child.

Dr. Morse agreed that the rules applying to the blood of adults did not apply in children. After a careful examination of all literature, he believed all cases so far described to be secondary.

Dr. Northrup stated that an extensive experience showed him that many children under three years had murmurs, but that rarely was a lesion found at the autopsy.

Dr. Churchill had found endocardial murmurs frequent in both hospital infants and those well-to-do, but regarded them as functional.

Dr. Kerley declared that lesions without murmurs were also frequent.

Dr. Thomson mentioned a case parallel to that of Dr. Rotch, in which the cause was a very weak, modified, and pasteurized milk. The child had the waxy pallor and other changes. A second patient had been fed on laboratory milk, both pasteurized and peptonized.

Dr. Winters spoke of a child fed on sterilized modified milk which recovered at once when put upon young breast milk.

Dr. Rotch, in closing the discussion, stated that the blood had been examined by Dr. Cabot, and by him pronounced to be in every way like that of pernicious anæmia of adults. The murmur had disappeared. As the baby did both well and badly on the same milk, he believed the latter was of proper composition.

So-called Cyclical Albuminuria.—Dr. Frank S. Churchill, of Chicago, reported a case in a girl eleven years old. Albumin was often absent in the morning, but present at night. It disappeared after rest, especially if in bed. Its presence was noted in a large number of boys who ran to college prayers, also in three hundred and sixty-nine boys who exercised on board a training-ship. It was found in soldiers after a march, and in boat crews after training. Two theories of its cause were increase of blood pressure and change in the blood itself. It might be a toxæmia, a tendency toward a condition such as puerperal albuminuria in woman or chronic Bright's disease in man. This child had had an irregular fever, thought to be typhoid. She had had tonsillitis, followed by much pus in the urine. The heart was normal. A chart was presented, showing in detail the result of eighty examinations of the urine in this case. Phosphates ranged high. Specific gravity was high in non-albuminous specimens, and high albumin did not necessarily accompany high urea. Sulphates varied. Chlorides were diminished. Excretion was well maintained, especially of urea. The treatment consisted of the interdiction of meat, the administration of much water and of urotropin.

Dr. Dorning had watched a similar case twenty years. At first albumin appeared every Sunday, later after exertion on any day. Albumin and pus were constantly present now. Albumin was often present in movable kidneys, as shown by Edebohls in a dozen cases.

Dr. Winters related the case of a girl ten years old, who had albumin two years without other symptoms. She was kept in bed four months, during which the albumin disappeared, but only to reappear when she got up. She removed to California, and there went to school, lived like all children, and was free from albumin, which was constantly watched for.

Dr. Koplik warned against the danger of future nephritis in these cases.

An Account of Epidemic Malaria in Children.—Dr. R. G. Freeman, of New York, presented this paper. The cases were seventy-seven in number, and occurred in the children of the New York Foundling Asylum occupying a certain play-room. Though there were seven hundred children in the institution, no others were affected. Those in the nursery-room above did not have it. The temperature ranged from 100° to 105°. All had coated tongues, not red at the edges as in intestinal disorders. None had large spleen. All were given castor oil and put on milk diet. The blood of seven was examined, with negative results at first, though in one instance plasmodium was found later. All received gr. ii. of quinine three times a day, and the temperature fell in twenty-four hours. The oil alone did not cure, so the disturbance was not intestinal. Adjoining the play-room was an excavation, where rains formed stagnant pools. These were present too short a time to permit the development of Anopheles, and neither mosquitos nor bites were found on the children.

Dr. Northrup told of a case of suspected malaria in an infant of nine months, in which the bacteriologist actually killed a mosquito on the infant.

Dr. Packard said that the Anopheles appeared in Philadelphia about June 15th. As influenza had previously prevailed, weakened power of resistance might be a factor.

Dr. Kerley reported that he had examined the blood of fifty children with elevated temperature. None had plasmodium, but all got well on quinine and proper diet. He did not diagnose the trouble as malaria.

Dr. Adams did not consider that malaria was proven, nor evident, except in one case. He saw many cases in Washington, and found the æstivo-autumnal variety required more quinine than others.

Appendicitis in a Child Three Months Old.—Dr. J. P. Crozer Griffith reported a case in a colored girl. There were vomiting and diarrhœa, with mucus and blood in the stools. The child passed into collapse and died after a violent vomiting attack. At the autopsy half the appendix was strangulated and gangrenous. There was evidence of a previous attack, as there was old connective tissue. There was no concretion nor foreign body. The disease was decidedly uncommon in infancy, though not rare in childhood. The author reviewed the fifteen cases published, nine of which had been operated on. Recovery resulted in seven.

Prolonged Laryngeal Stenosis of Uncertain Origin.—Dr. Griffith also reported the case of a child twenty months old, suffering with this condition. It was thought at first to be diphtheria, though no exudate

was seen, nor were Loeffler bacilli found. Cyanosis was extreme, and controlled only by intubation. The child had a rachitic head. The history was that a similar condition had lasted four weeks the year before, and that five others in the family had been affected in a similar manner.

DR. RACHFORD had had two cases of persistent laryngeal obstruction, due to œdema below the cords. Intubation failed to relieve, and tracheotomy was done. The child died two and a half months later while intubation was again attempted. A second cyanotic patient was intubated, and tracheotomy followed at once; he wore the tube two months and recovered. A few Loeffler bacilli were found.

DR. SHAW, of Albany, reported appendicitis in a child seven weeks old, found at autopsy. The appendix had sloughed off. The blood count was 1,250,000 red cells, and hæmoglobin 25 per cent.

DR. ROTCH had seen a choreic condition of the larynx lasting for months. Many cases were diphtheritic, though the culture be negative, and antitoxin should be given. In proof, he cited the case of a child with obstruction of the larynx and negative culture, in which a diphtheritic membrane was found at autopsy.

DR. BUCKINGHAM narrated a case of rickets in which laryngeal voice developed. Three thousand units of antitoxin was given, and recovery occurred in ten days. The culture showed staphylococci only.

DR. KOPLIK said that the spasm was not confined to the larynx, but might be accompanied by spasm of the diaphragm.

DR. GRIFFITH said if we had continuous tetany, why not persistent laryngismus?

Amaurotic Family Idiocy.—DR. A. C. COTTON, of Chicago, said that thirty-six cases were now recorded, most of them in children of Hebrew parentage. The author's patient was two years old, of normal weight, and without family history of syphilis or consanguinity. The child became gradually blind, had a high palate arch, convergent strabismus, with lateral nystagmus, and could neither sit nor stand. There were also the pathognomonic ocular changes in the macula, idiocy, and paralysis. These patients had a progessive degeneration of the whole nervous system without vascular or inflammatory changes.

DR. MORSE said that more cases were seen than were reported. He had had three cases, one of which was in an American who died at two years of age.

The Little Finger of the Mongolian Imbecile and of Normal Children.—DR. J. PARK WEST, of Bellaire, Ohio, stated that the characteristic was a short second phalanx, with curving of the finger. The author had noted the fingers of 605 children under nine years of age with the following results: Straight, 18.5 per cent; slightly curved, 29 per cent.; distinctly curved, 33 per cent; markedly curved, 19 per cent. There were five pairs of twins of whom only one pair had fingers alike. Of the nine Mongolian imbeciles seen, only one had the curved fingers, one a straight and a curved.

DR. ADAMS mentioned five instances of curved fingers in one family, all very bright.

Maternal Impressions and Hare-Lip.—DR. B. K. RACHFORD, of Cincinnati, reported the case of a woman from a tuberculous family who had seven children. Four of these were girls having hare-lip, one to such an extent that the brain could be seen through the roof of the mouth. This child died, but the others lived and were operated upon. The three boys did not have hare-lip. Of these, the first died of tuberculous meningitis when two years old. The mother showed symptoms of tuberculosis, and three times sojourned in California until able to return home apparently well. She ultimately died of tuberculosis. This mother did not believe in maternal impressions, but seemed to know confidently when she was carrying a boy and that he would be born normal. The case of transmitted maternal impression was that of a woman two and a half months pregnant who was operated upon for appendicitis. Violent vomiting after the operation strained the sutures, and stitch abscesses resulted. A nine-pound boy was born in due time, and when he was a year old he began to show marks exactly like the mother's scar, except the line of cut. This increased in distinctness for six months, and so remained.

DR. GRIFFITH considered the case one of inherited deformity, not impressions.

The Pathological Anatomy of Cretinism.—DR. F. A. PACKARD gave the history of a boy six years old, weighing only twenty-seven pounds. He presented the heavy features and all usual evidences of cretinism. From the age of three until five years he had no normal stool. Thyroid extract was given in gr. ¼ doses, and caused improvement in bowels and features in nine days. He began to talk and improved mentally, but died of an acute illness. The necropsy showed atheromatous abscesses in the brain, which was large, fatty liver, granular spleen, cloudy swelling of the heart muscle, and enlarged pituitary body. An interesting point was the presence of calcareous vessels in the thyroid gland.

A Contribution to the Symptomatology of Cretinism.—DR. HENRY KOPLIK, of New York, presented casts of the hands of a cretin and of a normal child. The cretin presented a prominence separated from the antithenar eminence and giving the hand a square shape. It was suggested that crawling on the hands might have caused enlargement of the os pisiformis underneath, but, as the deformity had been seen at three months, it was probably congenital.

DR. COTTON remarked upon the rise of temperature in cretins while taking thyroid extract.

DR. NORTHRUP cited the case of a patient who recovered from pneumonia.

DR. CHRISTOPHER cited the case of a cretin dying apparently of tuberculosis. He noted that the patients made rapid improvement, but soon reached a stationary point.

DR. WEST reported cretins recovering from bronchitis, and remarked that they improved more in mind than in body.

DR. PACKARD emphasized the point that improvement depended upon early beginning.

DR. CHRISTOPHER suggested that thyroid might be given for constipation in other patients than cretins.

Regarding consanguineous relationship, DR. KOPLIK and DR. NORTHRUP each reported two cases in cousins.

Glass Sun-Rooms on City Roofs or Winter Play-Houses.—DR. W. P. NORTHRUP presented photographs and spoke of the many advantages of taking fresh air on the roof rather than in the damp and dusty street.

DR. WINTERS said that the large roof garden of the Society for Prevention of Cruelty to Children was very cold, so that it could be enjoyed only by strong boys. Others feared that the roof air would be contaminated by gas from sewer pipes.

Second Day—Tuesday, May 28th.

A Study of Five Hundred and Fifty-five Cases of Summer Diarrhœa.—DR. C. G. KERLEY, of New York, presented this paper. The cases were gathered in dispensary practice and occurred during June, July, August, and September. Of these children, 77 were under three months of age. It was noted that 20 were fed on proprietary foods and 59 upon condensed milk. Four hundred and ninety-nine were treated to the end, of whom 10 died. An invariable rule in treatment was to stop all milk at the outset, to relieve the infected gut; to treat the case vigorously, whether mild

or bad, and to explain to the mother carefully and in writing what was to be done. Barley or rice water was commonly given. Egg mixture plus brandy was atrocious. By dextrinizing the gruels might be given double the usual strength. The tannin products had failed. The four reliable drugs were calomel, castor oil, bismuth, and opium; calomel particularly when vomiting occurred. Irrigation was often overdone. The mothers should be educated and proper feeding all the year round insisted upon. The author urged that the municipal government provide milk laboratories, ice, and even district nurses.

Dr. Griffith said he had abandoned astringents, and used opium to prevent peristalsis.

Dr. Koplik was surprised at the reflections upon albumen water, which he found most useful. Dextrinized gruels were best after vomiting had ceased. The details of food as to quantity and character must be under the immediate control of the physician, as, *e.g.*, at the Good Samaritan Dispensary, where two hundred patients were supplied daily.

Dr. Buckingham cautioned against the government having control of the food supplies, especially the formulæ, and dissented from the reflections upon alcohol.

Dr. Holt urged rest, and cited a case of irrigation kept up for seven months. The mucous stools ceased with the cessation of the treatment. The medicine should be magnesia, followed by opium.

Dr. Winters urged further the importance of stopping milk for a time. He had long ago discarded cereals: if not good for the well, how could they be good for the sick baby? The non-use of alcohol he believed to be incompatible with success. Weak milk would maintain the infant.

Dr. Adams found rules useless for most mothers. All food should be suspended for twenty-four hours, and then it must be remembered to put nothing into the digestive tract which may be indigestible. Salines alone would maintain life for several days. He advocated cereals, egg water, castor oil, etc., but did not use bismuth.

Dr. Cotton said it was important to know distinctly the purpose of rectal irrigation in a given case; whether it was to stimulate peristalsis, to stimulate the moribund, to act as a sedative in fever, or only to remove offending matter in the bowel.

Dr. Dorning emphasized rest from irrigation and medicine, but especially change of air to sea or mountain. He had had two cases of arsenical poisoning from bismuth.

Dr. Rotch said that the poor were entitled to as good treatment as the rich; therefore the latter should be urged to give money for supplying milk laboratories for the former. He would give for the attack of diarrhœa sterilized water and alcohol at the outset. Functional cases needed stimulants. The food should be mixed with precision.

Dr. Wentworth said that, although there were no lesions macroscopically, there might be microscopically; also that it was impossible to make a clinical diagnosis correspond to the nomenclature based on lesions.

Dr. Saunders said he gave eggs and cereals, also brandy and wine, and tea sometimes in place of alcohol. He advocated broths first and beef juice later. Of drugs, chloral was one of the best for pain, to be combined with aromatic rhubarb. One dose of atropine would stop serous discharges.

The Feeding of an Incubator Baby.—Dr. C. W. Townsend, of Boston, related a case a point in which was that the baby increased in weight better after changing from Jersey to Ayrshire milk. Cereals were found better after six months than before.

The Place of Cereals in Infant Feeding.—Dr. Henry D. Chapin said that it was true that the use of cereals was not necessary and unscientific. Using cow's milk instead of mother's was not following nature, as there were differences other than chemical. There was much yet to understand in milk—the two sugars, the soluble and insoluble proteids, etc. Tables were shown giving the latest analyses of milk from various animals, herbivora (ruminating and non-ruminating), carnivora, etc. While appreciating the great value of percentage feeding, we must remember that cow's milk would not be mother's milk. The flocculi were not the same. The curd of cow's milk was best broken up by a cereal that had been dextrinized; the curds then became soft, not leathery. Gruel should be made of one tablespoonful of flour to one pint of water. Milk could be added to the gruel in proportions to suit the digestion of the infant until unmodified milk was taken. Chemistry was not the only basis of comparison. With this treatment the tendency was to return to a milk diet rather than to a proprietary food.

Dr. Morse said that, while it was possible to bring babies up by hand, breast milk should be had if possible.

Dr. Rotch considered the one-per-cent. cereal solution too weak for nutrition, and unnecessary as a diluent. Better results might be obtained by prescribing proteids from whey albumin rather than the total proteids of milk. These, being soluble, needed no cereal to break the curd.

Dr. Koplik said there was a sharp distinction to be made between the baby healthy or ill, and if ill, whether it be a chronic or acute intoxication. Any modification of milk would keep up intestinal toxication. Putting a small amount of sugar and a dextrinized cereal in the milk made the baby grow; that was the test. There was too much attention given to the mixtures and too little to the processes in the intestine.

Dr. Kerley said that some babies could not take proteids strong enough for their needs, and strong gruels were food in themselves.

Dr. Griffith said that no one was entirely right nor all wrong; the fact being that each man became proficient in his own methods and modified them as needed, despite scientific principles.

Dr. Holt would dissent from dextrinized cereals for all cases, but welcome it in some. It had no advantages over milk for the healthy. The great principle was to change the food—rational modification.

Dr. Winters said that he used cereals years ago, but he did not believe there was or would be a baby who could not be fed upon milk properly modified. The relation of fat to proteid was more important than the actual percentage of proteid. For example, three per cent. of fat should go with one-half per cent. of proteid, four per cent. of fat with one per cent. of proteid, etc. Cereals added to the intestinal derangements. They were altogether wrong for a healthy baby.

Dr. Saunders spoke of the value of cereals in sick diet, but had no experience with them in the well. He recommended cream and whey mixture in some cases. Scorbutus did not occur in whey-fed children.

Dr. Chapin said he appreciated percentage feeding, but did not wish it to take the place of other good methods. He considered soluble proteids *sub judice*. No part of cow's milk was meant for a baby. Colostrum contained three per cent. of proteids, yet it was recommended to dilute milk to one-third of one per cent.

Third Day—Wednesday, May 29th.

A Monster.—This specimen was presented by Dr. A. C. Cotton. The fœtus had very short extremities, the forearm and legs appearing to arise directly from

the body. A skiagraph showed only one bone in each extremity, probably a femur and humerus. The short clubbed digits were webbed. The great toes and little fingers stood out at angles like thumbs. The wide interparietal space suggested former hydrocephalus. An omphalocele made it seem to be a celosoma. The extremities classed it as phocomelus. The heavy prolabia suggested myxœdema.

Congenital Hypertrophic Stenosis of the Pylorus with Report of Cases and Exhibition of Specimen.—Dr. E. W. Saunders, of St. Louis, was the author of this paper. The child, a girl, was born July 4, 1900. Five days later she had green and bloody stools, eighteen days later she was icteric, and her urine showed uric acid. She vomited one or two hours after every nursing. Nutrition failed. The abdominal organs were found normal at the necropsy, with the exception of the stomach. There was great hypertrophy at the antrum pylori, the length of the pylorus being 2.5 cm., thickness 6 cm. A case was narrated illustrating pyloric spasm as a cause of persistent emesis. In mild cases the spasmodic element was a factor more important than the hypertrophy. Children with pyloric stenosis should be fed upon whey and cream or peptonized milk. Opiates must not be given, rather bromides or chloral.

A Case of Arsenical Poisoning in an Infant of Six Months.—Dr. John Lovett Morse, of Boston, reported this case. The infant was born three weeks prematurely in a collapsed condition. It was placed later in a blue satinet bassinet and fed Walker-Gordon milk. It had a faint systolic heart murmur, had marked pallor, and later cyanosis. The milk was changed to a home modification. The urine had a specific gravity of 1.012, and contained albumin, with blood and hyaline casts. Arsenic was found in the urine and in the lining of the bassinet. It was not found in the wall paper or other articles examined. Improvement was very rapid after removal of the baby to another room. No medicine was given.

Great Fluctuations in Temperature in the Terminal Stage of Pulmonary Tuberculosis.—Dr. Samuel S. Adams, of Washington, reported eight cases in patients under eleven years of age. All had wide temperature ranges, 95° to 105.6°, with no evidence of sepsis or discomfort of any kind. The charts were exhibited. It appeared that whites were more affected than negroes. One child between four and five years old had pulmonary hemorrhage. In surgical cases occurring in tuberculous subjects there were pus and a septic temperature. These patients had neither chill nor sweat.

Dr. Holt said that all temperature curves were exaggerated in a child, and often due to streptococci.

A Note on the Treatment of Hemorrhage in the New-Born by Suprarenal Extract.—Dr. L. Emmett Holt reported a case occurring in a child, twenty-four hours old, who had vomited large quantities of blood the entire day. There were spots of ecchymosis on the body. The cord did not bleed. One grain of the suprarenal extract was given each hour until a total of twelve grains had been taken. It seemed to pucker the œsophagus and hemorrhage ceased.

Dr. Morse related a case in which the suprarenal extracts checked a gastro-intestinal hemorrhage, but the child died of meningeal hemorrhage. In another case of oozing from the bruise of a forceps blade there was no benefit. It was necessary to use Monsel's solution and digital pressure for hours.

Prolonged Pyrexia from an Unusual Cause.—Dr. L. Emmett Holt reported this case. The temperature ranged as high as 106°. Intestinal disturbance was present, but was never severe. Indefinite signs of lung trouble led to the diagnosis of pneumonia. Examination of the sputum and blood gave negative results. The child's weight dropped from twenty-seven pounds to sixteen pounds. After four months the child died. The necropsy showed pus behind the lower lobe of the right lung. There was a sacculated empyema of two ounces of pus on the diaphragmatic side of the lung. The leucocyte count was from 22,000 down to 11,000.

Dr. Rotch, referring to high temperatures, recalled a case in which there was a daily temperature of 106° to 107° F., without physical signs and without plasmodia in the blood. Pulmonary tuberculosis developed later, and the lung was found solid at the autopsy.

Dr. Chapin reported five or six cases of diphtheria of the eye in which antitoxin had been used, but he considered that the vigorous application of ice was a great factor in the cure.

Dr. Carr stated that suprarenal extract must be always in aquous solution in order to insure good results. The local effect was seen in ten seconds, and the internal effect in ten minutes, if at all.

Dr. Wilson related a case of purpura with hemorrhage from the nose, mouth, and bladder. Five-grain doses of suprarenal extract caused immediate arrest of the bleeding.

Dr. Rotch reported cases which emphasized the danger of not giving antitoxin at once in cases of diphtheria of the eye.

Dr. Kerley reported cases of rhinitis of long duration cured by 1,000 units of antitoxin. The Klebs-Loeffler bacilli had been found, though there were no other symptoms of diphtheria.

Measles Complicated by Appendicitis.—Dr. Harold Williams, of Boston, reported the case of a child, twelve years old, who had never been strong, and who had had measles previously. In four days the temperature reached 104.5° and the eruption appeared. On the second day there had been vomiting, and on the third day abdominal pain; on the fifth day the pain was such that an operation was done for the appendicitis. On the sixth day the temperature fell to normal, and recovery was complete.

Physical Measurements in Puberty, their Significance, Variation, and Applications.—Dr. W. S. Christopher, of Chicago, read a paper based upon six thousand examinations of Chicago school children. The six charts showed many interesting truths. Boys increased in stature from seven to nine years and from seventeen to eighteen years. There was a relative quiet from nine to twelve years of age. Boys' weight, grip, and endurance rose at puberty as did vital capacity. Vital capacity fell in girls at this period. There was shown to be an exaltation of power at puberty, preceded by a rest period. Increase in height ceased, but grip, endurance, and vital capacity increased after puberty. This was the time when the weak failed and the strong forged ahead. It was a period of high morbidity, when anæmias and cardiopathies developed. There was a lack of balance, and the child was on the borderland of physical insolvency. This lack of balance could often be observed in the facial expression.

Dr. Holt said it was most important to establish normals in comparisons of this kind. He had found it profitable to keep measurements of his office patients, as by watching the growth of a child he could better advise as to exercise, school, or place to live.

Dr. Christopher laid stress on the necessity of having trained physicians rather than teachers in charge of the tests. For example, the teachers reported a very small percentage of children with defects of vision, while an expert found that thirty-two per cent. of six-year-old boys were so defective, and thirty per cent. of thirteen-year-old boys.

Election of Officers.—This resulted in the following choice: *President*, Dr. W. S. Christopher, of Chicago; *First Vice-President*, Dr. Charles W. Townsend,

of Boston; *Second Vice-President*, Dr. John Dorning, of New York; *Secretary*, Dr. Samuel S. Adams, of Washington; *Treasurer*, Dr. J. Park West, of Bellaire, Ohio; *Recorder and Editor*, Dr. Walter Lester Carr, of New York.

The society adjourned to meet in Boston in 1902.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 22, 1901:

	Cases.	Deaths.
Tuberculosis	255	155
Typhoid fever	60	4
Scarlet fever	362	34
Measles	271	9
Diphtheria and croup	239	42
Smallpox	60	20
Chickenpox	57	0
Cerebro-spinal meningitis	0	2

Licensed to Shave.—It has been shown how disease may be transmitted by the razor and other tonsorial implements. In a number of States, notably Michigan, there are laws regulating to some extent the barber's business, and it has been found that they are productive of much good. Mr. Charles Rieger, a member of the Michigan barbers' commission, says of the work of the board: "Some of the questions asked applicants for a license before the board of examiners may sound very simple, but they are important, nevertheless, and must be answered intelligently before the license is granted. For instance, the barber is apt to smile at the apparent simplicity of the question, 'What kind of lather brush do you use? How are the bristles fastened on the handle?' 'That's easy,' he says to himself; but the answers are not always satisfactory. There are certain kinds of handles that gather verdigris and other unhealthful accumulations, and the up-to-date barber will use only those that have proved the best and most cleanly. Another simple question is, 'What do you use for washing lather from a customer's face?' The barber (we occasionally find one) who writes 'a sponge' in the answer blank is advised to cut it out right away, as a most reprehensible practice, and to provide a clean towel for each customer. The question 'What do you use for applying powder to a customer's face?' sometimes elicits the answer 'powder puffs.' This practice is also condemned by the commission. There is no surer method of communicating skin disease than by the application of the same powder puff to each customer's face. The last examination form consists of sixteen questions, upon which the applicant must secure a percentage of seventy. He must be a citizen of the United States, tell how long he worked at the business; whether he served as an apprentice under a regular barber, or just picked up his trade; whether he ever worked in a barber's college, which institutions are not recognized by the profession; on what kind of hone he prepares his razors for use; what kind of solution he uses for disinfecting his razors, clippers, and shears; what he uses for cleaning hair-brushes, combs, and shaving-brushes; how to stop the flow of blood in case a customer is cut; and give his ideas on the best remedies for treatment in skin and scalp diseases, for faces with eruptions caused principally by close shaving, for dandruff, and for loss of hair. The law doesn't expect a barber to be a physician, but it does expect him to be familiar with the best methods of preventing skin disease by the use of proper antiseptics."

Corns.—It sometimes happens that the toes are so pressed and distorted by ill-fitting shoes that they cannot be separated, and the corn is almost beyond your skill. I then recommend amputation of one of the toes at the tarso-phalangeal joint.—Lester Keller.

Phthisis.—Mix gr. xl. of calcium phosphate with ʒ ii. of water and add from ♏ lxxv. to ♏ xcv. of hydrochloric acid; then add balsam of Peru ʒ ss., gum Arabic ʒ ss., creosote ♏ xv., and ʒ iii. of syrup. Give a teaspoonful, gradually increased to a tablespoonful, three times a day.—Schöpp.

Food Value of Alcohol.—Dr. Carl von Noorden, one of the best-known authorities upon dietetic therapeutics, in treating this subject in *The International Magazine*, gives his views upon the value of alcohol as a food. The opinions expressed, proceeding from one who has made a special study of the matter, are undoubtedly of great weight. The eminent German physician says: "As every one knows, there is a mighty movement in all civilized countries against the use of alcohol. The anti-alcohol league endeavors to banish alcohol completely from the human ration. They seek to compass this end partly by forming societies or clubs, partly by educating the masses through public lectures, partly by legislation. They wish to interdict the use not only of strong spirits, but also of the lighter beverages, as wine, cider, beer, etc. The core of the agitation is undoubtedly sound. We have to admit, from the physician's point of view, that just as much harm can arise from wine and beer as from cognac, rum, whiskey, etc. We hope, but it is hardly probable, that the agitation will succeed in limiting the misuse of alcohol to a minimum. Although we desire this very much, yet science must see to it that the fanatical members of the anti-alcohol league shall not hide or pervert firmly established scientific facts in order to favor the interests of their agitation. One of the weapons in the fight against alcohol is the assertion that it is not a food. This is not true. Unobjectionable experiments, carefully thought out, have shown that the greatest part (90 to 95 per cent.) of the alcohol taken is burned in the body. During the oxidation of the alcohol, the oxidation of fat in the body diminishes. In other words, the alcohol, more easily oxidized than the fat, passes to the fore, and hinders the combustion of fat; that is, spares the fat. Something similar would obtain in a stove which one should supply with coal and alcohol. The inflammable alcohol would be the first to take up the available oxygen, so that less would remain for the combustion of the coal, and in this way less coal would be used until the alcohol was consumed. We reckon among the true foods organic substances which are fitted to enter into and become a part of the body, or which by oxidation serve as sources of heat and work. Alcohol lacks the first quality; it never becomes part of the body, and has, so far as we know, no capability of being transformed into fat or carbohydrates. On the other hand, it possesses the second quality in a marked degree. It becomes oxidized, it becomes a source of heat and capacity for work; it saves, in this way, from decomposition and combustion other material which has the capability of becoming a permanent part of the organism. More than this, we know exactly how much fat the alcohol saves from combustion. We know this by comparing its value in calories with the value of fat in calories—1 gm. of fat furnishes the body 9.3 calories; 1 gm. of alcohol furnishes 7.0 calories. The body acquires, therefore, the same amount of 'potential energy' from 70 gm. of fat as from 93 gm. of alcohol, or 93 gm. of alcohol consumed in the body save the expenditure of 70 gm. of fat. This agrees with the observation of every layman,

that those who use much alcohol have a strong tendency to obesity. Exceptions are found only in the case of 'professional drinkers.' The explanation of these cases is that such people lose their appetites and take very little other food. Any one who knows the facts of the oxidation of alcohol and the substitution of alcohol combustion in place of fat combustion, and, in spite of this knowledge, denies the food value of alcohol, sins against the laws of the conservation of energy. This means, in science, as much as is meant in religion by sinning against the Holy Ghost. Although alcohol is a food, no sensible physician would recommend the use of alcohol in the same quantities as fat or carbohydrates, for another quality of alcohol tells against this—its poisonous character. Alcohol is poisonous to the cells, especially to the cells of the nervous system, the liver, the kidneys, and the blood-vessels. The body can, to a certain extent, adapt itself to this as to other poisons, but only within narrow limits. If these limits are overstepped, certain diseases of the cells are sure to follow, causing serious disturbance of the health, and, with many persons, bringing the moment of death nearer by decades. We have no objection to make when men bring before our eyes in glaring colors, by pen and tongue, this great misuse of alcohol; but we must raise our protest when they obscure a physiological fact, the food value of alcohol, and try to make with this falsehood propaganda for a cause which in itself is undoubtedly good."

Cocaine Sniffing.—Cocaine sniffing is said to be on the increase in the South among the negroes. The drug is sniffed up the nose, and the results produced are somewhat the same as those obtained by smoking an opium pipe.

Greater London's Population.—The population of the outer ring of the suburbs of London is 2,042,750 as against 1,405,489 in 1891, 950,957 in 1881, and 631,831 in 1871. The total population of Greater London including the outer ring of suburbs is now 6,578,784. The census of Ireland shows the population to be 4,456,546, a decrease of 5.3 per cent. This is less than during the previous decade. Scotland has a population numbering 4,471,957 persons, while the total population of the United Kingdom is considerably over 41,000,000.

A Voice from the Past.—*The Sanitary Record* says: "The present unsatisfactory state of Cape Town shows the folly of allowing towns, or even villages, to spring up without any regard to the laws of health and good sanitation. Thousands are to-day congregated in that town, and although it is the natural entrance by which emigrants enter South Africa, there is little or no provision for the accommodation of such a class. This fact has brought to the minds of some the memorable words of Sir Bartle Frere, on the event of his departure from the colony, many years ago. His closing words were an earnest plea to the workers of the place to pay attention to the need of providing good houses, such as would be adapted to preserve health and to secure happy homes in a crowded city. 'What constitutes,' he said, 'a good workman's lodging, what provision should be made for adequate water supply, good drainage, and other essentials for health in the building of a house, are matters in which many of your workingmen are masters of their craft. I would ask them to take a patriotic citizen's interest in spreading this knowledge among their less well-informed neighbors and fellows. Let a few of them combine together to provide model lodging-houses for themselves and their families, to influence, so far as they legitimately may, the action of legislation, where legislation is required on the subject, and we may in future hear less of these terrible epidemics which occasionally decimate the younger portion of our population in South Africa, and which are, as you and I know, in the vast majority of instances entirely preventable by reasonable care and adequate sanitary arrangements.' Alas! all were then too much engrossed in the search for riches to heed the good advice, but the people have had to pay heavily for their neglect. An attempt is now being made to reach the ideal set forth by Sir Bartle, but the intervening years have left their mark behind, and much will have to be destroyed before any real good can be accomplished."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended June 22, 1901:

		Cases.	Deaths.
Smallpox—United States and Insular.			
California, San Francisco	June 2d to 9th	1	
Florida, Key West	June 5th	1	
Illinois, Chicago	June 8th to 15th	4	
Indiana, Evansville	June 8th to 15th	1	
Michigan City	June 10th to 17th	2	
South Bend	June 8th to 15th	1	
Iowa, Clinton	June 8th to 15th	1	
Kansas, Wichita	June 8th to 15th	3	
Kentucky, Lexington	June 8th to 15th	1	
Louisiana, New Orleans	June 8th to 15th	11	
Massachusetts, Fall River	June 8th to 15th	1	
New Bedford	June 8th to 15th	..	3
Worcester	June 8th to 15th	8	2
Michigan, Detroit	June 8th to 15th	33	1
Sault Ste. Marie	June 16th	Prevalent.	
Minnesota, Minneapolis	June 8th to 16th	17	
Winona	June 8th to 15th	1	
Missouri, St. Louis	June 2d to 9th	37	1
Nebraska, Omaha	June 8th to 15th	12	
N. Hampshire, Manchester	June 8th to 15th	6	
New Jersey, Jersey City	June 8th to 16th	2	
Newark	June 8th to 15th	3	
Plainfield	June 8th to 15th	1	
New York, New York	June 8th to 15th	102	11
Yonkers	June 7th to 14th	5	
Ohio, Cincinnati	June 7th to 14th	5	
Cleveland	June 1st to 15th	45	
Dayton	June 8th to 15th	1	
Toledo	June 8th to 15th	1	
Oregon, Portland	May 1st to June 5th	23	
Pennsylvania, Philadelphia	June 8th to 15th	3	1
Pittsburg	June 8th to 15th	2	
Rhode Island, Providence	June 8th to 15th	3	
Tennessee, Memphis	June 1st to 15th	26	2
Nashville	June 8th to 15th	1	
Utah, Salt Lake City	June 8th to 15th	9	
Vermont, Rutland	June 8th to 15th	1	
Washington, Hoquiam	June 10th	1	
West Virginia, Wheeling	June 8th to 15th	1	
Wisconsin, Greenbay	June 8th to 16th	6	
Milwaukee	June 8th to 15th	3	1
Philippines, Manila	April 20th to May 11th	18	
Smallpox—Foreign.			
Austria, Prague	May 25th to June 1st	4	
Belgium, Antwerp	May 25th to June 1st	2	
Ceylon, Colombo	May 4th to 11th	..	5
China, Hong-Kong	April 26th to May 12th	5	2
Colombia, Panama	June 3th to 10th	6	
France, Paris	May 25th to June 1st	..	10
Great Britain, Gibraltar	May 24th to June 2d	1	
Glasgow	June 1st to 7th	35	1
Liverpool	May 25th to June 1st	2	
London	May 25th to June 1st	1	
India, Bombay	May 14th to 21st	..	8
Calcutta	May 11th to 18th	..	31
Karachi	May 12th to 19th	4	2
Madras	May 4th to 17th	..	22
Italy, Messina	May 25th to June 1st	..	1
Naples	May 26th to June 2d	169	30
Russia, Moscow	May 18th to 25th	25	1
St. Petersburg	May 18th to 25th	15	
Warsaw	May 11th to 18th	..	4
Spain, Corunna	May 25th to June 1st	..	1
Straits Settlements, Singapore	April 1st to 30th	..	3
Switzerland, Geneva	May 18th to 25th	5	
Syria, Beirut	May 18th to 25th	Few.	
Yellow Fever.			
Cuba, Havana	June 1st to 8th	1	
Cholera.			
India, Bombay	May 14th to 21st	..	3
Calcutta	May 11th to 18th	..	77
Madras	May 4th to 17th	..	6
Plague—Insular.			
Philippines, Cavite	May 2d	1	
Cebu	May 2d	1	
Manila	April 20th to May 11th	94	79
Santa Rosa	May 2d	1	
Plague—Foreign.			
Africa, Cape Town	May 4th to 18th	463	209
China, Hong-Kong	April 27th to May 11th	11,221	209
India, Bombay	May 14th to 21st	..	224
Calcutta	May 11th to 18th	..	79
Karachi	May 12th to 19th	149	144

INDEX.

A

Abbe, Robert, the problem of appendicitis from the medical and surgical points of view, 241.
Abbott, Frank, death of, 624.
Abdomen, contusions of the, 664, 800; early diagnosis and treatment of surgical diseases of the, 666; penetrating wounds of the, 1008; recovery after multiple gunshot wounds of the, 466; surgical treatment of pendulous, 909.
Abdominal cavity, sensitiveness of the, 538; disease, clinical annotations on five cases of right-side, 1025; operations, phlebitis following, 799; operations, pus in, 1016; surgery, local or general anæsthesia in, 826; surgery, objects of drainage in, 307; tumor in an infant, 656.
Abortion, statistics of, 183; tubal, 276.
Abrams, Albert, the clinical value of the heart reflex, 10.
Abscess, follicular and peri-urethral, in man, 684.
Absinthe, legislation concerning, in France, 180.
Accident, official examination in cases of, 743.
Acetanilid, poisoning by absorption from external wounds, 999.
Acne rosacea, suprarenal gland extract in the treatment of, 376; varioliformis, 836.
Acromegaly, cases of, 589, 926; relation of the pituitary body to, 579.
Acroparæsthesia, 953.
Actinomycosis, medical treatment of, 785.
Addison's disease, suprarenal extract in, 107, 956.
Adenitis, cervical, arising from purulent rhinitis, 104; subacute, of the groin, 389.
Adenoid constitution, 148.
Adenoids, 343; accidents in operations for, 1022; after-effects of removal of, 785; etiology of, 1000
Adrenal bodies, adenomata of the, 506; bodies, congenital sarcoma of the, 429; bodies, regeneration of the, 539; extract, see *Suprarenal extract.*
Æsculapius, excavations of the temple of, at Cos, 255.
Agnathia, lingual conditions in, 1010.
Agramonte, Aristides, appointment of, to the chair of bacteriology and experimental pathology in the University of Havana, 659.
Ainhum in South China, 26.
Albumen, nutritious, 425.
Albumin, detection of minute traces of, 712.
Albuminuria, cyclic, 617, 1056; due to constipation and diarrhœa, 815, 1010; in the early stages of syphilis, 700; of nephritic origin, origin of the albumin from the blood, 588; urticaria with, 668.
Albumosuria, 224; myelopathic, 174, 628.
Alcohol, antiseptic action of, 200; disinfecting properties of, 302; effect of, on animal life, 856; food value of, 431, 549, 1060; medical use of, 743; researches on, 466.
Alcoholics, responsibility of, 572.
Alcoholism, depopulation consequent upon, 479; in childhood, 776; war against, in France, 475.
Alexander operation, firm adhesions in, 593
Alimentary stasis and right lateral decubitus, 224.
Alimentation, extrabuccal, 68.
Allen, Charles W., spinal cocainization, 673.
Alopecia, 148.
Aluminum-bronze wire in surgery, 962.
Amblyopia following the use of Jamaica ginger, 63, 479; pathology of toxic, 1009.
Ambulances, means of heating, 546; reckless driving of, 392, 738.
Ambulance surgery, asepsis in, 962, 1052.
American Academy of Medicine, 1053; a local branch of the, 459.
American Association for the Advancement of Physical Education, 660.
American Association of Genito-Urinary Surgeons, 789.
American Gastro-Enterological Association, 821.
American Gynæcological Society, 1013.
American Institute of Homœopathy, 1043.
American Medical Association, 919, 964; general sessions, 919, 923, 929, 971; oration on medicine, 888; oration on State medicine, 898; oration on surgery, 892; president's address, 881; report of the committee on organization, 857. 919, 929, 971; Section on Diseases of Children, 977; Section on Obstetrics and Diseases of Women, 922, 928, 969, 976; Section on Practice of Medicine, 919, 923, 964, 972; Section on Surgery and Anatomy, 921, 926, 966, 973.
American Orthopedic Association, 1005.
American Pediatric Society, 1055.
Amœba coli, staining reactions of, 462.
Ampulla of Vater, primary cancer of the, 347.
Amputation, construction of stumps after, 259.
Anæmia, an extreme case of simple, 650; family history of, 306; pernicious, 629, 671, 733, 752, 867, 924; pernicious, in infancy, 1055; rest in the treatment of, 160; splenic, 104, 503, 538; splenic, with uninuclear neutrophiles, 712; treatment of, 496; with spinal-cord changes, 1045.
Anæsthesia, ether and chloroform (M.S.) mixture for, 259; hysterical, 549; local, in the ear, nose, and throat, 463; report of the committee on, to the British Medical Association, 387; spinal, 176, 382, 426; spinal, proposed new name for, 673; teaching of, 946.
Anæsthetics, deaths from, 135, 747; recent developments in the administration of, 586; relative value of, 871.
Anatomical technique, 927.
Anatomy, study of, 504.
Anderson, William Dexter, death of, 461.
Aneurism, arterio-venous, of the right subclavian, 798; diagnosis of thoracic and cardiac, by the *x*-rays, 629; dissecting, of the abdominal aorta, 667; excision of, 449; following infectious aortitis, 789; gelatin treatment of, 462, 498; of the abdominal aorta in connection with a tuberculous perityphlitic abscess, 305; of the aorta, 676; of the aorta and innominate artery, diagnosis of, and treatment of, by subcutaneous injection of gelatin solution, 68; of the aorta, mediastinal tumor simulating, 589; of the aorta simulating a solid mediastinal tumor, 464; of the aorta, subcutaneous gelatin injections in, 668; of the basilar artery, ruptured, 434; of the middle cerebral artery, sacculated, 435; of the pulmonary artery, 349; of the thoracic aorta, 195; popliteal, cured by digital pressure of the femoral artery, 13; prognosis of aortic, 27; silver wire and electricity in the treatment of, 800; thoracic, diagnosis and treatment of, 69.
Angina epiglottidis anterior, 145; Ludovici, 957; membranous, due to streptococci, followed by paralysis of the soft palate, 854; membranous, produced by other organisms than the Klebs-Loeffler bacillus, 136.
Angioma cysticum of the nose, 462; subconjunctival, 496.
Angioneurotic disturbances, 953.
Angiotripsy, experience with, 65.
Aniline oil, poisoning by, 782.
Ankylosis, almost universal, 914; hereditary, 956.
Ankylostomiasis, a new remedy for, 385.
Anthelmintic enemata, 277.
Anthrax, treatment of, 963.
Antivenene in cobra poisoning, 106.
Antivivisectionist, misstatements of a, 198.
Antrum, opening of the, in empyema, 68; tuning-fork as a test for disease of the maxillary, 507.
Anuria, non-obstructive post-operative, 465.
Anus, fissure of the, 954; rare case of imperforate, 825.
Aorta, ligature of the abdominal, 1002; transverse rupture of the, 1009.
Aortic valve, heart-index interval in regurgitation at the, 345.
Aortitis, infectious, aneurism following, 789.
Aphasia, hysterical sensory, in a child, 390; transient motor, in a left-handed man, 745.
Aphthous fever, treatment of, 787.
Apoplexy in the newborn, 221.
Appendicitis, 920, 921, 926, 961; acute, in the presence of tuberculous peritonitis, 516; cholecystitis simulating, 464; clinical significance of dulness in, 209, 392; complicating hernia in an infant, 655; conditions resembling, 1025; diagnosis of, from typhoid fever, 700; diffuse pelvic exudate in, 31; diffuse peritonitis in cases of, 750; drainage in, 584; gangrenous inflammation of Meckel's diverticulum simulating, 104; hydrogen peroxide in, 476; in a child of three months, 1056; increase of, in Switzerland, 240; in the female, 220; localized abscess resulting from, 551; lymphatic and portal affections following, 494; measles complicated by, 1059; operation for, 539, 787; operative management of retroperitoneal abscess following, 77; problem of, from the medical and surgical points of view, 241; relation of, to diseases of the uterine appendages, 187; subphrenic abscess as a complication of, 452; treatment of, 230, 389; treatment of chronic, 277; tuberculous, 436; value of the leucocyte count in, 776; walling off the pus in, 64.
Appendix vermiformis, anatomical researches in regard to, 566; diagnosis and treatment of abscess in connection with the, 387; primary cancer of the, 596; strangulation of the intestine through an adherent, 1049.
Arctic regions, medicine and surgery in the, 958.
Army, British, medical corps of the, 466, 869; United States, abolition of the canteen in the, 382, 908, 972; United States, dentists in the, 705; United States, report of the Surgeon-General of the, 338.
Arsenic, administration of, 389; elimination of, through the hair, 548; in beer, see *Beer;* in food and drink, 416; poisoning by, in an infant of six months, 1059; toxicology of, 588.

Arterial changes, relation of, to the heart, 708.
Arteries, hypertonus in, and arteriosclerosis, 953.
Arterioles, muscular action of the, 913.
Arteriosclerosis, 597; in a boy of ten years, 1055; intestinal ulceration in, 65; relation of arterial hypertonus to, 953.
Arthritic syndromes in children, 347.
Arthritis deformans, 196; deformans, guaiacol for the pains of, 876; deformans, spinal form of, 756; pneumococcic, 147; treatment of gonorrhœal, 678.
Ascites, detection of slight, through the inguinal canal, 954; due to cirrhosis of the liver, surgical treatment of, 429, 454; treatment of, 635.
Asepsis and antisepsis, principles of, 40.
Ashmead, Albert, should lepers marry? 553.
Aspirin, therapeutic value of, 628.
Association of American Medical Colleges, 1005.
Association of American Physicians, 751.
Association of Military Surgeons of the United States, 910.
Astasia-abasia, hysterical, in a young child, 814.
Asthma, 913; associated with prolapse of the liver, 480; climatic cure for, 708; dyspeptic, 104; etiology of, 292; pathology of, 1000; treatment of, 317.
Astigmatism, detection and correction of, 504.
Asystole, 183.
Ataxia, non-tabetic spinal, 664.
Atherton, A. B., a case of perforating gastric ulcer, 12.
Athrepsia infantum, 145.
Athyreosis in childhood, 66.
Atlantic City (N. J.) Medical Society, 255.
Atomizer, an easy-working, non-spilling, 679.
Atonia gastrica, treatment of, 784.
Atresia hymenalis, 928.
Atropine, antidotal action of, to morphine, 955.
Auditory canal, occlusion of the external, 108.
Auscultatory phenomenon, an inexplicable, 507.
Australia, letter from, 553.
Austria, medical practitioners in, 422,
Austro-Hungarian Hospital of New York, 705.
Auto-intoxication, 709.
Automobiles, regulation of the speed of, 623.
Axilla, hyperidrosis of the, 63.
Axillary artery, composite study of, in man, 956.

B

Babinski phenomenon, 182, 221.
Bacillus aerogenes capsulatus in the human body, 436; pathogenic for rats, 827; tuberculosis, localization of, in the isthmus of the fauces and in the tonsils, 467.
Bacteria, influence of ozone on the vitality of, 426; relation of the morphology of, to virulence, 916.
Bacteriology of healthy organs, 930.
Baker, Richard C., death of, 707.
Baking-powders, an investigation of, 1006.
Baldwin, J. F., three Cæsarean sections—recovery, 851.
Bandler, Samuel W., on the origin of cancer; what remains to be demonstrated, 937; the ovary: its relation to normal functions and to pathological states, 405.
Bangs, L. Bolton, a contribution to the Bottini operation for the radical relief of prostatic obstruction, 367, 394.
Barber shops, antiseptic, in Paris, 984.
Barbers, license laws for, 1060.
Barclay, Peter Moir, death of, 299.
Barker, Henry F., death of, 220.
Bartine, David H., death of, 742.
Bartow, Edward, blunders in caring for parts of the body intended for chemical examination, 351.
Baruch, Simon, the heart reflex and the Nauheim bath, 112.
Bashore, Harvey B., the malarial mosquito on the Susquehanna, 173.
Bates, W. H., the use of the aqueous extract of the suprarenal capsule as a hæmostatic, 197, 207.
Bedsores, application for, 399.
Beer, arsenical poisoning through drinking, 28, 58, 182, 237, 239, 261, 264, 280, 380, 391, 430.
Belding, Almon V., death of, 663.
Bellevue Hospital, presentment of the grand jury respecting the administration of, 213, 218; report of the visiting committee on, 735.
Bellinger, P. L., report of a case of malarial hæmaturia, 635.
Bennett, F. M., death of, 258.
Berg, A. A., a case of ambulatory typhoid fever with intestinal perforation, and a case of traumatic rupture of the intestine—operation—recovery, 441; clinical observations on five cases of right-side abdominal disease, 1025.
Beriberi, etiology of, 916; in India, 880.
Berkeley, William N., some further work on the mosquito-malaria theory, with special reference to conditions around New York, 124, 158.
Beville, S. D., death of, 103.
Biggs, Arthur H., the treatment of ascites, 635.
Bile, bactericidal power of the, 959.
Bile ducts, juxta-hepatic cancer of the, 389; tuberculosis of the, 118.
Bilharzia hæmatobia, 304.
Bilirubin, diazo reaction as a test for, 538.
Birds, indiscriminate slaughter of, 618, 619.
Birth rate, decreasing, in civilized countries. 599.
Bismuth, poisoning by, 749.
Bladder, acquired partial exstrophy of the, 23; contracture of the neck of the, 767, 794; hernia of the, 456, 986; improved method of examination of the female, 327; intraperitoneal rupture of the, 23; partial excision of the, for cancer, 792; pathology and treatment of cicatricial contractions of the, 916; primary cancer of the sphincter muscle of the, 596; results following the cure of chronic defects in the function of the, 189; rupture of the, 960; surgical asepsis of the, 105; total extirpation of the, 1017; treatment of intraperitoneal traumatic rupture of the, 789; treatment of irritable, in children, 207; treatment of ulcer of the, 211; tuberculosis of the, 677.
Blake, Joseph A., the operative treatment of umbilical hernia in adults, 803.
Blindness, treatment of apparently incurable, 748.
Blood, bactericidal power and alkalinity of the, in leucocytosis from intoxication by mineral poisons, 212; bactericidal power of the, 426; body cells, and bacteria, 827; chemical and microscopical examination of the, 923; diagnostic value of the freezing-point of the, 828; examination of the, in surgery, 795, 912; granular degeneration of the red corpuscles, 753; identification of human, 507, 668; method of obtaining, for chemical examination, 196; new specific test for, 826; of various animals, differentiation of the, 391, 429; parasites in the, 259; staining with eosin and methylene blue, 302; transfusion of, 749.
Blood cells, red, basophile granulations in, 302.
Blood-vessels of the extremities, relation of diseases of the, to certain trophoneuroses, 756.
Bloom, Frederick G., death of, 180.
Blushing, morbid, 305.
Board of health of New York City, new president of the, 342; proposed change in the organization of, 60.
Boer war, British casualties in the, 705.
Boileau, N. B., death of, 299.
Boldt, H. J., the treatment of puerperal fever, 169.
Bolling, Robert, death of, 823.
Bolton, P. R., the treatment of colitis by valvular colostomy and irrigation, 404.
Bond, A. K., pill-scratching, 673.
Bond, Frank, death of, 299.
Bond, Thomas, death of 1050.
Bone, influence of lime salts in the repair of, 388; malignant tumor of, 711.
Book Notices:
Air, water, and food from a sanitary standpoint, by Ellen H. Richards and Alpheus G. Woodman, 227.
American year-book of medicine and surgery, edited by George M. Gould, 669.
Anatomie des Menschen, Handatlas der, von W. Spalteholz, 713.
Anatomie générale appliquée à la physiologie et à la médecine, par X. Bichat, 713.
Annales de l'Institut de Pathologie et de Bacteriologie de Bucarest, par Victor Babes et V. Sion, 109.
Appendicitis and its surgical treatment, by Herman Mynter, 227.
Appendicitis, a treatise on, by George Ryerson Fowler, 830.
Bacteriology and surgical technique for nurses, by Emily M. A. Storey, 473.
Bacteriology, essentials of practical, by H. T. Curtis, 473.
Bacteriology, laboratory directions for beginners in, by Veranus A. Moore, 554.
Bladder, mensuration of the capacity of the female, by Guy L. Hunner, 713.
Boston City Hospital, medical and surgical reports of the, 633.
Braithwaite's retrospect of medicine, 110, 669.
Breathing, the art of, the basis of tone production, by Leo Kofler, 554.
Cancer of the uterus, by Thomas S. Cullen, 108.
Chemistry, introduction to modern scientific, by Dr. Lassar-Cohen, 669.
Chest, physical diagnosis of diseases of the, by Richard C. Cabot, 509.
Child in health, care of the, by Nathan Oppenheim, 108.
Chirurgie des voies biliaires, par Victor Panchet, 633.
Cirrhoses of the liver, by Walter Butler Cheadle, 473.
Comfort and exercise, by Mary Perry King, 554.
Diagnosis, practical treatise on medical, by John H. Musser, 509.
Dictionary of medical science, by Robley Dunglison, 109.
Dictionary, the American illustrated medical, by W. A. Newman Dorland, 152.
Diet lists, detachable, by Jerome B. Thomas, Jr., 227.
Disinfection and disinfectants, by H. M. Bracken, 229.
Echinococcus cysts of the pleura, by Charles Cary and Irving P. Lyon, 671.
Edinburgh Hospital Reports, 227.
Electrotherapeutics and x-rays, by Charles S. Elliott, 227.
Enteroclysis, hypodermoclysis, and infusion, by Robert Coleman Kemp, 592, 830.
Epilepsy, clinical studies in, by L. Pierce Clark, 228.
Eye, ear, nose, and throat, by William Lincoln Ballanger, 510.
Eye, refraction of the, by A. Edward Davis, 109.
Eyes, perfect, 554.
Feeding of infants, by Joseph E. Winters, 871.
First aid handbook, by M. J. Shields, 830.
Flashes of wit and humor, by Robert Waters, 633.
Flesh foods, with methods for their clinical, microscopical, and bacteriological examination, by C. Ainsworth Mitchell, 713.
Fliegenlarven als gelegentliche Parasiten des Menschen, von Erich Peiper, 227.

BOOK NOTICES:
Food and dietetics, by Robert Hutchinson, 510.
Food for the sick and how to prepare it, by Edwin Charles French, 228.
Fractures and dislocations, practical treatise on, by Lewis A. Stimson, 151.
Fractures of the limbs, present position of the treatment of, by William H. Bennett, 473.
Fractures, treatment of, by Charles L. Scudder, 109.
Frauen, die Krankheiten der, von Heinrich Fritsch, 228.
French method, by François Berger, 510.
Genito-urinary and venereal diseases, a practical treatise on, by Robert W. Taylor, 110.
Gesundheitspflege im Kindesalter, von J. Trumpp, 510.
Grundriss der inneren Medicin, von Max Kahane, 634.
Gynæcology, atlas and epitome of, by Oskar Schäffer, 110.
Gynæcology, practical, by E. E. Montgomery, 151.
Gynæcology, technique of surgical, by A. H. Goelet, 871.
Harvard Medical Alumni Association, bulletin of the, 228.
Heart, chart of the diseases of the, etc., 592.
Heart, diagnosis and treatment of diseases of the, by Albert Abrams, 592.
Hernia, its etiology, symptoms, and treatment, by W. McAdam Eccles, 109.
Histologie pathologique, par Cornil et Ranvier, 670.
Histology, essentials of, by Louis Leroy, 554.
Histology, text-book of, by Philipp Stohr, 633.
History of medicine in the United States, by F. R. Packard, 871.
Homœopathic therapeutics, by W. A. Dewey, 229.
Hygiene and sanitation, manual of, by Seneca Egbert, 669.
Hygiene, manual of practical, by Charles Harrington, 830.
Infancy and childhood, medical diseases of, by Dawson Williams, 110.
Infant feeding in its relation to health and disease, by Louis Fischer, 554.
Instruments and appliances required in operations, a guide to, by A. W. Mayo Robson, 228.
International clinics, edited by Henry W. Cattell, 633, 670.
Journal of the Boston Society of Medical Sciences, 510.
Kehlkopf-, Nasen- und Ohrenkrankheiten, von Richard Kayser, 227.
Kinderheilkunde, Lehrbuch der, von Carl Seitz, 227.
Kinderkrankheiten, Behandlung der, von Hugo Neumann, 228.
Kinderpraxis, Arzneiverordnungen in der, von H. Guttmann, 227.
King's American dispensatory, by Harvey Wickes Felter and John Uri Lloyd, 633.
Life insurance, medical examination for, by Charles Lyman Greene, 473.
Maladies qu'on soigne, par A. Berck, 554.
Malaria, by Angelo Celli, 226.
Massage and early passive movements in recent fractures, by William H. Bennett, 473.
Materia medica and pharmacology, by David M. R. Culbreth, 670.
Materia medica and therapeutics, A B C manual of, by G. Hardy Clark, 633.
Materia medica and therapeutics, practical treatise on, by John V. Shoemaker, 510.
Medical News 1901 visiting list, 510.
Medico-legal manual, by William W. Keyser, 830.

BOOK NOTICES:
Medicine, introduction to the study of, by G. H. Roger, 713.
Medicine, manual of, edited by W. H. Allchin, 108.
Mental diseases, a treatise on, by Henry J. Berkley, 150.
Military hygiene, theory and practice of, by Edward L. Munson, 713.
Modern medicine, by Julius L. Salinger and Frederick J. Kalteyer, 509.
Nasal suppuration, treatise on, by Ludwig Grunwald, 109.
Nervensystems, Pathologie und Therapie der Erkrankungen des peripherischen, von Franz Windscheid, 151.
Nervous system, diseases of the, by H. Oppenheim, 669.
Nose and throat, treatise on diseases of the, by Ernest L. Shurly, 554.
Nursing ethics, by Isabel Hampton Robb, 830.
Nursing, obstetric and gynecologic, by Edward P. Davis, 591.
Nursing profession, by Henry Burdett, 830.
Nursing subjects, short papers on, by L. L. Dock, 228.
Obstetric clinic, by Denslow Lewis, 670.
Obstetrics, by David James Evans, 670.
Obstetrics, physical diagnosis in, by Edward A. Ayers, 592.
Obstetrics, textbook in practical, by Edward H. Grandin, 633.
Oral sepsis as a cause of septic gastritis, toxic gastritis, and other septic conditions, by William Hunter, 871.
Orthopædic surgery, by Charles Bell Keetley, 634.
Otology, manual of, by Gorham Bacon, 555.
Pathology and morbid anatomy, by T. Henry Green, 110.
Pathology, textbook of, by Alfred Stengel, 226.
Pestepidemic in Kobe und Osaka, Bericht über die, von S. Kitasato, 109.
Pharmacology and therapeutics, textbook of, by Arthur R. Cushing, 633.
Physician's visiting list for 1901, 228.
Physiology, an American textbook of, edited by William H. Howell, 151, 592.
Physiology, compend of human, by A. B. Brubaker, 830.
Physiology, introduction to, by William Townsend Porter, 669.
Portraits of the noted physicians of New York, by Walter Graeme Eliot, 509.
Practice of medicine, by James Tyson, 510.
Practice of medicine, textbook of the, by James M. Anders, 510.
Presbyterian Hospital, New York, report of the, vol. iv., 227.
Proceedings of the American Medico-Psychological Association, 633.
Proceedings of the Pathological Society of Philadelphia, 634.
Progressive medicine, by Hobart Amory Hare and Charles Adams Holder, 473.
Psychopathia sexualis, by R. v. Krafft-Ebing, 229.
Reference handbook of the medical sciences, edited by Albert H. Buck, 151.
Rhinology, laryngology, and otology in general medicine, by E. P. Friedrich, 509.
Roentgen ray, use of the, by the medical department of the U. S. A. in the war with Spain, by W. C. Borden, 632.
Saunders' medical formulary, by William M. Powell, 509.
Sex, psychology of, by Havelock Ellis, 227.
Sexual debility in man, by F. R. Sturgis, 669.
Smallpox, by Louis Leroy, 591.
Soul of man, by Paul Carus, 830.
Spanish-American war, medico-surgical aspects of the, by Nicholas Senn, 632.

BOOK NOTICES:
Speech hesitation, by E. J. Ellery Thorpe, 111.
Studies from the Department of Pathology of the College of Physicians and Surgeons, 591.
Surgery, essentials of, by Edward Martin, 830.
Surgery for nurses, by Joseph Bell, 151.
Surgery, modern general and operative, by John Chalmers DaCosta, 226.
Surgery, operative and practical, by Thomas Carwardine, 830.
Surgical affections of the trunk, the mammæ, and the genital organs of the female, by Dr. Polaillon, 871.
Surgical treatment, manual of, by W. Watson Cheyne and F. F. Burghard, 634.
Sydenham, Thomas, by Joseph Frank Payne, 228.
Sydney, report of the outbreak of plague in, 633.
Syphilis and the venereal diseases, manual of the, by James Nevins Hyde and Frank H. Montgomery, 109.
Teeth, and how to take care of them, by Victor C. Bell, 671.
Terapia delle malattie dell' infanzia, per C. Cattaneo, 510.
Therapeutics, a system of practical, edited by Hobart Amory Hare, 634.
Therapeutics, its principles and practice, by Horatio C. Wood, 669.
Tonsils, enlarged, cured by medicines, by J. Compton Burnett, 633.
Trained nurses' directory, by M. Louise Longeway, 669.
Traité de médecine, par Bouchard et Brissaud, 509.
Transactions of the American Gynæcological Society, 473.
Transactions of the American Ophthalmological Society, 830.
Transactions of the American Otological Society, 228.
Transactions of the Association of American Physicians, 474.
Transactions of the Clinical Society of London, 634.
Transactions of the Louisiana State Medical Society, 633.
Transactions of the Medical Society of the State of California, 228.
Transactions of the Medical Society of the State of West Virginia, 713.
Transactions of the Vermont State Medical Society, 228.
Tuberculose pulmonaire, formes cliniques de la, par L. Bard, 591.
Twentieth century practice of medicine, edited by Thomas L. Stedman, 110.
United States Pharmacopœial Convention, 634.
Uric acid as a factor in the causation of disease, by Alexander Haig, 510.
Urinary diagnosis and treatment, by John Wainwright, 632.
Urine, clinical examination of the, and urinary diagnosis, by J. Bergen Ogden, 109.
Uterine tumors, by W. Roger Williams, 591.
Vasectomy relative to prostatic disorders and catheter life, by Reginald Harrison, 713.
Books, disinfection of, by means of formaldehyde gas, 120.
Borderland of insanity, 304.
Borras fever, 269, 309.
Bottini operation for the relief of prostatic obstruction, 367, 394.
Brain, abscess of the, in an infant, 656; abscess of the, of aural origin, 587; destruction of the left frontal lobe of the, by a shotgun explosion, 425; diagnosis of frontal tumor, 867; disordered circulation in the, 304; epidural hemorrhage without fracture of the skull, 258; foreign body in the, 496; gas cysts in the, 278; healing of abscesses of the, 575; hemorrhage in the, in verrucose endocarditis, 1009; immediate and remote effects of injury of the.

921 ; injury of, with peculiar whistling spells, following operation, 480; inoculation of the, with micro-organisms taken from the nasal cavities and from suppurations of the middle ear, 816; localization of tumors of the, 663; methodical examination of the, for fluid, 921; of two distinguished physicians, father and son, study of the, 585; operations for tumors and cysts of the, 222; prognosis of disease of the, in children, 712; redundancy of the preinsula of the, in educated men, 940; sarcoma of the, 357; solitary tubercles of the, 118; streptothrix abscess of the, 755; subcortical glioma of the lower part of the ascending frontal convolution, 757; tumor of the, neuritis recurring after atrophy of both optic nerves in a case of, 825; tumor of the, with psychoparalysis, 136.
Breast, closure of defect after thorough removal of the, 800; early diagnosis of tumors of the, 121, 155; endothelioma of the, 435; treatment of inoperable cancer of the, 958; tuberculosis of the, 148; *x*-rays in cancer of the, 1009.
Breathing, deep, as a curative and preventive measure, 188.
Briddon, Charles K., testimonial to, 1004.
Bright's disease, climatic treatment of, 222; clinical varieties of, 106.
British Medical Association, reorganization of the, 714.
Brockway, Frederick J., death of, 663; resolutions on the death of, 779.
Bronchocele, endemic, in Perak, 263.
Bronchopneumonia, antiseptic vapor for the sick-room in, 836; bacteriology of, 677; treatment of acute, in childhood, 183.
Bronchus, lodgment of a plug of tobacco in the, 273; nail embedded in the, 301; removal of foreign bodies from the, 223, 968.
Brooklyn, faulty statistics of, 179.
Brown, Benjamin, death of, 144.
Brown, Ulysses Higgins, death of, 21.
Buboes in visceral cancer, 749; treatment of, 300; treatment of, in plague, 680.
Bulbar paralysis, apoplectiform, 463.
Burden, Charles, death of, 220.
Burge, John Henry Hobart, death of, 502.
Burns, causes of death in, 711; study of a series of cases of, 758; treatment of, 308, 876.
Busey, Samuel C., death of, 299.
Busteed, John B., death of, 461.

C

Cæcum, anatomical researches in regard to, 556; carcinoma of the, 927.
Cæsarea, American Christian Hospital at, 1006.
Cæsarean section, 463, 695, 718, 720, 851, 1018, 1019.
Caisson disease, 64.
Calculi, biliary, skiagraphy of, 158; renal and ureteral, *x*-rays in the diagnosis of, 157, 550, 790; salivary, 627; ureteral and renal, scratch-marks on wax-tipped bougies in the diagnosis of, 1020; ureteral, in a boy, 981; ureteral, simulating vesical, 782; urinary, *x*-rays in the diagnosis of, 182; vesical, choice of operation for, 73.
Calomel, poisoning by, 389.
Camden County (N. J.) Medical Society, 861.
Camp, Samuel, death of, 343.
Camp sanitation, 80.
Canadian parliament, physicians in the, 459.
Cancer, 927; analysis of five thousand cases of death from, 865; arsenical treatment of, 550; caustics in the treatment of, 231; cacodylate of sodium in, 914; Coley's fluid in, 963; collective investigations of, in Russia, 862; diagnosis of, from chancre, 136; etiology of, 505, 606; infectiousness of, 738; influence of mental depression in the development of, 795; inoculation of, 824; multiple, primary, 749; new method of staining cancri-amœbæ in, 672; non-malignant, 28; of the breast, treatment, 14; of the face, 345; of the large intestine, 788; of the pharynx in a boy of fourteen years, 292; of the rectum, 675; of the stomach, 39; origin of, 937; parasitic theory of, 761, 794; protozoon of, 703; quinine in the treatment of, 783; race distribution of, 778; statistics of, in Buffalo, 957; use and place of caustics in the treatment of, 54; *x*-ray treatment of, 145, 756.
Canteen, abolition of the army, 908, 972.
Cantwell, F. V., relief of stoppage of the tear passage, 239; simultaneous extra- and intra-uterine pregnancies, 636.
Carbolic acid, alcohol in the treatment of poisoning by, 864; as an internal remedy, 955.
Cardioptosis, 375.
Carleton, M. B., marriage among lepers, 476.
Carotid artery, ligation of the, preliminary to resection of the superior maxilla, 626.
Carradine, James S., death of, 707.
Carter, Henry R., a note on the spread of yellow fever in houses; extrinsic incubation, 933; the period of incubation of yellow fever, a study from unpublished observations, 361, 459.
Casler, Alonzo C., death of, 864.
Cataphoresis, static, 160.
Cataract, formation of, after lightning stroke, 690; in the insane, case of mental trouble following restoration of sight, 25.
Catarrhs of the upper air tract, silver salts in, 616.
Catherwood, Clinton H., asepsis and ambulance surgeons, 1052.
Catheterization, continuous, in some genito-urinary affections, 539; permanent, 967.
Catheter, sterilization of, 550, 878, 914.
Cautery, therapeutic uses of the actual, 1041.
Cavafy, John, death of, 829.
Celloidin in oil of cloves for embedding, 196.
Cellulitis, antistreptococcus serum in, 467.
Census, the taking of a, 319.
Cereals, place of, in infant feeding, 1058.
Cerebellum, abscess of the, treated by operation, 345; rupture of an abscess of the, into the fourth ventricle, 274; tubercles in the, 65.
Cerebrospinal meningitis, 263; bacteriology of, 953; epidemic, 827; epidemic of, in Bergen, 108; in children, 263; influenzal, 960.
Chace, A. F., some facts regarding "ureine," 329.
Chancre, diagnosis of, from cancer, 136.
Channing, William, death of, 502.
Charitable institutions, taxation of, 948.
Charities, State board of, 253.
Charity, new methods of, 584.
Cheek, epithelioma of the internal surface of the, 587.
Cheesman, W. S., hernia of the urinary bladder, 986.
Chemical examination, care of parts of the body intended for, 351.
Chest, gunshot wound of the, 625.
Chest wall, resection of the, for sarcoma, 798.
Chetwood, Charles H., contracture of the neck of the bladder, 767, 794.
Chicago drainage canal, 180, 856.
Chicago, Eye, Ear, Nose, and Throat College, 500.
Chickenpox in adults, 685.
Childbirth, chin left posterior, 625; influence of chloroform narcosis upon the uterine contractions during, 374; laceration of the vaginal vault during, 814; management of, in cases of contracted pelvis, 668; position of patient during, 970; quinine in, 416; tumors complicating, 346; vesical hemorrhage during, 376.
Children, dull and deficient, 673, 983; medical examination of, 23; physical culture in, 982; psychological study of backward, 1047; temperatures in healthy, 540.
Chloralose, 585.
Chloretone in dusting powders, 615.
Chloroform, dosage in the administration of, 837; prevention of vomiting after anæsthesia by, 184.
Cholecystitis simulating appendicitis, 464.
Cholelithiasis, relation of, to disease of the pancreas and to fat necrosis, 67.
Cholesteatoma of the temporal bone, 304.
Chorea during pregnancy, 708; in erysipelas, 726; knee jerks in, 952.
Christian science, bill requiring license of, in Missouri, 421; testamentary ability in relation to, 341; viewed through the spectacles of a lay writer, 817.
Christian scientists, medical examination for, 378; status of, in Georgia, 1004.
Chromic acid, poisoning following the cauterant use of, 495.
Cigarettes, crusade against, 218, 256.
Cinnamon in influenza, 1009.
Circulation, condition of the, in the feeble-minded, 958.
Circumcision as a preventive of venereal disease, 541.
Cirrhosis of the liver, 925; operative treatment of, 957; surgical treatment of ascites due to, 429, 454.
Clark, L. Pierce, some remarks on the modern surgical and medical treatment of epilepsy, 46.
Cleft palate, association of, with harelip, 718.
Cleidotomy, 149.
Cleveland, Clement, prevention and relief of post-operative intestinal obstruction, 1, 30.
Climate of Long Island, 760.
Climates, ocean, 745.
Clinical medicine, recent status of, 625; laboratory, relation of, to its hospital, 1055.
Clitoris crisis, 302.
Coats, Joseph, memorial to the late, 384.
Cobra poisoning treated with antivenene, 106.
Cocaine, almond-oil solution of, 878; habit, treatment of, 259; localized analgesia by, 1009; sniffing of, 1061.
Cocainization, spinal, see *Anæsthesia, spinal.*
Coe, Henry Waldo, the borderland of insanity; where and what is it? 807.
Cœliotomy, posterior vaginal, 961.
Coffee, drinking of, in the United States, 140; effects of, as a beverage and as a poison, 41, 70, 983.
Cold, action of, on bacteria, 276.
Colds, physiological care of, 665.
Colic, hepatic, preventive treatment of, 389; renal, with the passage of urethral casts, 106.
Colitis, 714; in children, 914; membranous, in infants, 981; mucous, in young children, intestinal intoxication occurring in, 833; valvular colostomy and irrigation in, 404.
College of Physicians of Philadelphia, 61, 255, 420, 582, 781; Section on General Medicine, 144, 297, 461, 621, 821.
Colon bacillus, method of distinguishing the, from the typhoid bacillus by the use of neutral red, 427; bacillus, rôle of, in human affections, 354; bacillus, toxin of the, 192; extirpation of the, for hyperplastic colitis, 193; idiopathic dilatation of the, 300.
Color perception, hereditary subnormal, 426.
Comfort, John E., death of, 912.
Community, ethical and sociological relations of the physician to the, 1054.
Conjunctiva, nose, and throat, relation existing between diseases of the, 1008.
Connecticut Medical Society, 948.
Conrad, Charles E., death of, 145.
Conservative surgery, results of, 928.

Constantinople, letter from, 198, 632, 1052.
Constipation, albuminuria and casts from, 1010; fever from, 37; lavage of the stomach in the treatment of habitual, 876.
Consumptives, benefits of fresh air to, 932; camps for, in Pennsylvania, 257; care of poor, 864; municipal hospital for, 36; national co-operation in the establishment of sanatoria for, 1054; State hospital for, 217, 256, 661; see also *Phthisis*, *Pulmonary tuberculosis*, and *Tuberculosis*.
Converse, George M., Potain's simple and accurate method of the percussion of the heart (with post-mortem verifications), 722, 759.
Convulsions, rectal injection for, 400; with scarlet fever, 286.
Copper workers, green hair in, 239.
Cornea, rodent ulcer of the, 616.
Cornell Medical College, opening of the new buildings of, 20.
Corns, treatment of, 229.
Cornu cutaneum auris, 1000.
Corporeal specific gravity, value of, in physical diagnosis, 204.
Corrosive sublimate, acute poisoning by, 465.
Corson, Eugene R., *x*-ray photography, 569.
Cortical ganglion cell as an independent organ, 589.
Coryza, local treatment of, 317.
Cough mixture, 317.
Coughing in pulmonary tuberculosis, treatment of, 1010; tubercle bacilli disseminated by, 964; voluntary suppression of, 39, 549.
County medical associations, organization of new, in New York State, 383.
Court held in hospital, 544.
Courtney, J. E., the pupil after death, 349.
Cowgill, Charles A., death of, 258.
Cox, Edwin M., the choice of suture for the patella, 50.
Cox, George W., death of, 663.
Cragin, Edwin B., Cæsarean section, 695, 720.
Craniotomy, technique of exploratory, 14.
Craw-craw, 467.
Cremasteric reflex in sciatica, 958.
Crematorium, municipal, in Great Britain, 179.
Cretinism, pathological anatomy and symptomatology of, 1057.
Crime, cost of, 859.
Crises, gastric, in syringomyelia, 150.
Crothers, T. D., some facts of responsibility in spirit and drug takers, 572.
Crowds, psychology of, 1024.
Crushed extremities, treatment of, by embalming, 108.
Cuba, benign climate of, 311; immigration to, 740; medical history of, 231, 232; sanitary supervision of ports in, 340; scurvy in, 108; salubrity of, 760; vital statistics of, 380.
Curette, use of, in obstetric practice, 970.
Curtis, G. Lenox, a new local treatment for erysipelas, 638.
Cyanosis of difficult explanation, 1045; the late forms of, of peripheral origin, 68.
Cycling for health, 540.
Cylinders, rule for combining crossed, 709.
Cyst, double intraligamentous, 54; papillomatous, in a young child, 699.
Cystinuria, recovery in a case of, 664.
Cystitis, colon bacillus in relation to, 304.
Cystoscopy in women, 236.
Cystotomy, improved method of performing suprapubic, 44.
Cyto-diagnosis of pleurisy, 395.

D

Dalton, Charles, presentation of a medal for heroism to, 580.
Dalton, H. C., wounds of the heart, 745.
Daly, William Hudson, obituary of, 952.
Darwin, ill-health of, 1039.
Davis, N. S., Jr., internal medicine in the nineteenth century, 888.
Deaf-mutes, a helper of, 984.
Deafness, hysterical, 539; systemic factor in catarrhal, 504.
Death certification, 579.
Decidua in abortion, 456.
Degeneration, etiology of, 13, 17; hereditary, 954.
Delirium, paroxysmal, 136; tremens, saline infusions in, 385.
Denslow, Le Grand N., the climate of Long Island, 845.
Dental surgery in the army, 860.
Dentistry, musical, 1023; relation of, to medical education, 304.
Dermatitis, arsenical, 220; blastomycetic, 868.
Dermatology, recent advances in, 547.
Deys, Abraham, death of, 741.
Diabetes mellitus, 261; acid intoxication of, 753; and tabes dorsalis, 276; cutaneous manifestations in, 581; diagnosis and prognosis of, 535, 556; enterectomy in, 508; etiology of, 954; heredity in, 67; in children, 981; modern views of the pathology of, 233; operations on subjects of, 356; pathology and relations of, 346.
Diabetic coma, 118.
Diagnosis, damages for an incorrect, 820; some details of, 104; some sources of error in laboratory clinical, 746.
Diarrhœa, infantile, 733; summer, 1055, 1057.
Diazo reaction in phthisis, prognostic value of, 833.
Diet, effect of, on the secretion of hydrochloric acid and the osmotic tension of the normal human stomach, 959; return of patients to normal, 709.
Digestion, air as a factor in, 824.
Digestive disorders, relation of eye strain and pneumogastric reflexes to, 456.
Digitalis, active principles of, 584; changes in the heart, kidneys, and liver in poisoning by, 960; glucosides of, 259.
Diphtheria, acute dilatation of the heart in, 105; antitoxin of, administered by the mouth, 826; antitoxin treatment of, 146; bacteriological diagnosis of, 425; clinical study of, 224; common source of infection in, 1048; disinfection within or without the body in, 300; failure of antitoxin treatment in a case of, 225; staining of the organisms of, 506; statistics of antitoxin treatment of, 179; treatment of, 188; value of throat cultures in, 964.
Diphtheritic paralysis, apnœa in, 24.
Diplegia, terminal condition in a case of, 31.
Disease, duration of disability after internal, 788; etiology and rational treatment of, 868; prognosis of acute, 466.
Disinfection from a purely practical point of view, 855; of wounds with pure carbolic acid, 825; orchid culture in its relation to a new method of, 493.
Distemper, bacteriology of, 478.
Doctor, the old-fashioned, 478.
Dorr, Samuel Griswold, death of, 707.
Doty, Alvah H., the necessity for a more careful investigation as to the cause of outbreaks of infectious diseases, 281, 308; varicella in adults, 685.
Douche massage, 149.
Draper, William Henry, obituary of, 707; resolutions on the death of, 741.
Dressings, extemporized, 307.
Drinking-water, sterilization of, for armies in the field, 17, 22.
Dropsy, pathology of, 714.
Druggists' insurance against the results of carelessness, 420.
Drug takers, responsibility in, 572.
Drug-taking habits, evils of, 360.
Drurro, John M., death of, 299.
Ductus arteriosus, patent, 829.
Dudgeon, Dr., death of, 461.
Duhring's disease in childhood, 955.
Dunglison, Richard J., death of, 384.
Duodenum, ulcer of the, in an infant, 589.
Dupuytren's contraction, treatment of, 146.
Dysbasia intermittens angiosclerotica, 344.
Dysentery, amœba coli in the causation of, 344; associated with typhoid fever, 549; etiology of, 184, 438, 749; in temperate climates, etiology of, 815; sulphur in the treatment of, 1047; surgical treatment of amœbic, 750; treatment of, 666, 826, 916; treatment of acute, 462; treatment of, in South Africa, 439; treatment of tropical, 712; types of tropical, 546.
Dysmenorrhœa as a factor in determining the character of operations on the uterine appendages, 1014; causes and treatment of, 1049; treatment of, 638.
Dyspepsia, gastro-enteric, abdominal massage in, 915; toxic, of alimentary origin, in second infancy, 506; treatment of intestinal, 837.

E

Ear, acute purulent disease of the, surgical indications in, 169; amyloform in disease of the middle, 24; anomalies of the pinna, 108; an overlooked nasal factor in disease of the, 865; arterial hemorrhage from the, 829; bony defects and fistulæ in the external meatus, 386; congenital atresia of the, 507; cornu cutaneum of the external, 1000; diagnosis and prognosis of disease of the, 504; diseases of the, in scarlet fever, 67; disease of the middle, thrombophlebitis of the sigmoid sinus and brain abscess arising from, 87; diseases of the middle, use of suprarenal extract in, 136; foreign body in the external auditory meatus, 183; furuncle of the external meatus simulating mastoid periostitis, 915; importance to the general practitioner of a knowledge of diseases of the, 62; indications for paracentesis of the drum membrane, 318; non-surgical treatment of diseases of the middle, 868; removal of foreign body from the, 878; removal of the semicircular canals, 388; rupture of the membrana tympani from indirect violence, with concussion of the labyrinth and complete deafness, 426; serous cyst of the auricle, 507; systemic disturbances caused by disease of the, 63; temporo-sphenoidal abscess following suppuration of the middle, 586; treatment of acute inflammation of the middle, 212.
Earth and soil, 427.
Eastern Medical Society, annual banquet of the, 543.
Echinococcus, renal, 374.
Eclampsia, puerperal, 291, 304.
Eczema neuroticum vegetans, 836; origin of, 611; treatment of, 428.
Edebohls, George M., on bandages for nephroptosis, 690, 717.
Edes, Robert T., a family history of anæmia, 306.
Egle, William H., death of, 343.
Einhorn, Max, enteroptosis, 561.
Eisen, Gustav, new method of staining the cancriamœbæ in carcinoma, 672.
Elbow-joint, *x*-ray study of the cause of disability following fractures of the, 190.
Electric light least injurious to the eyes, 983.
Electric shock, a case of, 463.
Ellis, R., asepsis and ambulance surgery, 963.
Elmira Reformatory under new management, 214.
Ely, Leonard W., a few observations from the Lorenz orthopedic clinic, 853.
Embalmers, training-school for women, 267.
Embedding, cups for paraffin, 1022.
Empyema, treatment of, 65, 969.
Endocarditis, cerebral hemorrhage in verrucose, 1009; gonorrhœal, furnishing pure culture of the organism, 465; gonorrhœal ulcerative, 67; pneumococcal, 834; three cases of malignant, 608.
Endometritis, tuberculous, in an infant, 117.

Enteroliths, recto-colonic, 187.
Enteroptosis, 36, 561, 626.
Enuresis in children, treatment of, 207; neurotic form of, 120; rhus glabra in, 495.
Eosinophilia in trichinosis, 1007.
Epidermolysis bullosa hereditaria, 700.
Epididymitis, guaiacol in gonorrhœal, 814; histological process in acute, 427; in typhoid fever, 801; pathogenesis of gonorrhœal, 184.
Epilepsy, bromide treatment of, 318; craniotomy with implantation of egg-shell membrane for, 732; modern surgical and medical treatment of, 46; National Association for the Study of, 580; new symptom of, 13; nitroglycerin in the treatment of, 794; operation in cases of, 757; psychic, 1045; Richet's method of the treatment of, 456; topical treatment of, 1008; Ziehen's modification of Flechsig's opium-bromide treatment of, 24.
Epiphyseal line, injury to the, 586.
Epistaxis, 665; causation and treatment of, in persons beyond middle age, 710; suprarenal extract in, 385, 748.
Erdmann, John F., a method of reducing dislocations of the thumb, 332.
Erysipelas, a new local treatment for, 638; chorea in, 726; treatment of, 301, 390.
Erythema multiforme and vaccination, 866; an unusual case of, 589; resembling smallpox, 629.
Erythromelalgia, 189, 953.
Esophoria, 187.
Ether anæsthesia, 852; a useful preliminary to, 195; death under, 117; effect on the blood of, 796; interrupted, 962; operating in the primary, 390; prevention of some of the evils of, 649.
Ethmoid, abscess of the, 956.
Ethyl-chloride narcosis, 194, 463, 533, 963.
Ethylic alcohol, germicidal properties of, 240.
Eustachian tube, electrolysis in stricture of the, 815.
Euthanasia, a medico-legal study of, 105.
Evaporation baths in the reduction of temperature, 824.
Evidence, medical, 99.
Exophthalmic goitre cured by collodion dressings, 540; danger of operation in, 1042; fright as a cause of, 747; of syphilitic origin, 236, 259; sodium salicylate in, 743; with suppuration of both corneæ, ending in total blindness, 353.
Exsections, 1017.
Eye, cysticercus of the, 347; destruction of, by a shotgun explosion, 425; idiopathic hemorrhage between the retina and the vitreous, 712; mixed treatment with pilocarpine hypodermically in diseases of, 748; treatment of lime burns of the, 878.
Eyeball, modified open treatment after operations on the, 465.
Eyelashes, treatment of falling of the, 399.
Eyelid, emphysema of the, from nasal causes, 503; malignant tumor of the, 1048.
Eye strain, relation of digestive disorders to, 456.

F

Facial paralysis, some of the collateral symptoms of, 378; some of the motor manifestations of, 457.
Fagin, Pierce B., death of, 343.
Faith cures, 715; and the law, 605.
Fallopian tube, genesis of cancer of the, 586; hernia of the, without that of the ovary, 466.
Favus of the nails, 836.
Feeble-minded, education of the sense of touch in, 105; heart and circulation in, 958.
Feeny, John L., death of, 911.
Fees, the doctor's, 785.
Feet, hypertrophic osteopathy of the, 149.
Femur, bloodless treatment of congenital dislocation of the, 668; lengthening of the, by oblique subtrochanteric osteotomy, 625; osteomyelitis of the, 276; spontaneous diastasis of the head of the, 276.
Fever, changes in the chemical composition of the blood in, 589; prolonged, of Nicaragua, 268; simple continued, in South Africa, 1048; the *x*, of the South, 1022; traumatic, 192; treatment of, 539; unclassified type of West African, 223.
Filaria nocturna, development of, in mosquitos, 953.
Filiariasis and its consequences in Fiji, 106.
Filtration of municipal water supply, relative merits of slow sand and mechanical, 139.
Finlay, Charles, summary of the progress made in the nineteenth century in the study of the propagation of yellow fever, 201; the mosquito theory of the transmission of yellow fever, with its new developments, 81.
Finger, avulsion of a, in an infant, 386; clubbed, 549, 668.
Fischer, Louis, recurrent vomiting of nervous origin, 645.
Fischer, Martin H., ionization in its physiological and pathological relations, 485.
Fissure, treatment of anal, 639.
Fitzgerald, George Francis, death of, 499.
Flatulence, relation of gastric, to gastro-intestinal catarrhs and chronic appendicitis, 1049.
Floersheim, Samuel, suprarenal extract in hæmoptysis, 508.
Florida cattle disease, investigation of the, 662.
Floyd, Rolfe, an extreme case of simple anæmia, 650.
Foder, Joseph, death of, 620.
Fœtus, extraordinary weight of a, 106.
Food, adulteration of, 620; requirements in various kinds of labor, 959.
Forceps, a new expression, 160; axis-traction, 694, 719; invention and evotion of the obstetric, 103; the axis-traction, 385; use of the obstetric, 240.
Ford, Campbell, the operation for radical cure of inguinal hernia at the end of the century, as I saw it performed by Bassini, Lucas-Championnière, De Garmo, Coley, and Broca, 681.
Foreign body, migratory, 146.
Foster, Henry, death of, 144.
Foundlings, care of, in New York State, 734.
Fowler, George Ryerson, excision of aneurism, with a report of two cases of femoral aneurism so treated, 449.
Fowler, W. E., tuberculosis in prisons and reformatories, 475.
Fox, George H., operation for hernia in children, 715.
Fractures, discussion on, 74; near a joint, management of, 231; new method of treating, 546; of both bones of the forearm, 872; operative treatment of compound or complicated, 263; process of healing in, 943.
France, vital statistics of, 639.
Fraser, Edward Clarence, death of, 502.
Frontal sinus, sounding and irrigating the, 816.
Fruitnight, J. Henry, resolutions on the death of, 62.

G

Gallaudet, Thomas, work of, among deaf-mutes, 984.
Gall stones, causing abscess of the abdominal wall, 146; cholangitis and cholecystitis, complicating, 974; diagnosis of, 665; free ducts in operations for, 225; mortality after operations for, 1048; pancreatitis in, 797; pathogenesis of, 211, 212, 733.
Gangrene, multiple, complicating typhoid fever, 979.
Gasserian ganglion, intracranial extirpation of the, 212; resection of, for facial neuralgia, 866.
Gaston, J. McF., Jr., subphrenic abscess as a complication of appendicitis, 452.
Gastrectasis, gastrojejunostomy in, 192.
Gastric fever in children, treatment of, 230.
Gastric juice, influence of certain alimentary principles in the secretion of, 667.
Gastro-enteric antiseptic, calcium iodate as a, 106; fermentation, relation of indicanuria and oxaluria to, 585; hemorrhage caused by fatty degeneration of the heart, 258.
Gastro-enteritis, bacteriological study of the blood in acute, 320.
Gastro-enterostomy, 798; by the elastic ligature, 181.
Gastroptosis, treatment of, 69.
Gelatin injections, 264; for aneurism, 498.
Gelatinized serum in gynæcology, 428.
Genital organs, prolapse of the, 549.
Genito-urinary examination by the general practitioner, 964; surgery, some retrospects and prospects of, 503.
German army medical service, 294.
German measles, the Duke of York's attack of, 391.
German universities, attendance at, 423.
Germany, growth of population in, 38, 219; increase of cancer in, 437; lengthened medical curriculum in, 18; medical practitioners in, 438; workingmen's insurance in, 951.
Gibney, Virgil P., the treatment of rheumatic and allied diseases of joints complicated by deformity, 321, 353.
Gibson, C. L., an improved method of performing suprapubic cystotomy, 44.
Giddings, Theodore, death of, 21.
Gies, William J., an extreme case of simple anæmia, 650; some facts regarding "ureine," 329.
Giuliana, R. A., tuberculous mastitis, 1037.
Given, S. A. Mercer, death of, 343.
Glanders in Havana, 311.
Glandular ailment at Bacalar Chico, 263.
Glasgow infirmary, reconstruction of, 218.
Glaucoma, effect of shock on, 953; removal of cervical sympathetic ganglion in, 462.
Glottis, spasm of the, in adult life, 1046.
Gloves in operating, 963.
Glycosuria, 556; delicate test for, 225; in children, 262; phenyl-hydrazin test for, 388; tobacco as a factor in, 646.
Glycuronic acid in the urine, 234.
Goelet, Augustin H., the diagnosis and treatment of prolapsed kidney, 841.
Goitre, cancerous, 749; operative treatment of, 22.
Gonococcus in the blood, 389.
Gonorrhœa, 260; chronic, and marriage, 447; diagnosis and prognosis of, 302; generalized infection of, 586, 778, 918; in boys, 982; irrigations of hot salt solution in, 401; modern treatment of, 511; pressure irrigation in the treatment of, 148; protargol treatment of, 628; treatment of, 229; treatment of chronic, 1032; treatment of the early stage of, 221.
Gonorrhœal ulcerative endocarditis, 67.
Goodman, A. L., rapid cultivation of and a differential stain for Loeffler's bacillus, 267.
Gottheil, William S., pityriasis versicolor of the face, 649.
Goundon in South China, 26.
Gout, causation of, 238; causation, prevention, and treatment of, 128; quinic acid in, 428; some manifestations of, 391.
Grace Hospital, New Haven, charges against, 383.
Graham, Percy M., death of, 742.
Grandin, Egbert, axis-traction forceps, 694, 719.
Granular lids, treatment of, 916.
Grassi, Prof. Giambattista, honors to, 545.
Greanellé, W. J., an illuminated vaginal speculum, 877.
Green, Horace, presentation of a bust of, to the New York Academy of Medicine, 271.
Green scours, 1055.

Griffith, Frederic, keloid formed in a vaccination scar, 730; reckless driving of ambulances, 392.
Griggs, Stephen C., death of, 220.
Groin, subacute adenitis of the, 389.
Grove, John H., death of, 584.
Gums, treatment of bleeding and tender, 400.
Gunshot wounds in the Philippines, 262; of the chest, venesection in, 710.
Gynæcology, contributions of, to surgery, 977; errors of diagnosis and treatment in, 538; future of, as a surgical specialty, 1018; local applications in, 78.

H

Hæmatemesis, treatment of, 346, 467.
Hæmaturia, a case of malarial, 635; diagnosis of the cause of, 424.
Hæmoglobinuria, 548, 551; bodies in the urine in a case of, 25; etiology of, 657; Koch on, 140; on the Congo, 26; paroxysmal, 146; quinine, 437.
Hæmolysis, 758.
Hæmolytic property of human serum, 1048.
Hæmophilia, antenatal treatment of, 978; examination of the blood in, 960; joints in, 12.
Hæmoptysis from exercise after pleurisy, 397; pseudo-, of naso-pharyngeal origin, 507; suprarenal extract in, 415, 508.
Hæmostasis, electrothermic, in abdominal and pelvic surgery, 928; hepatic, 575.
Hæmothorax, 959.
Haig, Alexander, the causation, prevention, and treatment of gout, 128.
Hallucinations, origin of, 456.
Hancock, James Cole, a new expression forceps, 160.
Hands, disinfection of the, alcohol in, 24; hypertrophic osteopathy of the, 149; surgery of the, 146; tendon transplantation for deformity of the, 357.
Hanks, Horace T., resolutions on the death of, 144.
Hansen, G. Armauer, testimonial to, 860.
Haralson, H. H., ischio-rectal abscess, complicated with gangrene and priapism, 351.
Harelip, association of cleft palate with, 718; maternal impressions in relation to, 1057.
Harlem Medical Association, dinner of the, 736; officers of the, 1004.
Harrogate sulphur waters, therapeutic uses of the, 345.
Havana, sanitation of, 217, 254, 310, 460, 701, 909, 946.
Hawaiian Islands, leprosy in the, 578; objection of the natives to segregation and vaccination, 620.
Hawley, N. J., subarachnoid cocainization in obstetrics and gynæcology, 91.
Hay fever, treatment of, 639.
Hayes, James, death of, 782.
Hayd, Herman E., convulsions with scarlet fever, and the report of a very severe case with perfect recovery, and important deductions from the treatment, 286.
Hayden, James R., conservatism in the diagnosis and treatment of prostatic hypertrophy, 450.
Head, injuries of the, 784.
Health among rich and poor, 541.
Health commissioner of New York State, appointment of the, 381.
Health department, opportunities for young physicians in the, 710.
Health officer, charges against a, 1006.
Health reports of the Marine-Hospital service, 40, 80, 120, 160, 200, 240, 280, 320, 360, 400, 440, 480, 520, 560, 600, 640, 680, 720, 760, 840, 880, 932, 984, 1061.
Healy, Maurice Lauren, death of, 952.
Hearing, functional tests of, 825.
Heart, acute dilatation of the, 666; acute dilatation of the, in diphtheria, influenza, and rheumatic fever, 105; acute dilatation of the, in thermic fever, 426; advanced fatty change of the, 273; affections of the, in middle and advanced life, 627; affections of the, in relation to life insurance, 56; affections of the, of gastric origin, 464; affections of the substance of the, 416; an undescribed sound of the, 751; causes of failure of compensation in diseases of the, 247; condition of the, in the feeble-minded, 958; congenital deformity of the, 115; conservatism in the use of vaso-dilators in certain diseases of the, 187; effect of the distillate of coffee upon the, 54; epilepsy and stoppage of the, 627; fatty, capacity for work in the, 66; fatty degeneration of the, 189, 222, 752, 957; Flint murmur in aortic insufficiency, 751; hydatid of the, 813; influence of arterial spasms upon the, 759; lesions of, in the negro, 966; ligation of the injured coronary artery, 301; neuroses of the, 788; physical examination of the sounds of the, 589; position where the regurgitant aortic murmur is most clearly audible, 953; Potain's method of percussion of the, 722, 759; presystolic murmurs heard at the apex, 1008; presystolic murmur of mitral stenosis, 865; pulsation of the uvula in aortic insufficiency, 1007; reduplication of the first sound of the, 815; reflex and the Nauheim bath, 112; reflex, clinical value of the, 10; relation of vascular disease to disease of the, 708, 823; senile changes in the, 742; stenosis of the tricuspid, mitral, and aortic orifices, 958; stimulant to the, 317; strychnine in weakness of the, 79; suprarenal capsule in diseases of the 823; suture of the, 27, 733; syphilis of the, 548; tonometric examination in chronic diseases of the, 1028; treatment of fatty, 400; treatment of the later phases of disease of the, 220; wounds of the, 27, 745, 870.
Heat-stroke, 147, 148.
Heat, therapeutic application of, 390; treatment of ulcers by, 352.
Hedonal, 550.
Heineman, H. Newton, acute gastric ulceration, 369; the Nauheim treatment, 988.
Hemiplegia, impaired thermic sensibility in, 226; successful trephining in a case of, 263; trophic disorders and disorders of sensation in, 28.
Hemorrhage following the use of chloral, 66; gelatin injections in, 264; leucocyte count in, 924; post-operative, 922; post-partum, 666.
Hemorrhagic infection due to an organism of the bacillus-mucosus-capsulatus group, 629; due to the typhoid bacillus, 22.
Hemorrhoids, elevation of the pelvis in, 540; guaiacol in, 389; new remedy for, 616; operative treatment of, 596; simple operation for, 976.
Hereditary degeneration, 954.
Heredity as a factor in mental deficiency, 952.
Hernia, autoplastic suture in, 967; Bradshaw lecture on, 152; diagnosis of diaphragmatic, 1046; inguinal, 192; inguinal, tube and ovary in an, 70; local anæsthesia in operations for, 538; of the adductor longus muscle, 468; of the urinary bladder, 986; operation for, in children, 715; operation for inguinal, in a diabetic subject, 355; operative treatment of umbilical, in adults, 803; radical treatment of, 261, 681; radical treatment of inguinal, 161; radical treatment of inguinal and femoral, 799; radical treatment of inguinal, in a child two weeks old, 355; radical treatment of umbilical, 799; relief of strangulated, by taxis, 784; resection of bowel for strangulated, 262; strangulated in infants, 355, 612; treatment of gangrenous, 506; ventral, following abdominal section, 149; woollen-yarn truss in infantile, 300.
Heroin, therapeutic value of, 317, 628.
Hertzberg, R., the self-limitation of infectious diseases, 29.
Hess, Ralph J., death of, 499.
Hiccough, hysterical, cured by etherization, 53.
Hill, Horace G., death of, 299.
Hill, L. L., wounds of the heart, 870.
Hingston, Sir William, honors to, 1005.
Hip, affections of the, 301; hæmostasis and amputation at the, 966; operative treatment of congenital luxation of the, 616, 628; typhoid, 153.
Hip-disease, cause of shortening after, 222; hysterical, measurements in the diagnosis of, 746; operative management of, 77; tuberculous, amputation at the hip for, 154.
Hodgman, Abbott, death of, 343.
Hoffer, Jacob E., death of, 502.
Holstein, Mrs. Anna Morris, a famous army nurse, death of, 61.
Hopkins, George W., superheated air in the therapeutics of chronic catarrhal otitis media, 849.
Hood, William Taliaferro, death of, 584.
Horses, epidemic among, 1043.
Hospital appointments for women, 708.
Hospital Graduates' Club, annual dinner of the, 910.
Hospitals, cost of, 560; small, and their administration, 566; proposed change in the management of the New York City, 15, 60.
Hot-bed, use of, in Korea, 745.
House of Mercy Hospital at Pittsfield, 621.
Houston's valves, pathological condition of, 235.
Huber, John B., faith cures and the law, 605.
Humerus, fissure of the upper end of the, 516.
Hunt, Oren George, death of, 21.
Hunterian oration for 1901, 430.
Hydatids of the heart, 813; primarily affecting the lung, 106; wandering, 495.
Hydrocele, eversion of the tunica vaginalis in, 465; guaiacol in, 389; inversion of the tunica vaginalis for, 791; ovarian, 655.
Hydrocyanic acid, disinfection by, 786.
Hydrosalpinx, torsion of, 549.
Hydrothorax, right-sided, 751.
Hygiene and sanitary science, progress and tendency of, in the nineteenth century, 898; in early life, 983.
Hyoid and thyroid, bony junction of the, 850; bone, loop around the, as an aid to narcosis during certain operations on the lower jaw and mouth, 956.
Hyperidrosis of the axilla, 63.
Hyperpyrexia, nervous, following parturition, 262.
Hypnotism extraordinary, 1024.
Hypospadias, 72.
Hysterectomy, a difficult, 79; for uterine cancer, 1015.
Hysteria, prognosis of, 63; successful moral treatment of, 875; unusual case of, 788.
Hysterical anæsthesia and analgesia, 188.

I

Ichthyosis, congenital, 960.
Idiocy, amaurotic family, 1057.
Ileus due to vascular obstruction, 550.
Illinois State Medical Society, 947.
Imbecile, little finger of the Mongolian, 1057.
Immunity, 590, 625; inheritance of acquired, 786.
Impetigo contagiosa bullosa, diagnosis of, 39; treatment of, 277.
Incomes of medical men in Berlin, 840.
India, census of, 740; use of opium, ganja, and intoxicating drinks in, 478.
Indiana State Medical Society, 910.
Indigestion, intestinal, 4; of loneliness, 1038.
Inebriates' Home, a proposed, 661.
Infancy, morbid phenomena in second, in

relation to a toxic dyspepsia of alimentary origin, 506; pulse in, 958.
Infant feeding, 181, 189, 221, 222; cereals in, 1058; elimination of starches in, 953; with breast milk in whole or in part, 686, 717.
Infections, natural resistance to, 184; rôle of, in women, 191.
Infectious disease, necessity for a more careful investigation as to the cause of outbreaks of, 281, 308; self-limitation of, 29.
Inflammation, deep-seated, ichthyol in, 425, 469.
Influenza, 97; acute dilatation of the heart in, 105; appearance of the soft palate a pathognomonic sign in, 912; bacillus of, 440; bacteriological study of some of the complications of, 303; cerebrospinal meningitis due to, 960; cinnamon in, 1009; in Chicago, 907; in infants, 520; laryngeal complications of, 828; of the nervous system, 147; polyneuritis following, 183; puerperal, 999; pulmonary complications of, 711; quinine as a prophylactic, 1009; streptococcus bronchitis in, 912; streptococcus infection after, 816; treatment of, 158, 181.
Inglis, Roy, death of, 707.
Inhalation of atomized liquids, 955.
Inheritance, theories of, with special reference to the inheritance of acquired conditions in man, 913.
Injury, vitality after severe, 1009.
Insane, duty of the State in the care of the, 55; in general hospitals, 1040; nursing the, 930; relationship between chronic renal disease and the condition of excitement and depression in, 576; surgical operations on the, 542.
Insanity associated with pelvic disease in women, 72; borderland of, 304, 807; early diagnosis of, 191; ephemeral, 786; periodical, 301; plea for a more rational treatment of, 944; prevention of, 425; puerperal, 503, 656, 1045; relief of, after treatment for cataract, 25; religious, 256; statistics of, 278; study of, in New York State, 59.
Insects as conveyers of infection, 213, 311.
Insomnia in heart disease, treatment of, 455; tea and coffee causing, 119; treatment of, 293.
Institute for Medical Research, 907, 911, 971, 1004.
Institutionalism, abuses of, 1054.
Instruments, sterilization of, 720.
Internal medicine in the nineteenth century, 886.
Intestinal anastomosis, 463; indigestion, 4; obstruction, diagnostic differences in three forms of, 231; obstruction, differential diagnosis of, 62; obstruction, intestinal juice in the treatment of, 27; obstruction, Meckel's diverticulum as a source of, 706; obstruction, treatment of the, 54, 465; sand, 508, 576.
Intestine, action of atropine on the, 23; bellows injection for obstruction of the, 591; cases of surgery of the, 829; Connell's suture of the, 75; knot within the lumen in surgery of the, 927; obstruction of the, 831; operations for perforation of the, 193; paralysis of the large, 1048; perforation of the, 475; prevention and relief of postoperative obstruction of, 1, 30; traumatic rupture of the, 441; tuberculous infection of the, 27; ulcer of the duodenum of embolic origin, 118; ulceration of the, in neurasthenics, 65; unilateral exclusion in fistula of the, 549.
Intoxications, classification of, from a pathological point of view, 753.
Intubation of the larynx, prolonged, 980; retention of the tube in a case of, 511; traumatism during, 181.
Intussusception, diagnosis and treatment of, 548; resection for chronic, 355.
Iodine, allotropic, 539.
Iodipin reaction in gastric diseases, 959.
Iodism, acute, and its relation to the rhodan of the saliva and nasal and conjunctival secretion, 66.
Iodoform, calcium iodate as a substitute for, 106.
Iodophilia, 1007.
Ionization in its physiological and pathological relations, 485.
Iris, tuberculosis of the, 864.
Isaacs, A. E., a whistle in the œsophagus, 404.
Ischiopagus, a case of, 303.
Ischio-rectal abscess complicated with gangrene and priapism, 351.
Isotonia, 733.

J

Jacob, Archibald Hamilton, death of, 215, 238.
Japan, hospitals of, 944.
Japanese dancing mice, equilibrium control in, 668.
Jarvis, George C., death of, 782.
Jaundice in children, 816; in typhoid fever, 147; leucocytic reaction in a case of, 711.
Jelks, James T., surgical treatment of abdominal dropsy following cirrhosis of the liver, 454.
Jewett, Homer O., death of, 220, 299.
Jews, comparative pathology of the, 584.
Johns Hopkins Hospital, bedside work in, 796.
Johns Hopkins University, the presidency of, 951.
Johnson, R. Erskine, death of, 583.
Joints, classification and diagnosis of some affections of the, 387; treatment of rheumatic and allied diseases of, complicated by deformity, 321, 353.
Jones, I. Newton, death of, 343.
Jones, Mary Dixon, the origin of fibroid growths of the uterus, 267.
Josephson, J. C., malaria in a child of three weeks, 635.
Jugular vein, ligation of the internal, 145.

K

Keloid formed on a vaccination scar, 730; traumatic, of the median nerve, 149.
Kemp, Robert Coleman, a new instrument for the prostate; for massage, inunction, and the application of electricity combined, 318.
Kentucky State Medical Society, 950.
Kenworthey, William B., the use of suprarenal capsule in hæmoptysis, 415.
Keratitis, prevention of interstitial, 188.
Keschner, Moses, a case of membranous angina due to streptococci, followed by paralysis of the soft palate, 854.
Kidneys, amyloid degeneration of the, 107; basement membrane of the tubules of the, 956; calculi of the, scratch-marks on wax-tipped bougies in the diagnosis of, 1020; cancer of the calices, 960; congenital absence of the, 273; congenital cysts of the, 436, 982; diagnosis and surgical treatment of prolapsed, 841; diseases of the, in infancy and childhood, 982; echinococcus of the, 203, 374; etiology of primary contrasted, 184; floating, 259, 800, 913; floating, a method of fixation of, 283; floating, bandages for, 690, 717; floating, in children, 709; floating, nonsurgical treatment of, 711; floating, treatment of, by massage, 870; gelatin injections for the relief of hemorrhage from the, 225; histological changes in the, from corrosive-sublimate poisoning, 376; horseshoe, 196; idiopathic abscess of the, 952; ligature of the blood-vessels of the hilum, 375; nephrolithotomy on both, 800; nephrotomy for hemorrhage of the, 667; removal of large cyst of the, 435; rupture of the, 785; significance of the intrinsic blood-vessels of the, in nephrotomy, 303; skiagraphic diagnosis in surgery of the, 967; succussion of the, 225; surgical infections of the, 76; surgical treatment of tuberculous, 1020; traumatic movable, 65; tuberculosis of the, 677, 913; unilocular echinococcus of the, 550; various incisions in operations on the, 929; *x*-ray diagnosis of calculus of the, 790.
King, Alfred, a successful pylorectomy on a man in his seventy-first year, 730.
King, Charles Roy, death of, 583.
Kings County Medical Society, library of the, 861.
Kinnicutt, Francis P., orchitis and epididymitis in typhoid fever, 801.
Kirk, Lewis R., death of, 663.
Kitchen, J. M. W., orchid culture in its relation to a new, improved, and completely effective method of disinfection, 493; causation of rheumatism and gout, 238.
Knee jerks in chorea, 952.
Knee joint, quiet effusion into the, 387; treatment of contractures of the, 1010.
Knights of St. John of Jerusalem, 621.
Knopf, S. A., tuberculosis in prisons and reformatories, 334.
Kober, George M., the progress and tendency of hygiene and sanitary science in the nineteenth century, 898.
Kohlstock, Prof. Paul, death of, 661, 820.
Koller, Carl, case of thrombophlebitis of the left sigmoid sinus masking a latent brain abscess in the left temporosphenoidal lobe, both arising from chronic otitis media, 87.
Kubin, Wilhelm Karl, the importance of aseptic vaccination, with remarks on vaccination in general, 524, 555.

L

Labia majora, pedunculated fibroid of the, 433.
Labor, see *Childbirth*.
Labyrinth, spongifying the, 376.
Lacrymal diseases, radical treatment of, 104.
Lanehart, Louis N., small hospitals and their administration, 566.
Laparatomy, local anæsthesia in, 538.
Laryngeal whistling, 665.
Laryngectomy under eucaine anæsthesia, 149.
Laryngitis, infantile, 375; influenzal, 588; treatment of tuberculous, 359.
Laryngologist, limitations of the, in the general treatment of nose and throat diseases, 746.
Larynx, cancer of the, 915; cancer of the, extensive operation for, 67; fatal scalding of the, 302; fatal stenosis of the, following intubation for papilloma, 469; hemorrhage from an apparently normal, 867; implantation of Thiersch skin grafts for the cure of stenoses of the, 375; indications for intralaryngeal operations in cancer of the, 467; intubation of the, see *Intubation;* papilloma of the, in children, 195; postdiphtheritic stenosis of the, 194; prevention of auto-extubation, 827; prolonged stenosis of, of uncertain origin, 1056; radical cure of malignant disease of the, 424.
Lavage, use and abuse of, 13.
Laveran, Dr., honors to, 1051.
Lead poisoning in lapidaries, 65; treatment of, by electricity, 480.
Lee, Lucius J. W., death of, 103.
Leech, J. Stuart, death of, 180.
Legs, explanation of the equal length of both, 346.
Leper hospital at Jerusalem, 625; opposition to the Louisiana, 860.
Lepers, marriage among, 476, 553.
Leprosy, chaulmoogra oil in, 631; in France, 949; in the Hawaiian Islands, 578; localization of the bacillus of, in the different organs, 612; treatment of, by ichthyol, 866; treatment of nerve, 786.
Lesley, William Wood, death of, 62.
Leszynsky, William M., coffee as a beverage, and its frequent deleterious effects

upon the nervous system: acute and chronic coffee poisoning, 41, 70; recurrent oculomotor paralysis; report of a case, with remarks, 812.
Letters from Australia, 553; from Constantinople, 198, 632, 1052; from London, 28, 68, 111, 152, 197, 237, 264, 305, 348, 391, 430, 474, 508, 552, 590, 630, 671, 714, 742, 782, 828, 869, 917, 961, 1011, 1050; from New Zealand, 198, 1012; from Paris, 474, 631, 743, 870, 1051.
Leucocytosis, changes in bone marrow accompanying, 588; digestive, 813; varieties of, 40.
Leukæmia, acute, 829; acute lymphatic, following malaria, 916; acute, without macroscopic pathological changes in the blood-forming organs, 302; splenomyelogenic, 392; the blood in lymphatic, 677.
Levien, Henry, the proper solution of the spitting nuisance, 672.
Liell, Edward N., subarachnoid spinal cocainization as a means of inducing surgical anæsthesia, 728.
Life insurance, congress of examiners for, 951; examinations for, 710; for total abstainers, 948; heart disease in relation to, 56; medical aspects of, 437.
Lincoln, H. W., the treatment of gastroptosis, 69.
Linderman, Robert J., death of, 62.
Linsley, J. H., death of, 299.
Lipæmia, cause of, 234.
Liquid air, medical possibilities of, 300.
Liver, cancer of the, at the age of twenty-four years, 262; cirrhosis of the, 925; cirrhosis of the, in a boy of eight years, 185; congenital sarcoma of the, 429; enlargement of the spleen in cancer of the, 1010; etiology of cirrhosis of the, 668; iron in the, 960; massive cancer of the, 376; movable, 787; primary cancer of the, 676; primary sarcoma of the, 13; recovery from acute yellow atrophy of the, 712; retention cyst of the, 70; syphilis of the, 832; treatment of abscess of the, 26; tropical abscess of the, 784.
Lobster, poisoning by canned, 827.
Loeffler's bacillus, rapid cultivation of, and a differential stain for, 267.
London, growth of, 931; letters from, 28, 68, 111, 152, 197, 237, 264, 305, 348, 391, 430, 474, 508, 552, 590, 630, 671, 714, 742, 782, 828, 869, 917, 961, 1011, 1050; population of, 1061; vital statistics of, for 1900, 256; water supply of, 474, 508.
Loneliness, indigestion of, 1038.
Longevity in Spain, 479.
Long Island, climate of, 760, 845.
Loomis Laboratory, litigation over the, 822; Sanatorium, charitable annex to the, 580.
Lorenz orthopedic clinic, a few observations from the, 853.
Loveland, B. C., aneurism of the pulmonary artery, with report of case, 349.
Ludwig's angina, 957.
Lumbar puncture for detecting the presence of tubercle bacilli, 667
Lunacy commission, requirements for the presidency of the, 178; commissioners, passage of a bill regarding, 381; law, opposition to proposed changes in the, 258.
Lungs, cancer of the, 119; deposit of calcium phosphate in the, 223; diffuse gangrene of the, 273; foreign body in the, 667; primary cancer of the, 273; primary hydatids of the, 106; surgery of the, 968.
Lupus erythematosus, phototherapy of, 347.
Lupus vulgaris, 679; galvano-cautery treatment of, 235; phototherapy of, 551; treatment of, 301; treatment of, in London, 1004; treatment of, with thyroid extract, 319; tuberculin in the treatment of, 23, 200; *x*-ray treatment of, 211, 235, 247.
Lymphadenia, treatment of, 329, 425, 504.
Lymphatic ganglia, rôle of, in infection, 915.
Lyon, Samuel K., death of, 741.

M

McClelland, William F., death of, 624.
McCullough, John W. S., tetanus, 472.
McDonnell, R. A., syphilis in the well-to-do, 727.
McElroy, Rufus, bellows injection for intestinal obstruction, 591.
McKellops, Henry Byron, death of, 707.
McKelvey, James Boyd, death of, 144.
Mackenzie, John R., catarrhal pneumonia in children, 348.
McKinley, Mrs., illness of, 946.
McWilliams, Clarence A., hernia of the adductor longus muscle, with operation, 468.
Mack, William A. M., death of, 103.
Madura foot, 309.
Magness, George Hosmer, death of, 1044.
Maine, new hospital for the insane in, 59.
Malaria, acute lymphatic leukæmia following, 916; alterations in the parasites of, during treatment with methylene ble, 827; and mosquitos, 26, 124, 158, 172, 212, 263, 347, 388, 702, 960, 1003; autochthonous, in Buffalo, 14; benign tertian, without fever, 1049; bubo complicating 1047; campaign against, 427; discovery of the plasmodium of, 856; disturbance of the soil favoring, 263; dysarthria and myasthenia in, 960; epidemic, in children, 1056; estivo-autumnal, with unusual symptoms, 3, 30; etiology of, 551; general paralysis due to, 14; in a child of three weeks, 635; intermittent neuroses due to, 960; intestinal complications of, 310; Koch on, 24, 103, 140; nephritis of, 755; parasitology of, 68, 465, 712; pernicious comatose, 866; prevention of, 103, 223, 256, 422, 819; rapid method of staining the parasite of, 436; serum treatment of, 199; some facts bearing upon the problem of, 471; some phases of, 920; variations in the figured elements of the blood in, 960.
Malarial coma in a boy, 108; ulcers, 26.
Malformation, a case of, 586.
Malignancy, acute traumatic, 665.
Malta fever in Havana, 309.
Manassein, V. A., death of, 583.
Manges, Morris, the causes of failure of compensation in diseases of the heart, 247.
Manhattan Dermatological Society, 142, 679, 836.
Manila, hospital corps instruction in, 949; San José medical college in, 20.
Marasmus, 145.
Marcy, Erastus Edgerton, death of, 61.
Marine hospital service, 710.
Marmalade, glucose adulteration of, 943.
Marriage, regulation of, 176, 500, 577, 624, 739.
Martin, Robert J., death of, 1006.
Marx, Simon, the toxæmia of pregnancy, 601, 659; version: indication, technique, and limitation, 692, 719.
Massage, douche, 149.
Mastication, effect of, upon the gastric secretion, 29.
Mastitis adolescentium, 302, 588; and tumor formation, 111; puerperal, 815; tuberculous, 1037.
Mastoid disease, furunculosis of the external auditory meatus simulating, 915; operations, 344; operations, retaining the skin of the posterior meatal wall in, 507.
Maternal impressions, 1057.
Maxilla, sarcoma of the inferior, twenty years after partial resection, 872.
Measles, 977; appendicitis complicating, 1059; Koplik's spots in, 261.
Meat, pathological conditions found in, 547.
Meckel's diverticulum, gangrenous inflammation of, simulating appendicitis, 104.
Medals, gift of medical, to the Boston Medical Library, 640.
Mediastinal tumor, intermittent fever as a symptom of, 428.
Medical Association of Georgia, 706.
Medical Association of the Greater City of New York, 313.
Medical curriculum, the first-year, 1053; education in the United States, early, 839; institutions, lay management of, 1054; legislation, uniform, 840; practice, bill to regulate, 238, 307; practitioners, crusade against unlicensed, in Minnesota, 339; science, progress of, 232; science, State endowment for the advancement of, 141.
Medical Society of the County of New York, 34, 233, 397, 555, 717.
Medical Society of the State of New York, 185; business commitee of the, 1042.
Medical Society of the State of West Virginia, 949.
Medico-Chirurgical College and Hospital of Philadelphia, trustees of the, 178.
Melancholia, toxic origin of, 721, 753.
Mellinger, Henry S., death of, 258.
Meningitis, acute serous, 788; bacteriology of cerebrospinal, 953; epidemic of cerebrospinal, in Bergen, 108; following croupous pneumonia, 538; influenzal, 427, 960; posterior basic, 349; syphilitic basilar, 587; tuberculous, analysis of the symptoms of, 33.
Menopause, fallacies concerning the, 105.
Menorrhagia in young girls, 313; of pelvic origin, electricity in, 260.
Menstruation, age of first, in the United States, 1014; nature of, 1014; normal, 956.
Mental disease and toxæmia, 120; disease, rest in bed in the treatment of acute, 112; disease, syphilitic, 184; deficiency, heredity as a factor in, 952; depression, influence of, in the development of cancer, 795; development, etiology of arrested, 785; fatigue in school children, 826; sanitation, 14.
Merriam, Frank C., resolutions on the death of, 220.
Metabolism, defective, in relation to the mucous membranes, 135; influence of salicylates upon, 758; in old age, 496; in the child, 656.
Metacarpal fracture, 519.
Metric system, 173, 439; opposition to, in England, 197.
Metritis, chronic, 677.
Metrorrhagia, 313; due to inflammatory processes in the pelvis, 385; persistent, 386.
Microbes in the human body, 1037.
Migraine, prevention of, 260; surgical treatment of, 736.
Milk, danger in boiled, 40; effect of high temperature on the casein of, 303; general antitoxic properties of, 438; goat's, 472; impure, in Paris, 500; infectious disease spread by, 867; sterilization of, 220.
Miller, E. S., death of, 299.
Miller, H. T., the clinical significance of dulness in appendicitis, 209, 392.
Milnes, G. H., death of, 29.
Mineral waters in France, 631.
Minich, Andrew K., death of, 823.
Minnesota, crusade against unlicensed medical practitioners in, 339.
Miscarriage, postural treatment in threatened, 732.
Mississippi State Medical Association, 948.
Missouri State Medical Association, 947.
Monster, an anencephalic, 433; a specimen of, 1058; prehistoric, 278.
Montefiore Home for Consumptives, opening of the, 911.
Montfort, Robert V. K., death of, 21.
Montreal, death rate of, 423.
Moor, William, death of, 783.
Moore, William, a strange request, 1013.
Morbus cœruleus, 108.
Morphine, antidotal action of atropine, 955.
Morphinism, 1046.

Morris, Edward Watts, death of, 707.
Morris, Robert T., a method of fixation for loose kidneys, 283; hydrogen peroxide in appendicitis, 476; notes on ovarian grafting, 83; on faith cures, 715.
Moschcowitz, Alexis V., strangulated hernia in infants: description of a hitherto unrecognized cause and seat of strangulation, 612.
Mosquitos and malaria, 26, 124, 158, 212, 263, 347, 388, 702, 960, 1003; and yellow fever, 58, 81, 201, 269, 1042; history of Anopheles, 1023; hybernation of, 748, 786; in Paris, 743; protection against the, 58, 60, 738, 821; resistance of the larval, to cold, 666; transportation of, in baggage, 1013.
Mother, a very young, 423.
Mount Sinai Hospital, annual report of, 704; laying the corner-stone of the, 822.
Mountain fever, 664; sickness, 68.
Mouth, sepsis of the, as a cause of "septic gastritis," "toxic neuritis," and other septic conditions, 211.
Mucous membranes, defective metabolism in relation to the, 135.
Mumps, a sign of, 666; treatment of, 546.
Murmur, systolic, in the second left interspace, 872.
Muscle, auscultation of the normal and pathological sounds of, 272.
Myasthenia gravis, 958.
Mydriasis, alternating, 588.
Myelitis, diagnosis and pathology of acute, 150.
Myers, Walter, death of, 299.
Myocarditis and fatty degeneration of the heart, 752; chronic, 957; treatment of chronic, 496.
Myocardium, diseases of the, 584; in infections, intoxications, and poisoning, 616.
Myopia, amount of, corrected by removing the crystalline lens, 504; lack of uniformity in prescribing glasses in, 393.
Myrtle, James A., death of, 1050.
Myxœdema, enlargement of the sublingual veins in infantile, 552; of varied type, 825.

N

Nævus, 679.
Nails, diseases of the, in pregnancy, 958.
Nammack, Charles E., treatment of acute sero-fibrinous pleurisy, 373, 395.
Naphtha, poisoning by coal-tar, 223.
Napias, Henry, death of, 870.
Narcolepsy and obesity, 826.
Narcosis, regular breathing in beginning, 250.
Nasal discharges, significance of, in children, 878; polypi, non-myxomatous character of, 132; septum, correction of deviation of the, 624; septum, necessity of post-operative treatment after removal of spurs of the, 63; surgery, use and abuse of the galvano-cautery in, 576.
Nauheim treatment, 988.
Naval warfare, care of the wounded in, 1038.
Navy, medical men in the, 709; report of the surgeon-general of the, 417.
Neck, phlegmon of the, 708.
Negro problem, discussion of the, 662.
Neill, Leo E. F., death of, 583.
Neoplasms, causation of, 505.
Nephrectomy for adenocarcinoma, 790; for rupture of the kidney, 785.
Nephritis, 303; character of the cells in the exudation in acute, 224; clinical aspects of chronic, 777; malarial, 755; operation for calculous, 973; treatment of scarlatinal, 1007.
Nephrolithotomy, double, 800.
Nephroptosis, bandages for, 690, 717.
Nephrorrhaphy, non-absorbable suture in, 446; with flap fixation, 998.
Nervous and mental diseases, hospital for the special treatment of acute, in New York City, 100; diseases, significance of bodily work in the institutional treatment of, 390; system, treatment of diseases of the, 629.
Neuhoff, F., the treatment of pneumonia, including the hypodermic injection of saline solution, 724.
Neuralgia, facial, caused by a hair irritating the membrana tympani, 345; remedies for, 399, 400; trigeminal, 598.
Neurasthenia, climatology of, 222, 815; excretion of urine in, 65; failure to recognize the true nature of, 753; hæmatology of, 665; of otic origin, 375; toxic origin of, 721, 753; treatment of, 474.
Neuritis, localized, complicating typhoid fever, 146; of the brachial plexus, section of the posterior spinal roots for the relief of pain in, 135; post-typhoid, 153; recurrent alcoholic peripheral, 666.
Neuropathies of the extremities, 212.
Neuroses, occupation, 925; pathology of the so-called functional, 456, 618; so-called traumatic, 192.
Newborn, injuries to the head in the, 1020; intracranial hemorrhage in the, 221; pathology of the, 625; spoon-shaped indentations of the skull in, 182; treatment of hemorrhage in the, by suprarenal extract, 1059.
New Jersey Board of Medical Examiners, steps toward reciprocity taken by the, 458.
New Jersey, the insane in, 658.
New York Academy of Medicine, 36, 113, 156, 271, 354, 431, 513, 592, 673, 831; library of the, 102; Section on Medicine, 158, 395, 556, 759; Section on Obstetrics and Gynecology, 113, 432, 593, 718; Section on Surgery, 193, 355, 516, 675.
New York City, growth of, 931; revised charter of, 659.
New York County Medical Association, 70, 235, 393, 596, 716.
New York Medical Society for Clinical Research, 460.
New York Medico-Surgical Society, 499.
New York Neurological Society, 31, 357, 875.
New York Pathological Society, 115, 195, 273, 434, 676, 833.
New York State board of charities, 418.
New York State Hospital for the care of Crippled and Deformed Children, opening of the, 820.
New York State, recent legislation in, of interest to the medical profession, 879; the new medical bill for, 377.
New Zealand, letter from, 198, 1012.
Night blindness, liver in the cure of, 26.
Nineteenth century, advance of science in the, 140.
Noma in advanced age, 955; report of two cases of, 955.
Nome, health of, 499.
Nose and throat, general bodily resistance as a factor in disease of the, 504; cause of suppuration in the, 879; conditions of the, in the aged, 864; hereditary syphilis of the, 107; hyperæsthesia of the mucosa of the, 750; ocular expression of diseases of the, 824; operation for deformity of the, 708; primary chancre of the, 784; restoration of the, in hypertrophic acne, 712; throat, and conjunctiva, relation existing between diseases of the, 1008; treatment of collapse of the alæ, 586.
Nott, Eliphalet, death of, 180.
Nurses, complaints against, 306; total abstinence for, 508.
Nurses' Associated Alumnæ of the United States, incorporation of, 660.
Nursing, female, tribute to the efficacy of, 423.
Nutrition, albuminous, 425.
Nystagmus of spasmus nutans in infants, 587.

O

Oatman, E. L., cups for paraffin embedding, 1022.
Obese, metabolism in the, 27.
Obstetrical operations, the major, 300.
Obstipation, 1045.
Occupation neuroses, 925.
Ocular expression of intranasal lesions, 824.
Oculomotor paralysis, recurrent, 812.
Œdema, wandering, 1009.
Œsophagitis, membranous, 106.
Œsophagus, diverticulum of the, 757; peptic ulcer of the, 549; whistle in the, 404.
Ogilvie, Leslie, death of, 384.
Old age, metabolism in, 496.
Ollier, Prof. Leopold, monument to, 423.
Omentum, cyst of the, 752.
Operation, adhesive rubber dam for the prevention of possible infection at the site of, 746; preparation and after-care, 519, 962.
Ophthalmia neonatorum, douche in the treatment of, 63.
Ophthalmophacometer, 187.
Opium, treatment of poisoning by, 539; use of, in Asiatic countries, 55, 265.
Opotherapy in China and Indo-China, 150; in gynecology, 865.
Optic nerve, primary glioma of the, 50; thalamus, tubercles in the, 65.
Oral sepsis in gastric affections, 1049.
Orbit, cavernous angioma of the, 665.
Orchid culture in its relation to a new method of disinfection, 493.
Orchitic extract, composition and action of, 956.
Orchitis complicating typhoid fever, 756, 801.
O'Reilly, Thomas, death of, 343.
Osteomalacia, 388, 629.
Osteopaths, medical examination for, 378.
Ostitis deformans, 756.
Otitis media, chronic purulent, 575; superheated air in the therapeutics of chronic catarrhal, 849.
Otomycosis in the tropics, 23.
Otorrhœa, treatment of chronic, 386.
Ovarian cysts, enucleation of, 1043; cysts, intraperitoneal rupture of simple, 304; hydrocele, 655.
Ovaries, anatomical and physiological evolution of the, from the embryo to the aged woman, 71; as organs of internal secretion, 956; conservative operations in the, 624; relation of the, to normal functions and to pathological states, 405; transplantation of the, 72, 83, 292, 928; tumors of the, 506, 594, 718.
Ovulation and menstruation not interdependent, 260.
Oxalic acid of the organism, 954.
Oxygenated water, danger of the use of, when catgut sutures have been used, 878.
Oysters, some of the properties of, 599.

P

Palate, operative treatment of cleft, 25, 878.
Pan-American Exposition, emergency hospital for the, 599.
Pan-American Medical Congress, 231, 266, 267, 308.
Pancreas, abscess of the, 184; cancer of the head of, simulating epithelioma of the stomach, 587; enlargement of, simulating biliary colic, 23; retrojection of the bile into the, 956.
Pancreatitis, 797; acute, 425; acute hemorrhagic, 956, 957; experimental, 479; interstitial, 196; recovery after operation for acute, 425.
Panhysterokolpectomy, 1016.
Pani ghao, water sore, or sore feet of Assam coolies, 26, 466.
Paraffin, subcutaneous injections of, 588; uses of, in bacteriological work, 276.
Paralysis agitans, trauma as an exciting cause of, 865; agitans, treatment of,

229, 539, 639; agitans without tremor, 815; Duchenne-Erb type of upper arm, following multiple neuritis, 505; facial, some of the collateral symptoms of, 378; facial, some of the motor manifestations of, 457; family periodic, 757; infantile, treatment of, 23; juvenile general, with hereditary syphilis, 65; of the spinal accessory, 358; possibility of a cure of progressive, 292; pseudo-hypertrophic muscular, 305; recurrent oculomotor, 812.
Paramyoclonus multiplex, 1008.
Paraplegia, family spasmodic, 28.
Pardee, Edward L., death of, 144.
Paris, letters from, 474, 631, 743, 870, 1051; medical students in, 951; water supply of, 475.
Park, Roswell, the recent Buffalo investigations regarding the nature of cancer, 761, 794.
Park, William Hector, opium taking in Asiatic countries, 265.
Parotid gland, tuberculosis of the, 959.
Parotitis, infective, after abdominal section, 106, 182; suppurative, complicating pneumonia, 637.
Parturition, nervous hyperpyrexia following, 262.
Pasteur, statue of, 478.
Patella, choice of suture for the, 52; treatment of fractures of the, 229, 873.
Patellar reflex, new method of obtaining the, 66.
Pathological Institute, trouble in the, 661.
Pathological Society of Philadelphia, 21, 102, 421, 460, 544, 662, 706, 781, 863.
Pathology, embryological basis of, 546.
Payne, Redmond W., report of a case of primary glioma of the optic nerve, 50.
Peabody, George L., a case of æstivo-autumnal fever with unusual symptoms, 3, 30; some fallacies of therapeutics, 481, 511.
Peking, unsanitary conditions in, 177, 547.
Pelvic and abdominal surgery, combined operations in, 386; disease, indications and limitations of the vaginal route in the attack on, 188; inflammatory masses, removal of, by the abdomen, after bisection of the uterus, 303; suppuration, 432; surgery, accidents and complications of, 923; tumors, strangulation of, by torsion of the pedicle, 954.
Pelvis, bad positions of the, productive of spinal curvature, 304; fracture of the, 25.
Pemphigus neonatorum, a case of, 463.
Penis, cancer of the, 675; double, 516; gangrene of the, 182.
Pericarditis, 965.
Pericardium, adherent, 966.
Peritoneum, origin of colloid carcinoma of the, 435; primary endothelioma of the, 833.
Peritonism an indication for laparotomy, 54.
Peritonitis, acute, 959; acute diffuse septic, resulting from appendicitis, 548; following rupture of a duodenal ulcer, 352; from perforation of the appendix, recovery after operation for, 787; gonorrhœal, 680; operation for perforative, 710, 711; prevention of surgical, 923; surgical treatment of diffuse suppurative, 389; tuberculous, 107, 148; tuberculous, acute appendicitis in, 516; tuberculous, benefit of operation in, 517, 519; tuberculous, in an infant, 117; tuberculous, treatment of, 505; tuberculous, vaginal and abdominal incision in, 225.
Peritonization in laparotomy, 389.
Peritonsillar abscess, 221.
Perityphlitic abscesses, opening of, in Douglas' sac by parasacral section, 302.
Perkins, E. Stanley, death of, 782.
Perkins, Maurice B., death of, 1006.
Pertussis, see *Whooping-cough*.
Pessary, the glass-ball, 114.
Peterson, Frederick, appointment of, on the lunacy commission, 779.
Pettenkofer, Max, death of, 384.
Phagedæna, treatment of, 53.
Phalangeal joints, absence of certain, 956.
Pharmacopœia of the United States of 1900, 504.
Pharmacy law, the new, 61.
Pharyngo-mycosis, pathology of, 856.
Pharynx and nasopharynx, sclerotic hyperplasia of the, 627; cancer of the, in a boy of fourteen years, 292; fatal scalding of the, 302.
Phelps, A. M., radical cure of inguinal hernia, 161.
Philadelphia County Medical Society, 20, 142, 179, 461, 545, 622, 741, 822, 862.
Philadelphia Hospital, appointments to the, 180; resident physicians at the, 950.
Philadelphia Medical Club, 102.
Philadelphia Medical Journal, editorial changes on the, 57.
Philadelphia Neurological Society, 219, 380, 544, 739.
Philadelphia Pediatric Society, 102, 297, 663, 860.
Philanthropy and scientific medical progress, 439.
Philippines, fevers of the, 784; scarcity of medical officers in the, 439; United States army pathological laboratories in the, 344.
Phlebitis following abdominal operations, 799.
Phloridzin diabetes, 234.
Phosphatic concretions beneath the skin, 292.
Phototherapy with ultra-violet rays, 867.
Phthisis, diminishing prevalence of, 1023; effect of wind exposure on, 147; open-air treatment of, at home, 711; prognostic value of the diazo reaction in, 833; rest cure in, 305; treatment of vomiting in, 399; venous injections for, 111; see also *Consumptives*, *Pulmonary tuberculosis*, and *Tuberculosis*.
Physicians, mortality and morbidity of, 53; strike of, in German cities, 1003.
Piffard, Henry G., the uric-acid problem, 744.
Pigmies in Africa, 199.
Pill-scratching, 673.
Pinta, 467.
Pirrie, E. E., death of, 343.
Pituitary body, relation of the, to acromegaly, 579.
Pityriasis rosea, 679; versicolor, Allen's iodine test in, 912; versicolor of the face, 649; versicolor of the palms, 836.
Placenta, paralysis of the site of the, 588; prævia, 314, 626; prævia, a case of complete, 300; prævia, Cæsarean section in cases of, 976; prævia or detached placenta, 173; prævia, relative merits of bipolar version with slow extraction, and accouchement forcé in the treatment of, 1020; ulcer of the, 393.
Plague, 503; a study of, 754; discoverer of the bacillus of, 783; in various places, 20, 79, 197, 264, 341, 381, 383, 391, 419, 424, 500, 501, 624, 703, 706, 737, 780, 1044; measures for combating, in Penang, 839; precautions against, in Great Britain, 828; prophylactic and curative treatment of, 292; relation of rats to the, 818; treatment of buboes in, 680; typhus-like and other eruptions in, 263.
Plantar reflex, 182.
Plasmon, 318.
Pleura, hemorrhage into the, 752.
Pleurisy, discussion on, 395; due to Eberth's bacillus, 150; primary cancer of the, 273; pulsating, 955; treatment of acute sero-fibrinous, 373, 395; treatment of purulent 65; typhoid, 67.
Pneumectomy and pneumotomy, 968.
Pneumonia, atypical, pulmonary tuberculosis following, 1046; bacteriology of lobular, 677; bloodletting in, 575; catarrhal, in children, 348; creosote in, 492; etiology and treatment of, 63; following ether anæsthesia, 865; ice-pack in the treatment of, 546; in infants and children, abortion of, 211; pseudomembranous exudate on the mucous membranes in a case of, 752; streptothrix, 755; suppurative parotitis complicating, 637; treatment of, 148, 186, 465, 724, 788, 913.
Pneumonotomy, 800.
Pneumopyopericardium, 628.
Pneumothorax, surgical, pulmonary insufflation for the prevention of, 798.
Poliomyelitis, acute anterior, among adults in Guam, 279.
Polymyositis, 960.
Polypi, nasal, extending to the pharynx, 1000; non-myxomatous character of, 132.
Pond, Erasmus A., an operation for the relief of stoppage of the tear passage, abscess of the sac, etc., 172.
Porro-Cæsarean operation, 188.
Potain, Professor, death of, 181.
Potatoes, poisonous alkaloid in, 278.
Potter, J. B., death of, 198.
Pott's disease of the spine, abscesses of the abdominal wall simulating, 974; fracture, operations for deformities following, 188.
Practice, reciprocity in medical, 418.
Practitioners' Society of Orange, N. J., 102.
Practitioners' Society of New York, 30, 153, 174, 352, 511, 872.
Pregnancy, albuminuric retinitis in, 654; chorea during, 708; disease of the nails in, 958; extra- and intra-uterine, 636; extra-uterine, 36, 113, 114, 190, 971, 1008; extra-uterine, diagnosis of, 79, 595; hæmatoma of the abdominal wall complicating, 616; hyperæsthesia of the uterus during, 733; primary ovarian, 197; retinitis albuminurica in, 208; toxæmia of, 601; tuberculosis in relation to, 54; tumors complicating, 224, 346, 719.
Prepuce, tumors of the, 107.
Prickly heat, prevention of, 916.
Prize, the Belilios, for essay on tropical medicine, 780; the Edward N. Gibbs, 737; the Sivewright, for essay on tropical medicine, 780.
Profanity, psychology of, 539.
Profession, medical, relation of the public to the, 521, 592.
Progressive muscular atrophy, morbid anatomy of a case of, which was clinically one of amyotrophic lateral sclerosis, 876.
Progressive paralysis, possibility of a cure of, 292.
Prognosis of acute disease, 466.
Prophylaxis, individual, 585.
Prostate, Bottini operation for the relief of enlarged, 367, 394; cancer of the, 118; conservatism in the diagnosis and treatment of hypertrophy of the, 450; new instrument for treatment of affections of the, 318; new operative method of exposing the, 393; operations for enlargement of the, 967, 1045; primary cancer of the, 466; relief of senile hypertrophy of the, 793; relation of, to the fecundative power of the spermatic fluid, 586; suprarenal extract in hemorrhage of the, 915; treatment of gonorrhœal congestion of the, 837.
Prostatectomy, 793.
Prostatitis, chronic, reaction of the prostatic fluid in, 149.
Prostitution, discussion on, 397, 819, 954.
Proteids, precipitation of certain, by bacteria, 835.
Proteolysis, quantitative tests for, 504.
Prurigo, 836.
Pruritus ani, treatment of, 359; senile, treatment of, 136; vulvæ, treatment of, 230.
Pryor, William R., an improved method of examining the female bladder, admitting intravesical operation and treatment of the ureters, 327.
Psycho-physical laboratory, a national, 908, 1006.
Psychosis following pelvi-abdominal operations, 466.
Pterygion, pathogeny and pathological anatomy of, 505.

Ptosis, easy operation for congenital, 587.
Puberty, physical measurements at, 1059.
Public, relation of the, to the medical profession, 521, 592, 715.
Puerperal eclampsia, 976; at the sixth month, 304; latent, with no premonitory symptoms of uræmic poisoning, 291; morphine in, 427; prevention of, 855; saline infusions in, 917, 1047; treatment of, 538.
Puerperal influenza, 999.
Puerperal insanity, 503, 656, 1045.
Puerperal mastitis, 815.
Puerperal peritonitis, diplostreptococcus in the etiology of, 212.
Puerperal sepsis, antistreptococcus serum in the treatment of, 106, 390, 747; indications for hysterectomy and for abdominal section and drainage in, 181; pathology of, 253; prevention of, 79, 970; treatment of, 34, 169, 970.
Pulmonary artery, aneurism of the, 349; obstruction, vicarious absorption of oxygen in, 615; œdema, acute, 336.
Pulmonary tuberculosis, ano-rectal fistulæ premonitory of, 184; as a cause of death, 293; explanation of the vulnerability of the apices in, 1008; hydriatic treatment of, at home, 916; in early childhood, 64; management and treatment of, 94; N and O therapy in, 305; Nordrach treatment of, in Ireland, 551; operative treatment of, 390; prevention of, in predisposed children, 980; pulse rate of, 953; temperature fluctuations in the terminal stage of, 1059; tracheal injections in the treatment of, 259; treatment of cough in, 1010; treatment of, in hospitals and among the poor, 137; see also *Consumptives, Phthisis, and Tuberculosis.*
Pulse in infancy, 958.
Pulsus paradoxus, reversed, due to aneurism of the aortic arch, 748.
Pupil, appearance of the, after death, 348.
Purdy, Charles Wesley, death of, 144.
Purple, S. S., memorial address on the late, 832.
Purpura as a symptom, 639; fulminans, 789; hæmorrhagica, bichloride of mercury in, 226; hæmorrhagica from auto-intoxication, 310.
Purrington, W. A., the new medical bill, 266.
Pyelitis from Eberth's bacillus, 576.
Pylorectomy for carcinoma, 576; on a man in his seventy-first year, 731.
Pylorus, congenital hypertrophic stenosis of the, 495, 1059; disappearance of a tumor of the, after gastro-enterostomy, 627; hypertrophic stenosis of the, 835; prognosis of cancer of the, after gastro-enterostomy, 550.
Pyonephrosis of typhoid origin, 788; painless, 508.
Pyorrhœa alveolaris, 1037.
Pyosepticæmia, cryptogenic, 668.
Pyramidal tract, functional significance of the, 1010.
Pyrexia, drug treatment of, 979; prolonged, from an unusual cause, 1059.

Q

Quackery, 520; prize essay on the dangers from, 296.
Quacks, crusade against, in New York, 102.
Quakers, longevity of, 298.
Quarantinable diseases, bacteriological commission for the study of, 310, 312.
Quarantine, inspection of the New York, 1003.
Queen Victoria, illness and death of, 141, 177, 178, 348.
Quinine, exanthemata due to, 68; subcutaneous injection of, 827.

R

Rabies, rarity of, in Constantinople, 1052.
Radiographs, technique and correct interpretation of, 155.
Radiography, instantaneous, 392.
Radius, fissure of the head of the, 194.
Rats and the plague, 422, 818; pathogenic bacillus for, described by Danysz, 827; production of bacterial disease in, 931.
Raynaud's disease, a case of, 511.
Raynor, Nathan, death of, 220.
Reardon, H. D., death of, 181.
Reciprocity in medical practice, 418, 458, 1053.
Rectum, cancer of the, 193, 675, 927; foreign body in the, 428; new operation for prolapse of the, 193; resection of, per vaginam, 344; treatment of cancer of the, 858; Red Cross Hospital in New York City, 298.
Reed, Charles A. L., the president's address delivered at the fifty-second annual meeting of the American Medical Association, held at St. Paul, Minn., June 4–7, 1901, 881.
Regeneration, physical, of the human race, 931.
Relapsing fever in Sumatra, 1049.
Renal colic with the passage of urethral casts, 106; insufficiency without disease of the kidneys, 258; surgery, 585.
Repair, process of, in damaged tissues, 24.
Reptilian delusions, 54.
Resections, 1017.
Respiration, effect of the distillate of coffee on the, 54.
Responsibility and crime, 826.
Retina, embolism of the central artery of the, partial recovery from, 574; glioma of the, 959.
Retinitis albuminurica in pregnancy, 208, 654.
Retroperitoneal cyst, 262.
Retropharyngeal abscess and adenitis, 108; in the adult, 221.
Rheumatic affections, discussion on, 630, 671.
Rheumatism, acute dilatation of the heart in, 105; affections simulating, 925; atypical case of, 135; bacteriology of, 391, 787, 1040; epidemiology of, 150; etiology and pathology of, 824; etiology of acute, 238, 375; in relation to the throat, 376; pathology of, 150; petroleum massage in acute articular, 262; relations of the chronic rheumatic and rheumatoid affections to acute infective, 505; symptomatology of, 867; treatment of, 149, 639; treatment of the heart in acute, 397.
Rheumatoid arthritis, pathology and treatment of, 627.
Rhinitis, purulent, causing cervical adenitis, 104.
Rhinorrhœa, 263.
Rhoads, M. Albert, death of, 742.
Rib, cervical, 1009.
Rice, Charles, death of, 782.
Rice, William, death of, 299.
Rinderpest in the Philippines, 582.
Robin, A., a new saccharometer and ureometer combined, 477.
Roby, James W. E., death of, 1044.
Rockefeller's foundation of an institution for medical research, 907, 911, 971, 1004.
Rodent ulcer, 187; *x*-ray treatment of, 345.
Roentgen rays, alleged death from, 69; diagnosis by means of, 479; in cancer of the breast, 1009; malpractice with, 839; photography, 569; value of, in medicine, 156, 215, 497; without electricity, 620.
Rogers, John, Jr., experiences with tracheotomy, 641.
Roofs as play-grounds, 1057.
Roosa, D. B. St. John, the relation of the public to the medical profession, 521, 592.
Rosacea, 836.
Rose, A., splashing sound and atony, 1012.
Rose, William Meadows, death of, 299.
Ross, Charles Austin, death of, 384.
Ross, J. J., death of, 742.
Ross, John Dean, death of, 424.
Rosse, Irving C., death of, 741.
Roussel, Albert E., report of three cases of malignant endocarditis: one following measles, another typhoid fever in a child and simulating lymphatic leukæmia, and another terminating in recovery, 608.
Rumbold, Thomas F., death of, 864.
Rundle, George Lester, death of, 144.

S

Saccharin, action of, on digestion, 319.
Saccharometer and ureometer combined, 477.
Sacral plexus, perineuritis of the, 429.
Sactosalpinx hæmorrhagica, 595.
Safford, Lillian R., death of, 144, 180.
Saline solutions, 962.
Salpingitis, gonorrhœal, 677; suppurative, 677; tuberculous, in an infant, 117.
Salt sickness of cattle, investigation of, 662.
Samoan Islands, census of the, 863.
Sanatorium, ancient, 838; and hotel in Chicago, 946; for consumptives in Hartford, 947.
Sanitary treaty, an international, 737.
Sanitation and quarantine, 267; municipal, 426; need for more efficient, 337.
Sarcoma cutis, 716; late results of the treatment of inoperable, with the mixed toxins, 794; round-cell, of the thigh, 195.
Saunders, Sedgwick, death of, 264.
Saunders, Sir Edwin, death of, 590.
Sayre, Lewis Albert, memorial address on the life of, 113.
Scabies, treatment of, 591, 837.
Scarlet fever, aural complications of, 67; convulsions with, 286; diphtheria antitoxin in, 776; infection of, 1047; transmission of, to a cat, 827; treatment of the nephritis of, 1007; virulence of the contagion of, 955.
Schleich's anæsthetic mixture, modified form of, 838.
School-girl, pubescent, 983.
School-room, the sanitary, 304.
Schott, Theodor, tonometric examination in chronic diseases of the heart, 1028.
Sciatica, cremasteric reflex in, 958; spinal cocainization for, 540.
Sciatic nerve, multiple tumors of the, 626.
Scientific research and teaching, need of endowment for, 175.
Sclerema neonatorum, 416.
Sclerodactylia, 959.
Scleroderma, a case of diffuse, 505.
Sclerosis, family disseminated, 28.
Scotch universities, Mr. Carnegie's gift to, 1024.
Scruggs, H., death of, 663.
Scurvy in Cuba, 108; infantile, 221, 709, 824; infantile, artificial feeding in relation to, 343, 667.
Seaman, Richard S., death of, 299.
Seasickness, a journal devoted to, 98.
Seborrhœa, benzene in, 106.
Selenium compounds, poisoning by, 261.
Seminal vesicles, chronic inflammation of the, 1007; new operative method of exposing the, 393.
Septic infection, oil of turpentine in, 655; possibilities of the occurrence of, when operative technique is perfect, 835; through the stomach and duodenum, 755.
Serum, gelatinized, in gynæcology, 428; hæmolytic property of human, 1048; poisoning with, in Milan, 255; treatment with, 749.
Sewage, bacterial treatment of, 25, 304.
Sex, a case of concealment of, 143; cause of, 111.
Sherwell, S., on the effect of topical applications of excessive strength and improper diet and hygiene, in prolonging and causing skin diseases in infants and young children, 8.
Shock, effect of, in chronic glaucoma, 953; from a clinical point of view, 1017; medical, 964; surgical, 1007; use of the hot-bed in the treatment of, 745.
Shoulder, congenital dislocation of the,

186, 546; treatment of paralytic luxation of, 866.
Shrady, George F., early diagnosis of mammary tumors, 121, 155.
Sight, training of, 199.
Sigmoid sinus, ligature of the jugular vein in thrombosis of the, 732; thrombophlebitis of the, masking a latent brain abscess, 87; thrombosis of the, 503.
Silk sutures, absorption of, 149.
Simpson, William, death of, 180.
Sing Sing prison, association of the, 619; insanitary condition of, 143, 218.
Sinus thrombosis, 874; ligation of the jugular vein in, 517.
Siriasis, 147, 148.
Sitophobia of enteric origin, 832.
Skin, absorption through the, 181; diffuse chronic œdema of the, with involvement of the larynx, 24; disability in diseases of the, 788; diseases of the, in young children, causes of, 8; diseases of the, in relation to the menstrual functions, 188; general care of the, 26; phototherapy in diseases of the, 25; sensory disturbances of the, in internal diseases, 184.
Skull, perforation of the, by sarcomata originating in the orbit, 428; spoon-shaped indentations of the, in the newborn, 182.
Slevin, Walter T., ichthyol in the treatment of deep-seated inflammations, 469.
Smallpox, causative agent of, 735, 955; diazo reaction of Ehrlich in, 428; in various places, 160, 177, 341, 381, 501, 623, 660, 662, 780, 820, 950; pseudo- or modified, 972; treatment of, 877; use of calf lymph in epidemic, 640.
Smith, Alice M., postural treatment in threatened miscarriage, 732.
Smith, Alonzo T., death of, 461.
Smith, Emmet L., an easy-working, non-spilling atomizer, 679.
Smith, Mayo G., death of, 343.
Smokers, affections in, 309.
Snowden, Harold, death of, 742.
Sobel, Jacob, enlargement of the sublingual gland in infantile myxœdema, 552.
Social evil, discussion on, 397.
Sodium chloride, bactericidal action of the saturated solution of, 814.
South Africa, conduct of civil surgeons in the war in, 298; hospital scandal in, 180, 422, 552, 590, 631, 747; insanitary condition of towns in, 1061.
South Sea medicine men, 80.
Southworth, Thomas S., a plea for the conservation of breast milk in whole or in part, 686, 717.
Spain, longevity in, 479.
Spearman, Alfred, death of, 584.
Specialism, relation of, to general practice, 1008.
Spectacles, use and abuse of, 386.
Speculum, an illuminated vaginal, 877.
Sphenoid wings, pneumatic sinuses in the, 507.
Spina bifida, 921; iodine injections in the treatment of, 113; pathogenesis of, 551.
Spinal abscesses, treatment of, 23.
Spinal accessory nerve, paralysis of the, 358.
Spinal anæsthesia, 21, 73, 91, 728, 744, 746, 783, 787, 870.
Spinal cord, degenerative disease of, associated with anæmia, 62; differential diagnosis in diseases of the, 190; surgery of the, 921.
Spine, fractures of the, 295, 799; lateral curvature of the, 63; treatment of abscess of the, 878; tumor of the, 32.
Spitting nuisance, efforts to abate the, 143, 341, 581, 672.
Spitzka, Edward A., the redundancy of the preinsula in the brains of distinguished educated men, 940.
Spleen, subcutaneous laceration of the, 225; influence of, on the pancreatic digestion of proteids, 138; rupture of the, 116; surgery of the 192; tuberculosis of the, of unusual type, 275.
Splenomegaly, anæmic, 104; in cancer of the liver, 1010; in infancy, 210; pretuberculous, 54; primary, 656.
Spondylitis typhosa, 1049.
Sponges, sterilization of, by boiling, 280.
Sprague, Seth B., death of, 951.
Sprains, treatment of muscular and joint, in railway employees, 913.
Sputum, value of examination of the, to the general practitioner, 344.
Squint, latent, 187.
Squires, George W., placenta prævia, or detached placenta, 173.
Stains for fat, indifferent dye-stuffs as, 628.
Stammerers, preponderance of male over female, 624.
Stammering, prevention of, 547.
Staphylococci, predisposition to infection with, 708.
Stark, Henry S., on the diagnosis and prognosis of diabetes mellitus, 535, 557.
Starr, M. Allen, the toxic origin of neurasthenia and melancholia, 721, 753.
Static electricity in medicine, 576.
Steam disinfection in surgery, 225.
Sterility, increase of, in American women, 971.
Sterilizer, a pocket, 676.
Stern, Arthur, suppurative parotitis complicating croupous pneumonia, 637.
Stern, Heinrich, investigations upon corporeal specific gravity, and upon the value of this factor in physical diagnosis, 204; tobacco as a factor in glycosuria, 646.
Stethophonometry, 299.
Stickel, H. L., death of, 180.
Still-birth, hydrostatic test of, 240.
Stites, William, death of, 583.
Stockdell, Hugh, death of, 1006.
Stockings, dermatitis from arsenic in, 748.
Stokes-Adams syndrome, 27.
Stomach, a case of exsection of the, in New York, 544; acute ulceration of the, 369; atrophy of the mucous membrane of the, 665; bicycling in cases of disease of the, 815; cancer of the, 39; cancer of the, running a singular course, 828; chronic dilatation of, ending in death from tetanic convulsions, 64; concealed hemorrhage of the, 915; determination of the lower border of the, by the *x*-rays, 184; diagnosis of cancer of the, 657; digestion leucocytosis in cancer of the, 505; effect of diet on the osmotic tension of the, 959; effect of mastication on the secretion of the, 29; fistula into the, 548; foreign body in the, 1049; gases from the, 1049; hair cast of the, 191, 301; iodipin reaction in diseases of the, 959; operative treatment of cancer of the, 263; palliative operative treatment of cancer of the, 385; perforating ulcer of the, 12, 548; perforating ulcer of the, causing subdiaphragmatic abscess, 917; photographing the, 599; primary sarcoma of the, 346; splashing in atony of the, 828, 1012; steatolytic ferment of the, 959; surgical treatment of ulcer of the, 308, 628; total extirpation of, 750; treatment of hemorrhage from the, 346; treatment of ulcer of the, 784, 798; ulcer of the, 292; ulcer of the, sex in relation to, 106.
Stomatitis ulcerosa chronica, 1037.
Stone, George, death of, 783.
Stone, Robert, death of, 424.
Stony Wolde Sanatorium, 142, 619, 820.
Storer, Horatio R., gift of medical medals by, to the Boston Medical Library, 640.
Strabismus, treatment of, 250.
Stramonium, poisoning by, 506.
Streptococcal infection, antistreptococcus serum in, 868; following labor, 971.
Streptothrix, infection by, 755.
Stricture, continuous dilatation of urethral, 231.
Stronach, James Watson, death of, 180.
Study, Joseph N., albuminuric retinitis in pregnancy; premature labor; death in utero of twin children; puerperal convulsions; hemiplegia; acute mania; death, 654.
Sturmdorf, Arnold, nephrorrhaphy with flap fixation, 998.
Subphrenic abscess as a complication of appendicitis, 452.
Sugar, dietetic value of, 748, 858; in the urine, tests for, 225, 388.
Suicide, further remarks concerning, 1001.
Summer diarrhœa, 1055, 1057.
Sunstroke, is it an accident or a disease? 278.
Suprarenal extract as a hæmostatic, 197, 207; in Addison's disease, 956; in diseases of the heart, 823; in diseases of the middle ear, 136; in rhinological operations, 585; resorcin as a preservative of, 425, 733; uses of, 230, 748.
Surgery, disappointments in, 111; value of blood examinations in, 912; value of clinical microscopy, bacteriology, and chemistry in, 892.
Surgical operations, combined, on women at a single séance, 299; training in French medical schools, 631.
Sweatshop work, law restricting, 216.
Sydenham, Thomas, life of, 38.
Sydney, N. S. W., sanitary condition of, 179.
Symes, J. G., death of, 264.
Symphyseotomy, 719; comparison of, with Cæsarean section, 1020.
Syphilides, treatment of palmar, 400.
Syphilis, albuminuria in the early stages of, 700; clinical observations on, 792; difficulty of cure of cerebral, 867; enlargement of the inguinal glands in the diagnosis of primary, 666; fever of, 1046; hereditary nasal, 107; heredity of, 1048; in the well-to-do, 727, 819; itching of the throat in secondary, 786; league against, in France, 862; mental affections in, 184; mercurial injections in, 390, 783, 915; nitrite treatment of, 21; pyrexia of, 64; refractory to treatment, 224; supposed defensive power of the phagocytes of the lymphatic glands against, 467; treatment of, 743; urinary secretion in, 668.
Syringe, a shielded piston, for urethral and vesical irrigation, 624.
Syringomyelia, 388; gastric crises in, 150.

T

Tabes dorsalis and diabetes mellitus, 276; biceps tendon jerk in, 912; etiology and treatment of, 16; idiomuscular excitability in, 667; prognosis of, 415; recognition of, 914; throat paralysis in a case of, 1046; treatment of, 472; treatment of, the Fraenkel method, 357.
Tabes mesenterica, 1009.
Tachypnœa, nervous, 954.
Tails in man, 957.
Tanner, Charles K. D., death of, 707.
Taussig, F. J., subarachnoid cocainization in obstetrics and gynecology, 91.
Tear passage, operation for the relief of stoppage of the, 172, 239.
Teeth, and growth of children, 983; caries of the, as a factor of disease, 26; of natives of the tropics, condition of, 916.
Temperaments, application of the human, in medicine, 211.
Temperatures in healthy children, 540; reduction of, by evaporation baths, 824.
Temporal bone, cholesteatoma of the, 304.
Tendinitis rheumatica ocularis, 867.
Tendon surgery, 750; transplanting in paralytic deformities, 816.
Tenement-house bill, opinions regarding the, 543.
Tennessee State Medical Society, 661.
Tenonitis serosa, 587.
Tesson, Louis S., death of, 952.
Testicle, diagnosis of sarcoma of the, 159.
Testicular fluid, injection of, to prevent atrophy of the prostate after removal of the testes, 67.

Tetanus, 814; a case of, 472; antitoxic properties of the bile of a victim of, 38; antitoxin treatment of, 429; following cœliotomy, 1021; Fourth-of-July, 912; in infancy, 64; orrhotherapy in, 654; puerperalis, 748.
Tetany, gastric, 825.
Therapeutics, some fallacies of, 481, 511.
Thomson, Edgar S., an unusual case of partial recovery from embolism of the arteria centralis retinæ, 574.
Thorax, penetrating wounds of the, 39.
Thorburne, Richard, death of, 181.
Throat diseases, rectal feeding in, 584; nose, and conjunctiva, relation existing between diseases of the, 1008.
Thrombosis of the sigmoid sinus, ligature of the internal jugular vein for infective, 386; of the subclavian artery, 273; vulvo-vaginal, 464.
Thrush in advanced age, 955.
Thumb, method of reducing dislocations of the, 332.
Thymic death, 184.
Thymotal, 385.
Thymus, tumor of the, cured by thyroid extract, 467.
Thyroid gland, carcinoma of the, 73; medication, interesting results of, 816; operations, shaping of the stump after, 955.
Thyroiditis in typhoid fever, 1050.
Tibia, osseous cyst of the, 516; splint for transverse fracture of the, 585.
Timber, preservation of, 583.
Tobacco, alkaloids of, 559; as a factor in glycosuria, 646.
Toes, clubbed, 549.
Tokio, university for women in, 176.
Tomlinson, H. A., rest in bed in the treatment of acute mental disease, 112.
Tongue as a breeding-place for bacteria, 311; operation for cancer of the, 928; syphilitic diseases of the, 22.
Tonsils as portals of infection, 222; hemorrhage from an abscess around the, 385; hypertrophied, 343; primary malignant disease of the, 466.
Torticollis, mental, 226; treatment of, 465.
Touch, education of the sense of, in feeble-minded children, 105.
Toxæmia, mental disease from, 120.
Toxins, the bacterial, 344.
Trachea, foreign body in the, 668; impaction of a piece of orange in the, 914; removal of foreign bodies from the, 968.
Tracheal hemorrhage, post-influenzal, 416.
Tracheotomy, experience with, 356, 641.
Trachoma, management of, 868.
Training, effects of, 952.
Tremor, systemic exercise in the amelioration of, 539.
Trichinosis, excessive eosinophilia in, 1007.
Trinitrol, 632.
Trional, multiple neuritis and hæmatoporphyrinuria following the prolonged ingestion of, 626.
Triplets with a single placenta, 866.
Tropical medicine, Liverpool school of, 1024.
Tropics, meat rations in the, 503.
Tubercle bacilli, chemistry of, 755; cultivation and staining of, 305; disseminated by cows in coughing, 498; effect of coal on, 668; in food-fats, extermination of, 588; in the sputum, 27; variability of, 1007.
Tuberculin test for cattle, 380.
Tuberculosis, a bar to immigration, 947; acute, 1010; acute miliary, 753; among the poor, 457; Arloing-Courmont's serum reaction in, 507; causative treatment of, 23; collection of statistics of, 949; compulsory notification of, 656; defence against, 232; diagnosis and surgical treatment of renal, 913; duty of the State in the prevention of, 599; early diagnosis of, 344; electro-chemical action of the *x*-rays in, 385; extermination of, by dietetics and hygiene, 913; heredity of, 506; home treatment of, 1045; hygienic treatment of, among the ancients, 65; importance of early recognition of, in relation to treatment, 758; in prisons and reformatories, 334, 475; in Roumania, 27; infantile, 438; institutional treatment of, in Norway, 27; latent, of the bones or joints, value of the tuberculin test in, 615; mammary, 148, 1037; natural immunization against, 668; new treatment for, 608, 620; no specific cure for, 814; observations in, 26; of bone, 104; of fascia, 865; of the iris, 864; of the mesenteric ganglia, 1009; of the parotid gland, 959; of the pericardium, 966; of the upper-air passages, etiology, diagnosis, and treatment of, 145; of the vas deferens and seminal vesicle, 516; officers of the congress on, 860; orrhodiagnosis of, 107; peritoneal, 107; pregnancy in relation to, 54; prevention of, in babes born of tuberculous parents, 982; problems relating to, 39; prophylaxis of, 23, 297, 464, 839, 1037; renal, surgical treatment of, 1020; secondary, 692; sodium cinnamate in, 355; some anatomical lesions caused by the poisons of, 700; splenic, of unusual type, 275; surgical, discussion on, 77; treatment of laryngeal, 359; typhoid fever simulating, 540; urea in the treatment of, 463, 1047; see also *Consumptives*, *Phthisis*, and *Pulmonary tuberculosis*.
Tuberculous meningitis, analysis of symptoms of, 33.
Turbinated bones, cysts of the middle, 185; reduction of hypertrophy of the, 1000; surgery of the, 424.
Typhoid arthritis, 1047.
Typhoid bacillus, active substances in the cultures of the, 807; hemorrhagic infection due to, 22.
Typhoid fever, 978; abdominal pain in, 747; anæmia in 1048; anomalous cases of, 22; apparent immunity of Asiatics, 223; bacteriology of, 785; bacteriology of mild, 303; bacteriological diagnosis of, 784; complications of, 1007, 1045; diagnosis of, from appendicitis, 700; diet in, 25; disinfection of the urine in, 507; dysentery associated with, 549; etiology of, 320; experience in an epidemic of, 868; exploratory laparotomy in intestinal perforation in, 226; hemorrhagic diathesis in, 261; immunity after, 627; in South Africa, 360, 552, 630, 710; infection of, spread by linen, 218; influence of fatigue in the causation of, 239; inoculation against, 148, 659, 779, 787; intestinal perforation in, 224, 441; isolation in relation to, 880; jaundice in, 147; leucocytosis in cases of perforation in, 664; localized neuritis as a complication of, 146; operation for supposed appendicitis in, 873; orchitis complicating, 756, 801; origin and spread of, in the United States army during the Spanish war, 98; pleurisy complicating, 150; prevention of, in armies in the field, 223; pyonephrosis in, 788; rectal feeding in, 305; relation of the bowel lesion of, to the general symptoms, 147; rôle of the domestic animals in the causation of, 135; sequelæ of, 153, 1007, 1045; signs of perforation with intact bowel in, 467; simulating tuberculosis, 540; some unusual symptoms in, 575; spontaneous dislocation of the hip occurring during, 291; study of the symptoms of perforation in, 347; successful operation for perforation of the bowel in, 193; surgical treatment of, 1047; sustaining treatment of, 344; thyroiditis in, 1050; treatment of, 230, 261, 348; treatment of, in South Africa, 439; treatment of intestinal hemorrhage in, 744; treatment of intestinal perforation in, 750.

U

Ulcers of the leg, treatment of, 628.
Umbilical cord, treatment of the, 480.
University of Pennsylvania, changes in the medical course at the, 379, 459; Historical Club of the Medical Department of the, 706; medical class of '76 of the, 1005; medical laboratories of the, 861.
Upson, Charles R., important points in the management and treatment of consumption, 94.
Uræmia, osmotic pressure in relation to, 924; treatment of, 229.
Ureine, some facts regarding, 329.
Ureometer and saccharometer combined, 477.
Ureter, calculus of the, in a boy, 981; calculus of the, scratch-marks on wax-tipped bougies in the diagnosis of, 1020; calculus of the, simulating vesical calculus, 782; method of repairing by direct suture, 495; obliteration of the right, by a calcified fibroid, 221; reflux of the vesical contents into the, 320; traumatic injuries of the, 76; tuberculosis of the, 677; vesical implantation of the, by Dudley's forceps method, 221.
Ureteritis, operation for calculous, 973.
Uretero-ureteral anastomosis, relative merits of the different methods of, 929.
Urethra, dilator of the, with modified handle, 1008; fallacies in the treatment of diseases of the, 967; fibromyoma of the female, 78; peculiar micro-organism in a discharge from the, 792; prolapse of the female, 1010; rupture of the, 790; surgical asepsis of the, 105.
Urethritis membranacea, 106; treatment of post-gonorrhœal, 1032.
Uric-acid diathesis, 185, 943; lesions, oxygen treatment of, 184; the problem of, 744; toxæmia, inheritance of, 814.
Urinary tract, bacterial infection of the, 275.
Urination, frequent painful, guaiacol in, 22.
Urine as a culture medium, 755; blue, 953; casts in the, without albumin, 136; conservative operation for renal retention of, 550; delicate test for sugar in the, 225; excretion of, in neurasthenia, 112; immediate examination of the, to determine the specific gravity, 449; phenyl-hydrazin test for sugar in the, 388; test for diacetic acid in the, 506.
Urotropin as a urinary antiseptic, 182.
Urticaria factitia accompanying scleroderma, 712; pleuritic, 375; with albuminuria, 668.
Uterine appendages, conservative operations upon the, 271.
Uterus, acute puerperal inversion of the, 428; adenoid changes in the cervix, during pregnancy, labor, and the puerperium, 66; Cæsarean section for fibrocystic tumor of the, 615; calcareous fibroma of the, 78; calcium carbide in the treatment of cancer of the, 1046; cancer and fibroma coexisting in the corpus, 547; cancer of the body of the, 183; cancer of the cervix, 677, 928; cancer of the fundus, 1015; cause and significance of hemorrhage from the, 313; circulatory phenomena as sequelæ of the pregnant, 152; congenital hypertrophy of the cervix, 113; curability of cancer of the, 148; dilatation of the cervix, 719; fibroids of the, 344, 593; fibroids of the, complicating pregnancy, 436, 719; hitherto unknown form of stenosis of the, 464; hyperæsthesia of the, during pregnancy, 733; improved technique in the surgical treatment of myomata of the, 1013; injections in diseases of the, 960; intraligamentous cysts, 1013; myomata of the, 928; one hundred and twenty fibroids in a, 626; operations for lacerations of the cervix, 434; operations for retrodisplacements of

the, 75; origin of fibroid growths of the, 267; pathology and surgical treatment of tumors of the, 733; prolapse of the, 551, 1016; prolapse of the, vaginal hysterectomy for, 114; removal of epithelioma of the cervix during pregnancy, 388; retraction of the, with special reference to the third stage of labor, 629; retroflexion and retroversion of the pregnant, 576; retroversion of the, 869; round-ligament ventro-suspension of the, 1007; sarcoma of the, 262, 954; shortening the round ligament, 519; spontaneous delivery of a polyp of the, 114; subinvolution of the, 868; treatment of infection arising in the, 24; treatment of retrodisplacements of the, 277, 969; tumors of, in infancy and early life, 732; use of the Paquelin cautery in the cavity of the, 115.
Uvula, mechanical constriction of the, 23; pulsation of, in aortic insufficiency, 1007.

V

Vaccinia and smallpox, relation of, 826; causative agent of, 735, 828, 955; serous, in connection with cretinism and rickets, 787.
Vaccination, aseptic, 524, 555; clinically considered, 546; compulsory, in Pennsylvania, 582; in Paris, 79; keloid on a scar following, 730; Mrs. Eddy on, 380; obligatoriness of, 107; technique of, 550.
Vagina, atresia of the, 928; double, with a single uterus, 185; false membrane in the, due to bacterium coli, 747; prolapse of the, 551; sarcoma of the, 954.
Vaginal speculum, an illuminated, 877.
Vagitus uterinus, 465.
Valentine, Ferd. C., chronic gonorrhœa and post-gonorrhœal urethritis—a sketch of their modern treatment, 1032.
Valentine, Richard K., death of, 502.
Van Fleet, Frank, the bill to regulate medical practice, 238; the new medical bill, 307.
Van Zandt, L. L., creosote in pneumonia: a *résumé*, 492.
Varicella, rash of, 107.
Varices, guaiacol in the treatment of, 389.
Varicocele, guaiacol in, 389.
Varicose ulcers, treatment of, 399; veins of the abdomen and extremities, 872; veins, treatment of, 551.
Veins, lateral and circular suture of, 954.
Veld sores, 223, 710, 915, 1048.
Vena cava, rupture of the inferior, 914; thrombosis of the inferior, 834.
Venereal disease a social problem, 547; circumcision as a preventive of, 541; prophylaxis of, 954.
Veratrum viride, 615.
Vernon, Bawater J., death of, 306, 343.
Version, indication, technique, and limitation of, 692, 719; spontaneous, 627.
Vice and the church, 734.
Virchow fund, 621.
Virginia, convicts in, 545; report of the Central State Hospital of, 319.
Vision, injury to the earning capacity of the individual from partial or complete loss of, 440; neurotonic architecture of the organ of, 386.
Vitalis, Othan, death of, 198.
Vitality after severe injury, 1009.
Vital statistics, practical use of, 838.
Vitiligo, etiology of, 150.
Vivisection in England, 949.
Volvulus complicated with hemorrhage, 782.
Vomiting of pregnancy, sodium bicarbonate in, 390; recurrent, of nervous origin, 645.
Vratch, 861, 910, 1005.

W

Wachenheim, F. L., a case of fatal stenosis of the larynx following intubation for papilloma, 469.
Waggener, Richard, some facts bearing upon the malarial problem, 469.
Wagner, R. V., static cataphoresis, 160.
Waite, E. E., death of, 1044.
Ware, Martin W., the field for ethyl chloride narcosis, 533.
Wasdin, Eugene, generalized gonorrhœal infection, 918.
Water, relative merits of slow sand and mechanical filtration, 139.
Water-itch, 467.
Weiss, Ludwig, chronic gonorrhœa and marriage, 447.
Wells, John A., death of, 823, 864.
Wells, J. Hunter, the use of the hot-bed in Korea in the recovery-room and for treatment of surgical and other shock, and similar conditions, 745.
Werlhof's disease, bichloride of mercury in, 226.
West, Mary S., death of, 500.
West Point training, nervous exhaustion due to, 1046.
Western Surgical and Gynæcological Association, 72.
Whistling spells in brain injury following operation, 480.
Whitbeck, Henry D., death of, 864.
Whooping-cough, irrigation of the nares in, 786; pathology of, 978; treatment of, 14, 105, 399, 749.
Widal reaction in typhoid fever, 14; plea for uniformity of technique in, 825; technique of the, 462; value of infancy and childhood, 868.
Wienges, Conrad, death of, 864; resolutions on the death of, 911.
Williams, J. Frank, death of, 707.
Winn, James Mitchell, death of, 69.
Witham, Wright Lane, death of, 912.
Women as hospital internes, 560; hospital appointments for, 708; medical education of, in Russia, 856; medical profession for, 479; medical students, Dr. Vaughan on, 581; students in college, susceptibility to disease and physical development of, 664.
Women's Medical Association of New York City, 142.
Woodruff, Charles E., the treatment of gonorrhœa with frequent irrigations of hot decinormal salt solution, 401.
Woodward, Henry L., Jr., honors to, 780.
Woodward, J. H., strabismus and its management, 250.
Worcester, William Leonard, death of, 1044.
Wounded, care of, in naval warfare, 1038.
Wounds, closing of cutaneous, without suture, 259.
Wren, George, death of, 502.
Wright, Jonathan, the non-myxomatous character of nasal polypi, 132.
Wrist, injuries to the, 13; resection of the, by Studsgaard's method, 826.
Wrist-drop due to traumatism of the musculo-spiral nerve, 230.
Wyeth, John A., the value of clinical microscopy, bacteriology, and chemistry in surgical practice, 892.
Wynkoop, Edward Judson, ether as an anæsthetic, 852.

Y

Yale Medical School, clinical buildings for, 383.
Yaws in Fiji, 916.
Yellow fever and mosquitos, 58, 81, 201, 269, 1042; etiology of, 387, 474; experimental, 754; immunity against, 839; international commission for the study of, 232, 312; on the Gold Coast, 712; period of incubation of, 361, 459; prophylaxis of, 308; serum, rival claimants for a, 949; spread of, in houses, 933; study of the propagation of, 201; treatment of, 310.
Youmans, William J., death of, 624.

Z

Zona, an epidemic of, 960.

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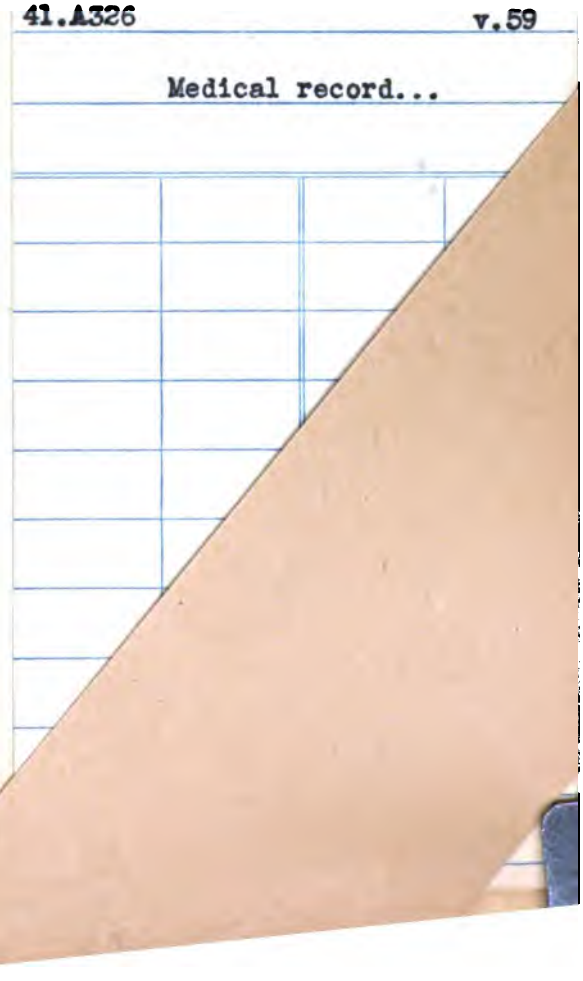
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